Underground Developers Specifications

Date: 12-12-2011
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Trench Specifications
A. Installation of conduit
1. Minimum cover to be 30" from top of primary conduit to sub-grade. (See attached drawings.)
2. Bottom of trench shall be sanded to provide smooth, even support for conduits. (See attached drawings.)
3. Sand to be placed directly around conduits for initial backfill. (See attached drawings.)
4. There is to be a minimum of 12" separation between electrical conduits and all other conduits.
5. Warning tape to be a minimum of 12" above electrical conduits.
6. Concrete to be poured around all conduit crossings and 90 degree bends. (See attached drawings.)
7. Trench may be used jointly if adequate separation is provided. (See attached drawings.)
8. Conduit may be under pavement if a depth of 30" cover to sub-grade is maintained.
9. Trench may be on property if adequate depth is maintained. "Adequate depth" is defined as 30" below the lowest point between the edge of pavement and property line.

B. Inspection Schedule
1. After primary conduit installation
2. After initial backfill
3. After secondary conduit installation
4. After remainder of initial backfill and warning tape
5. After secondary backfill (rock free dirt)

Failure to receive inspection will require removal of the backfill to allow inspection.

Developer/Contractor contribution
1. Payment to PEC for materials per the Line Extension Policy.
2. Trench
3. Conduit:
   a. 2" conduit and accessories
   b. 3" conduit, schedule 40 conduit bends with 3", 36" min. radius and accessories
   c. 4" conduit, schedule 40 conduit bends with 4", 48" min. radius and accessories
   d. Conduits for service will be sized as needed

NOTE: Contractor may be required to pull a mandrel, of a diameter not less than 80% of the inside diameter of the conduit, through all conduits, under the supervision of a PEC representative.

4. Conduit spacers
5. Transformer pads
6. Meter pedestal pads
7. Underground secondary enclosures and extensions
8. Ground rods and clamps
9. Polyester pulling tape (unused 2500 lb tensile strength) in all conduit. No knots to be tied in the mule tape. It must be a continuous run.
10. Sand for initial backfill
11. Rock free dirt over initial backfill
12. 1/2" to 3/4" gravel for the bottom of vaults and secondary enclosures
13. Concrete, where necessary
14. Install meter socket when metering on building
15. Furnish and install any gang type meter sockets
16. Primary enclosures and extensions (if applicable)
17. Meter Sockets (PEC will provide pedestal mounted sockets only.)
18. Switchgear (If applicable)
19. Bollards, if deemed necessary by PEC to protect electrical equipment. Design must be approved by PEC prior to installation.
Member’s Responsibility

Furnished and approved by Pedernales Electric Cooperative, Inc. In situations where meter pedestals are used the following conditions will apply:

1. Purchase and install circuit breaker in box. Circuit breakers are the bolt-in type. The box will accommodate 150 and 200 amp breakers. The breaker must have an interrupting capacity of 10,000 amps rated at 240 volts. GE Cat. No. TQD22 (amp needed) WL and Westinghouse CA2200W or equal.

2. Install insulated jumpers from bottom of meter socket to top of breakers.

3. Install galvanized rigid conduit, schedule 40 PVC or an approved equal from pedestal pad to bottom of box.

4. Member will be responsible for the installation of underground cable from the meter pedestal to the house and the connections to the bottom of the circuit breakers. The underground cable used from the meter pedestal to the house shall be an approved type for underground installation (USE or UF type). Conductor size will be based upon Member load, location of meter, and National Electric Code for size of conduit.

5. Underground conductor from secondary enclosure/transformer to meter shall have 24” of cover. This depth may be reduced to 18” when a 2” supplemental protective covering of concrete is provided. If rigid conduit is used, the depth can be reduced by 6”. Red electric warning tape is also required in the ditch.

6. Apply and receive all applicable inspections.

7. When all work is completed according to specifications, notify the Pedernales Electric Cooperative, Inc. in your area that you are ready for electric service. A serviceman will make the connect and set the meter on a routine connect order.

8. For Commercial and Residential applications the Member shall supply the CT enclosure (if needed) and all secondary cable in accordance with the National Electric Code.

Pedernales Electric Cooperative, Inc. contribution paid for by developer/member as indicated on the Line Extension Policy.

1. Primary conductors
2. Secondary conductors
3. Cable terminations
4. Transformers
5. Meter pedestals
6. Switchgear
7. Secondary Gelport Connectors
8. Meter socket combo

PEC Responsibility

1. Furnish and install meter pedestal.
2. Furnish and install combination meter socket and breaker box.
3. PEC serviceman will install jumper wires from top of meter socket to pedestal connector and set meter on connect order after all work has been completed.
**Typical All Pads**

1) Require 3" conduit (unless otherwise specified by PEC) with bell end fittings to extend 1 1/2" to 2" above pad.
2) Pads must extend a minimum of 4" above final grade and 1 1/2" below final grade. All pads must be placed on a slope less than or equal to 3:1. If greater than 3:1 contractor must bring slope to required grade.
3) All disturbed soil underneath pad must be replaced by concrete.
4) All ground rods shall be 3/4" X 10' Copper clad with clamp and must extend 3" above top of pad.
5) Wood float finish leaving pad square and level with no dips or crown.

**Typical For Single Phase Transformer, Combination, Sectionalizer, and Secondary Pads**

6) Concrete to have minimum strength of 3000 PSI.
7) Steel reinforcing shall be 6" X 6" No. 10 wire mesh or 3/8" rebar on 12" center to stop 1" from the sides.

**Typical For 3 Phase Transformer Pads**

8) Concrete testing, 4000 PSI; 4%-6% entrained air, 3/4" maximum size aggregate.
9) Steel reinforcement shall be 3/8" rebar on 12" center to stop 1" from sides.
10) Minimum concrete cover over reinforcing steel 2" unless noted.
11) Consult with PEC before pouring concrete.

**Typical Trench Details**

12) Schedule 40 electrical grade PVC conduit. Schedule 80 electrical grade conduit can be used in place of sand in secondary only trenches.
13) Initial backfill shall be manufactured or commercial sand. Minimum 3/8" pea gravel may be used for initial backfill in flood prone areas.
14) With PEC approval minimum cover requirements may be reduced by six inches with every two inches of 3000 PSI concrete poured directly onto conduit.

*CONTACT PEC BEFORE POURING CONCRETE*

15) If any type of vault or pedestal for the underground electric is planned then all other utilities should be routed around these facilities.
16) For 2" and larger waterlines special permission must be granted by PEC.

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**Legend**

Typical in all Drawings

- **P**: Primary Conduit
- **S**: Secondary Conduit
- **AS**: Alternate Secondary Conduit
- **CW**: Communications or water
- **G**: Gas Line

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PEDERNALES ELECTRIC
COOPERATIVE, INC.
URD DEVELOPER'S SPECIFICATIONS

Typical Notes Reference Page

drawn: JBS approved: MJB date: December 12, 2011 drawing number: 510-009-0911
Reference Drawing 510-009-0911 for Typical Trench Details
Reference Drawing
510-009-0911 for
Typical Trench Details

Along the ditch a maximum of 8’ of separation is allowed between spacer installations beginning at 8” from the Riser Pole.
Reference Drawing
510-009-0911 for
Typical Trench Details
OPTION 2

BLACK TOP
ROAD BASE

24" Minimum
(Or more as required by gas company)

SUBGRADE

ROCK FREE
DIRT

Check with Gas Company for their installation specifications

Red Electric Warning Tape

12" Minimum

INITIAL BACKFILL

4" Minimum

Along the ditch a maximum of 8' of separation is allowed between spacer installations beginning at 8' from the Riser Pole.

2" Minimum

2" Minimum fill at bottom of ditch

2" Minimum

Reference Drawing
510-009-0911 for
Typical Trench Details
Option 1

Black Top Road Base

24" Minimum (Or more as required by gas company)

Red Electrical Warning Tape

12" Minimum

Along the ditch a maximum of 8' of separation is allowed between spacer installations beginning 8' from the Riser Pole.

4.0" Minimum

Check with Gas Company for their installation specifications

Initial Backfill

2" Minimum fill at bottom of ditch

Subgrade

Reference Drawing 510-009-0911 for Typical Trench Details
Reference Drawing 510-009-0911 for Typical Trench Details
Option 2

Black Top
Road Base

24" Minimum
(Or more as required by Gas Company)

Red Electrical Warning Tape

Check with Gas Company for their installation specifications

12" Minimum

Along the ditch a maximum of eight feet of separation is allowed between spacer installations beginning at 8' from the Riser Pole.

12" Minimum

4" Minimum

2" Minimum

2" Minimum

Reference Drawing 510-009-0911 for Typical Trench Details
OPTION 1

BLACK TOP
ROAD BASE

SUBGRADE

ROCK FREE DIRT

Red Electrical Warning Tape

24" Minimum

30" Minimum

12" Minimum

4" Minimum

2" Minimum

Along the ditch a maximum of 8' of separation is allowed between spacer installation beginning at 8' from the Riser Pole.

S

P

P

P

2" Minimum

Reference Drawing
510-009-0911 for
Typical Trench Details
Along the ditch a maximum of 8' of separation is allowed between spacer installations beginning at 8' from the Riser Pole.

Reference Drawing 510-009-0911 for Typical Trench Details
OPTION 1

BLACK TOP
ROAD BASE

ROCK FREE
DIRT

24" Minimum

30" Minimum

12" Minimum

4" Minimum

2" Minimum

S

P

P

P

RED ELECTRICAL
WARNING TAPE

INITIAL
BACKFILL

Along the ditch a maximum of
8' of separation is allowed between
spacer installations beginning
at 8' from the Riser Pole.

Reference Drawing
510-009-0911 for
Typical Trench Details
OPTION 2

BLACK TOP

ROAD BASE

ROCK FREE DIRT

RED ELECTRICAL WARNING TAPE

INITIAL BACKFILL

S

P

AS

P

P

2" Minimum

4" Minimum

12" Minimum

30" Minimum

24" Minimum

SUBGRADE

Along the ditch a maximum of 8' of separation is allowed between spacer installations beginning at 8' from the Riser Pole.

Reference Drawing
510-009-0911 for
Typical Trench Details
1) Refer to appropriate conduit arrangement drawing for correct embedment depth.

2) 3000 PSI concrete to be a minimum thickness of 4" around conduit.

3) This installation applies wherever the electrical conduit crosses above any other conduit.

4) If another utility crosses over a PEC conduit system the other utility must comply with the NESC rules 353B1 and 353B2. (NESC THE IEEE NATIONAL ELECTRIC SAFETY CODE)
NOTES:

1) Refer to appropriate conduit arrangement drawing for correct embedment depth.

2) As an alternative see Drawing 510-027-0911.
NOTE: Refer to appropriate conduit arrangement drawing for correct embedment depth.
NOTE: Refer to appropriate conduit arrangement drawing for correct embedment depth.
3/8" X 4" Galvanized "L" bolts with nuts and 1" washers. Bolts to be 1" above concrete with clean threads. Drop in anchors approved to be drilled and set after pour. See inspector for template for bolt locations.

Reference Drawing 510-009-0911 for Typical Notes
Changed placement of secondary conduits, effective as of March 20, 2013

Reference Drawing 510-009-0911 for all notes

See note 7
See note 2
See note 3

Final Grade

Outline of Transformer Cabinet

S S S S

P P

12" Maximum
25"
24"  9"  9"  20"
42"

20" Maximum

Pad for 1Ø Transformer, 1Ø Transformer with VFI, Small Sectionalizing Enclosure
Reference Drawing
510-009-0911
for all notes

Changed placement of secondary conduits, effective as of March 20, 2013

3/8" X 4" Galvanized "L" bolts with nuts and 1" washers. Bolts to be 1" above concrete with clean threads. Drop in anchors approved to be drilled and set after concrete pour. See inspector for template for bolt locations.

See note 4

See note 7

Outline of Transformer Cabinet

Conduit Configuration

1  2  3  4

Maximum

25"

9"

24"

20"

42"

90"

12"

See note 4

PEDERNALES ELECTRIC
COOPERATIVE, INC.
URD DEVELOPER'S SPECIFICATIONS

Pad for 1Ø Transformer, and pedestal for CT Metering

drawn: approved date: drawing number:
JBS MJB March 20, 2013 520-034-0911
Reference Drawing
510-009-0911
for all notes
Approved Sectionalizers:
Durham 1010188
Maysteel CC348-22TH
Shallbetter Inc. SSD-3-304822
Barfield BGSSE 224830TP

(TOP VIEW)

Back of Pad

Outline of Cabinet
22" X 48"

See note 4

3/8" X 4"
Galvanized bolts

Each letter indicates a separate Ø in a 3Ø circuit

Front of Pad

Reference Drawing
510-009-0911
for all notes

(SIDE VIEW)

Front of Pad

See note 1

Trench

See note 3

Final grade

See note 2

UNDISTURBED SOIL

See note 4

Pedernales Electric Cooperative, Inc.
URD Developer’s Specifications

Small Pad for 3Ø Sectionalizing Enclosure

drawn: JBS  approved: MJB  date: March 3, 2014  drawing number: 530-020-0911
Reference Drawing 510-009-0911 for all notes

(TOP VIEW)

Outline of cabinet 22" X 66"
3/8" X 4" Galvanized bolts

Each letter indicates a separate Ø in a 3Ø circuit

See note 4

See note 7

(SIDE VIEW)

Final grade

UNDISTURBED SOIL

See note 3

Trench

See note 2

See note 1
Changed placement of secondary conduits, effective as of March 20, 2013

See note 7

See note 4

Before pouring concrete, PEC shall specify which conduit is to be used to feed transformer

80"

See note 4

See note 2

22"

28"

9"

12"

9"

See note 3

Final Grade

See note 4

PEDERNALES ELECTRIC COOPERATIVE, INC.
URD DEVELOPER’S SPECIFICATIONS

1Ø Combination Sectionalizing Enclosure and Transformer Pad

Reference Drawing
510-009-0911
for all notes

Approved Sectionalizer:
Maysteel CC336-22TH

drawn: JBS   approved: MJB   date: October 28, 2013   drawing number: 530-023-1013
Reference Drawing
510-009-0911
for all notes

Changed placement of secondary conduits, effective as of March 20, 2013

Conduit Configuration

Outline of sectionalizing terminal 48"x22"

3/8"x4" galvanized bolts

Before pouring concrete, PEC shall specify which conduit is to be used to feed transformer

See note 4

See note 7

See note 4

See note 4

Final Grade

See note 3

See note 2

See note 4
Changed placement of secondary conduits, effective as of March 20, 2013

Conduit Configuration

Outline of sectionalizing terminal 66"x22"

Before pouring concrete, PEC shall specify which conduit is to be used to feed transformer

3/8" x 4" galvanized bolt

See note 4

Final grade

See note 3

See note 2

See note 4

R R R R B B B B Y Y Y Y

P P P P P P P P P P P P
Reference Drawing
510-009-0911
for all notes

12’ GATE REQUIRED IF PAD ENCLOSED IN FENCE OF ANY KIND.

45KVA to 225 KVA Maximum of 6 Conduits
300 KVA Maximum of 10 Conduits

See note 9

See note 4

See note 3

See note 2

Final Grade

2” Conduit for control wires

10 Secondary Conduit Configuration for 300KVA if requested

15” From front of pad
12' GATE REQUIRED IF PAD ENCLOSED IN FENCE OF ANY KIND.

500 KVA and above
Maximum of 10 conduits

2" Conduit for control wires

OUTLINE OF TRANSFORMER

PRIMARY SIDE OF TRANSFORMER
SECONDARY SIDE OF TRANSFORMER

See note 4

Secondary Conduits 3" or 4"

See note 3

2" Conduit for control wires
Six Secondary Conduits
Six - 3" Primary conduits

See note 2

Reference Drawing
510-009-0911
for all notes
12' GATE REQUIRED IF PAD ENCLOSED IN FENCE OF ANY KIND.

See note 9

Outline of transformer cabinet

Primary compartment

See note 4

2" Conduit for control wires

Maximum of Ten 3" or 4" Secondary conduits to be within this space

9"

33" Max.

38" Min.

16" Min.

33" 29" 20" Max. 30" Min.

See note 3

6 - 3" Primary conduits

See note 4

2" Conduit for control wires

To secondary side of other transformer

See note 2

Stub & Cap

3Ø Transformer Pad
2000-3000 KVA

Reference Drawing
510-009-0911
for all notes
Notes:
1.) Concrete to be a minimum of 3,000 psi design strength.
2.) All walls to be a minimum of 9" thick.
3.) \(\frac{3}{8}\)" steel rebar minimum spaced a maximum 12" apart.
4.) Footing to extend to undisturbed soil or rock.
5.) See individual vault drawings for actual dimensions.
1) The 144" side wall shall have two pulling eyes located 48" apart, evenly spaced between inside side walls, and 18" from the bottom of the vault.
2) The 72" side wall shall have one pulling eye located in the center of the wall and 18" from the bottom of the vault.
3) All pulling eyes to be rated for a minimum of 5,000 pounds each.
4) 6" above the bottom of the vault, an 8" knockout shall extend around the entire perimeter of the vault (except for 6" from each corner) for conduits to be brought in. Knockouts should be 1" thick and flush with the inside of the vault.
5) The vault shall be 7' deep.
6) The vault shall be installed on a minimum 6" deep bed of \( \frac{3}{4}" \) to \( \frac{7}{8}" \) diameter gravel.
7) Each vault shall be supplied with either a 10' ground rod driven in the vault floor or a minimum 100' of #6 bare copper wire buried no less than 18" deep in the earth and meeting the National Electric Safety Code Rule #094B3.
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20
- Access Lid shall be identified "ELECTRIC"
1) Each side wall shall have two pulling eyes located 24" apart, evenly space between inside walls, and 18" from the bottom of the vault.
2) All pulling eyes to be rated for a minimum of 5,000 pounds each.
3) 6" above the bottom of the vault, an 8" knockout shall extend around the entire perimeter of the vault (except for 6" from each corner) for conduit to be brought in. Knockouts should be 1" thick and flush with the inside of the vault. The vault shall be 4' deep.
4) The vault shall be installed on a minimum 6" deep bed of ½" to ¾" diameter gravel.
5) Each vault shall be supplied with either a 10' ground rod driven in the vault floor or a minimum 100 feet of #6 bare copper wire buried no less than 18" deep in the earth and meeting the National Electric Safety Code Rule #094B3.
Note:
-Vault lid to be 8" thick.

Lifting Eyes to accommodate a chain shall be located at each corner. They shall be flush with the top of the lid.
48" x 72" double leaf, spring assist lid, powder coated black steel or aluminum

stainless, penta head bolts

Lifting Eyes to accommodate a chain shall be located at each corner. They shall be flush with the top of the lid.

Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20
- Access lid shall be identified "ELECTRIC"
Typhical 10 x 10 Manhole

bare copper wire no less than 18" deep in the earth and meeting the National Electric Safety Code Rule #904B3. Each vault shall be supplied with either a 10' grounded rod driven in the vault floor or a minimum 100' of #6 approplal. Must have distinct approplal before use.

2. The vault shall be installed on a minimum 6" deep bed of 1/2" to 3/4" diameter gravel.

3. Depth of manhole dependent upon application. Access point can be moved as needed with district

Notes:

ELEVATION VIEW

PLAN VIEW
Typical 12 X 12 Manhole

Notes:

1.) Depth of manhole dependent upon application. Access point can be moved as needed with district approval. Must have district approval before use.

2.) The vault shall be installed on a minimum 6" deep bed of 1/2" to 3/4" diameter gravel.

3.) Each vault shall be supplied with either a 1/2" ground rod driven in the vault floor or a minimum 100' of #6 bare copper wire no less than 18" deep in the earth and meeting the National Electric Safety Code Rule #094.B3.

Specifications:

Typical All 4 Sides

Elevation View

Plan View

(3) Pulling Rungs

(3) 4.0 Termination

(3) 3.0 Termination

Riser Sections Var. Heights

E-30 Ring & Cover

Hanson Pipe & Precast PRC#144144-2

Approved Manholes:
Approved Enclosures:
Nordic PSP-151530-MG
Pencell AG18HDX-PECEWB

2-2" x 24" Radius Bends with Cap end. For each temporary hookup (two places). As required by Member. All conduits to enter vertically thru gravel bed in bottom of enclosure.

3" Conduits for services

3" conduit with 24" minimum radius bends electrical grade schedule 40. (24" bends for secondary only)

Manufactures requirement

4" bed of 1" gravel

Secondary Enclosure Installation Instructions

1) Excavate the hole approximately four inches deeper than the suggested pedestal Burial Depth.
2) Compact the soil.
3) Add approximately four inches of 1" gravel to the bottom of the hole.
4) Compact and level the ground.
5) Place the pedestal into the hole.
6) Level the pedestal.
7) Back-fill with loose earth material.
8) Do not back-fill with chunks of frozen material or large rocks next to the pedestal.
9) Pack the back-fill material by foot tamping.
For Commercial/Industrial/multi-family residential underground services where the meter or a bank of meters is to be located on the building or adjacent to the load, the service (cable, conduit, and trench) from the transformer to the load will be provided by the Member/developer.

In those cases where the number of service cables will exceed the number of the termination points on the secondary terminal of the transformer, a tap box (per PEC Specifications) is to be provided by the Member/developer. The Member/developer will provide the service, from the transformer to the tap box to the load. With mutual agreement between PEC and the member/developer, PEC can provide the cable from the transformer to the tap box at the member/developer's expense. The number of cables from the transformer to the tap box shall not exceed the number of termination points on the secondary terminal of the transformer.

PEC engineer will determine the location during design process.

Ditch, conduit, and secondary cable will be provided by Developer. PEC can provide the cable at member/developer expense. Note: Cable expense is not part of the CIAC allowance.

### Tap Box

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>Millbank 500kcml 22 position</td>
<td>UAP6095-O-NES</td>
</tr>
<tr>
<td>Barfield/Hubbell Up to 500kcml 19 position</td>
<td>LWTE19-500LI</td>
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</tbody>
</table>

Ditch, conduit, and secondary cable will be provided by Developer.
Pad to extend 4" above grade and 1½" below grade. Number of Developer Secondaries to be determined by electrician.
RISER SHALL BE MOUNTED AS DIRECTED BY A PEC REPRESENTATIVE.

Leave conduit 12" above final grade.

Leave no space between pole and conduit.

Red electrical warning tape

See Trench Detail (Drawings: 510-010-0911, 510-012-0911)

Schedule 80 Sweep

4" Concrete

10 Riser Pole
RISER SHALL BE MOUNTED AS DIRECTED BY A PEC REPRESENTATIVE.

If pole is not at the location leave conduit 12" above final grade and 10" from pole stake if available.

Schedule 80 conduit minimum.

Schedule 80 Sweep

Red Electrical Warning Tape

4" Concrete

See Trench Detail (Drawings: 510-010-0911, 510-012-0911)
RISER SHALL BE MOUNTED AS DIRECTED BY A PEC REPRESENTATIVE.

LEAVE CONDUIT 12" ABOVE FINAL GRADE

Leave no space between pole and conduit

Red electrical warning tape

4" Concrete

See Trench Detail (Drawings: 510-017, 510-018, 510-020, or 510-022)
RISER SHALL BE MOUNTED AS DIRECTED BY A PEC REPRESENTATIVE.

If pole is not at the location leave conduit 12" above final grade and 10" from pole stake if available.

Red Electrical Warning Tape

See Trench Details Drawings: 510-017, 510-018, 510-020, or 510-022

4" Concrete
Note 1: Clearance from padmount transformers to structures measured from the nearest metal portion of the transformer, to the structure or any overhang.

The clearance from a building is five feet if the building has non-combustible walls (brick, concrete, steel, or stone), ten feet if the building has combustible walls (including stucco).

The clearances shown below apply to any oil-filled PEC equipment.

Note 2: Per the National Electric Safety Code rule 380D Pad mounted equipment, pedestals, and other above ground enclosures, should be located not less than 1.2 m (4 ft.) from fire hydrants.

Exception: Where conditions do not permit a clearance of 1.2 m (4 ft.), a clearance of not less than 900 mm (3 ft.) is allowed.
A minimum clearance of ten feet of clear, level, unobstructed working space is required in front of a padmount transformer, to allow use of hot sticks.

OSHA Rule 1910.303

10' Minimum

Front of Padmount transformer

5' Minimum

Padmount Transformer

5' Minimum

Cooling Fins

5' Minimum

The clearances shown above applies to any oil-filled PEC equipment.
<table>
<thead>
<tr>
<th>Type of Material</th>
<th>Manufacturer</th>
<th>Telephone Number</th>
<th>Address</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduit spacers</td>
<td>Cantex</td>
<td>(817) 215-7000</td>
<td>301 Commerce Street Suite</td>
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<tr>
<td></td>
<td></td>
<td>(817) 215-7001 Fax</td>
<td>200 Fort Worth, Texas 76102</td>
<td></td>
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<tr>
<td>Ground Rod Clamp</td>
<td>Penn Union</td>
<td>(814) 734-1631</td>
<td>229 Waterford Street</td>
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<tr>
<td></td>
<td></td>
<td>(814) 734-4946 Fax</td>
<td>Edenbor, Pennsylvania 16412-2398</td>
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<tr>
<td>Manholes</td>
<td>Hanson Pipe &amp; Precast</td>
<td>(512) 385-3950</td>
<td>8043 Highway 164 West</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>Mart, Texas 76664-5187</td>
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<tr>
<td>Secondary Enclosure</td>
<td>Nordic Fiberglass, Inc.</td>
<td>(218)745-5095</td>
<td>21415 US Hwy 75 NW</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(218) 745-4990 Fax</td>
<td>Warren, Minnesota 56762</td>
<td></td>
</tr>
<tr>
<td>Secondary Enclosure</td>
<td>Pencell</td>
<td>(800) 257-9448</td>
<td>546 English Road</td>
<td><a href="mailto:info@pencell.com">info@pencell.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>252-467-2210</td>
<td>Rocky Mount, North Carolina</td>
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<tr>
<td></td>
<td></td>
<td>252-467-2212 Fax</td>
<td>27804</td>
<td></td>
</tr>
<tr>
<td>Sectionalizing Terminals</td>
<td>Durham</td>
<td>(417) 532-7121</td>
<td>PO Box 908</td>
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<tr>
<td></td>
<td></td>
<td>(417) 532-2366 Fax</td>
<td>Lebanon, Missouri 65536</td>
<td></td>
</tr>
<tr>
<td>Sectionalizing Terminals</td>
<td>Malton Equipment Co.</td>
<td>(218) 714-8252</td>
<td>1505 West Chestnut Street</td>
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<td></td>
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<td>Virginia, Minnesota 55792</td>
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<tr>
<td>Sectionalizing Terminals</td>
<td>Maysteel</td>
<td>(800) 255-1427</td>
<td>N89 W14700 Patricia Dr.</td>
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<td></td>
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<td></td>
<td>Menomonee Falls, Wisconsin</td>
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<td></td>
<td></td>
<td>(262) 251-1632 Fax</td>
<td>53051</td>
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<tr>
<td>Sectionalizing Terminals</td>
<td>Shallbetter Inc.</td>
<td>(920) 232-8888</td>
<td>3100 Progress Dr</td>
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<tr>
<td></td>
<td></td>
<td>(920) 232-8977 Fax</td>
<td>Oskosh, Wisconsin 54901</td>
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<tr>
<td>Vaults and Lids</td>
<td>CDR Systems Corp.</td>
<td>(386) 615-9510</td>
<td>146 South Atlantic Avenue</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(386) 615-9606 Fax</td>
<td>Ormond Beach, Florida 32176</td>
<td></td>
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<tr>
<td>Vaults and Lids</td>
<td>Electric Vault Company, LLC *Hanson</td>
<td>(254) 876-2860</td>
<td>8043 Highway 164 West</td>
<td>nwengineering@nwengineering-</td>
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<tr>
<td></td>
<td>Pipe &amp; Precast)</td>
<td></td>
<td>Mart, Texas 76664-5187</td>
<td>nwpm.com</td>
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<tr>
<td>Vaults and Lids</td>
<td>Capital Precast, Inc.</td>
<td>(830) 606-6200</td>
<td>800 Watson Lane East</td>
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<td></td>
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<td>New Braunfels, Texas 78130</td>
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<tr>
<td>Vaults and Lids</td>
<td>Halliday Products</td>
<td>(800) 298-1027</td>
<td>6401 Edgewater Drive</td>
<td><a href="mailto:Sales@HallidayProducts.com">Sales@HallidayProducts.com</a></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Orlando, Florida 32810</td>
<td></td>
</tr>
<tr>
<td>Vaults and Lids</td>
<td>Oldcastle Precast, Inc.</td>
<td>(888) 965-3227</td>
<td>1501 North University, Ste. 208</td>
<td><a href="mailto:contact@oldcastleprecast.com">contact@oldcastleprecast.com</a></td>
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</tbody>
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