

## ASSESSMENT DISTRICT NO. 100 PRIVATE UTILITY CONVERSION GUIDELINES

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### 1. PRE-INSPECTION:

The pre-inspection checklist for your property has been included with this mailer. The checklist indicates the steps needed, if any, to convert your property's utilities from overhead to underground.

PLEASE RETAIN THE PRE-INSPECTION CHECKLIST AS YOUR CONTRACTOR WILL NEED A COPY TO APPLY FOR AN ELECTRICAL PERMIT TO COMPLETE YOUR PORTION OF THE UNDERGROUND CONVERSION WORK.

Should you need an additional copy of this checklist, or did not receive one with this mailer, please contact **Iris Lee at (949) 644-3323**.

### 2. RETAIN AN APPROPRIATE CONTRACTOR:

The contractor you retain must possess one of the following contractor's license to perform the private underground conversion work:

- C-10: Electrical Contractor (Specialty)
- A: General Contractor
- B: General Building Contractor
- Owner/Builder

It is strongly recommended that you obtain at least three bids from contractors and ask for references in order to get a reputable contractor that will provide the highest quality of work at the lowest possible price.

The following is a link to a list of electrical contractors that have a business license with the City of Newport Beach. <http://newportbeachca.gov/index.aspx?page=351>

For further information, please refer to enclosed literature, Some Things to Consider Before You Hire a Contractor, or visit California Contractors State License Board website at <http://www.cslb.ca.gov/>.

### 3. DETERMINE METHOD OF CONNECTION:

Any existing, non-conforming services may need to be upgraded and/or relocated. Your contractor will need to call your SCE Local Service Planner to approve the meter location. Please note that any existing, non-conforming services may also need to be upgraded and/or relocated.

Please refer to the following for appropriate requirements to underground your electric, telephone, and/or cable services. All installations shall comply with the rules and

regulations of the City of Newport Beach along with all applicable governing laws and ordinances, Southern California Edison, AT&T, and Time Warner Cable.

4. **OBTAIN ELECTRICAL PERMIT:**

Once Step 3 is completed, your contractor should go to the City's Building Department to obtain an Electrical Permit. Please have your contractor bring the pre-inspection checklist with him/her.

If you have any questions regarding the Electrical Permit, please contact the City's Building Department Permit Technician at (949) 644-3288.

5. **UNDERGROUND CONDUIT EXTENSION AND BACKFILL:**

The contractor shall extend an approved plastic conduit for each of the overhead services to be undergrounded.

**UNDERGROUND CONDUIT SIZES:**

Electrical:	One three-inch (3") conduit (residential applications only)
Telephone:	One two-inch (2") conduit
Cable:	One one-inch (1") conduit

**ADDRESS LABELING:** The property address shall be labeled on the meter panel.

**GROUNDING:** Proper grounding shall be provided regardless of a meter panel upgrade.

**BACKFILLING:** All backfilling shall comply with City Building Department requirements, and Public Works Department requirements, if applicable. Soils report may be required, at the discretion of the City's Building Inspector, to insure proper soils compaction is provided.

<b>ALL BACKFILLING SHALL TAKE PLACE WITHIN 48 HOURS OF SCE AND CITY UNDERGROUND INSPECTION APPROVAL.</b>
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All work in the public right-of-way will require an approved encroachment permit from the Public Works Department.

Please refer to the attached exhibits for specific information regarding the installation.

**SPECIAL SCE PROVISIONS:**

- Provide a minimum three-foot (3') clearance in front and side-to-side of meter location.
- Meter height must meet 4'-0" to 6'-3" from final grade to centerline of meter.

- Provide 36-inch sweeps.
- Conduits to be placed a minimum of 33 inches below finished grade measured from the outside of the conduit.
- Provide a 12-inch separation between other utilities, 6 inches for crossings.
- Install a yellow 1/4-inch pole pull rope in the conduit for mandrelling.

6. CALL FOR “UNDERGROUND” INSPECTION:

An “Underground” inspection approval shall be obtained from the City’s Building Department and SCE Inspector for the conduit installation **PRIOR** to backfilling the trench. Please provide a minimum 48 hour notice for inspections.

**City of Newport Beach Building Department, (949) 644-3275**

**Joe Guy, SCE Inspector, at (714) 895-0448**

Should special directions (i.e., property access directions) be required, please contact the City’s Building Department Inspector directly: Randy Neilson at (949) 644-3260

7. METER PANEL UPGRADE:

All meter panel installations shall comply with the rules and regulations of the City of Newport Beach along with all applicable governing laws and ordinances and the Electrical Services Requirements of Southern California Edison.

8. CALL FOR “ROUGH SERVICE RELEASE” INSPECTION:

Once the work described in Steps 5, 6, and 7 is complete, the contractor shall call City’s Building Department at (949) 644-3275 to schedule a “rough service release” inspection. A “rough service release” must be approved prior to contacting SCE to arrange for a “cut-over”.

Once Step 8 is completed, the owner/contractor shall await for further notice from the City to schedule a “cut-over” as described in Step 9.

**A “ROUGH SERVICE RELEASE” INSPECTION IS REQUIRED REGARDLESS OF A METER PANEL UPGRADE.**

9. SCHEDULE CUT-OVER:

Once 90 percent of the District receives the appropriate City and SCE “releases,” your contractor shall schedule a “cut-over” with SCE. Your contractor must be present at the scheduled “cut-over” time. All overhead wires will be removed and the overhead riser mast will be cut and capped under. This step is to complete the actual work to convert overhead services to underground services.

A “cutover” appointment is not necessary for telephone and cable services. Once the appropriate conduits are extended, AT&T and TWC will have staff pull cable to your property’s point of connection. It should be noted that your contractor may be contacted by AT&T and/or TWC if conduits and associated work is not in compliance.

10. SCHEDULE A FINAL INSPECTION:

A final City inspection shall be made to ensure that all work is complete. All repaving shall be completed. The Electrical Permit will not be “finaled” until this step has been taken.

**If any questions arise concerning these requirements, please contact the City’s Building Department at (949) 644-3275 or your SCE Local Service Planning Office at (714) 895-0217.**

General Notes/Specifications per National Electrical Code and Utility Standards:

Dig Alert – The State of California Government Code 4216 mandates that anyone doing excavation work shall call at least two working days prior to commencement of any excavation. Please call (800) 227-2600

Newport Beach Municipal Code

1. Exposed PVC conduit shall be a minimum of schedule 80. Nonmetallic conduit installed on the exterior in runs greater than twenty-five feet (25’) require expansion fittings per NEC 300-5 & 347-9.
2. Grounding electrode and water bonding to be checked and upgrades if necessary sized per NEC T-250-94 & T-250-95.
3. All conduits, fittings and boxes sized per wire capacity of NEC-370-16 (Appendix C).
4. Maintain proper clearance for working spaces at new services and pull boxes. Minimum width of 36” x 36” depth x 78” in height per NEC 110-16.
5. Service equipment exposed to the weather shall be rain-tight NEC 370-15.
6. For each and every meter, the contractor shall furnish and install a switch, or other approved disconnecting means with over-current protection. (NEC allows up to a maximum of six (6) switches or disconnects to constitute the main over-current device) NEC 230-42; 230-71; 230-79.
7. If existing sub-panel(s) remain down line of new service disconnects, protection of existing may need to be supplied with a new additional panel giving protection the same as that of the old system. NEC 230-42; 310-15.
8. All meter fittings shall be mounted on a substantial support in a true vertical position. NEC 110-12.
9. All equipment, devices, and components shall be listed (recognized testing laboratory). NEC 100.

Additional Southern California Edison Requirements: ESR-3 Installation Guidelines

1. Underground service conduit to be minimum 3"/may be reduced to 2 1/2" for existing 100 amp services. (SCE EUSERC Drawing No. 344)
2. Pull boxes minimum size: 8" x 16" x 24" with a means of sealing consisting of two drilled stud and wing nut assemblies on opposite sides of cover. (SCE ESUSERC Drawing No. 344)
3. Where a self-contained "A" base meter is in place, and the meter is relocated on the same building or an increase in load requires the installation of larger service conductors or a larger raceway, a new meter panel or switchboard shall be installed.
4. Maintain required meter clearances and working spaces (Figure 5-4 WORKSPACE, ESR 5-17).

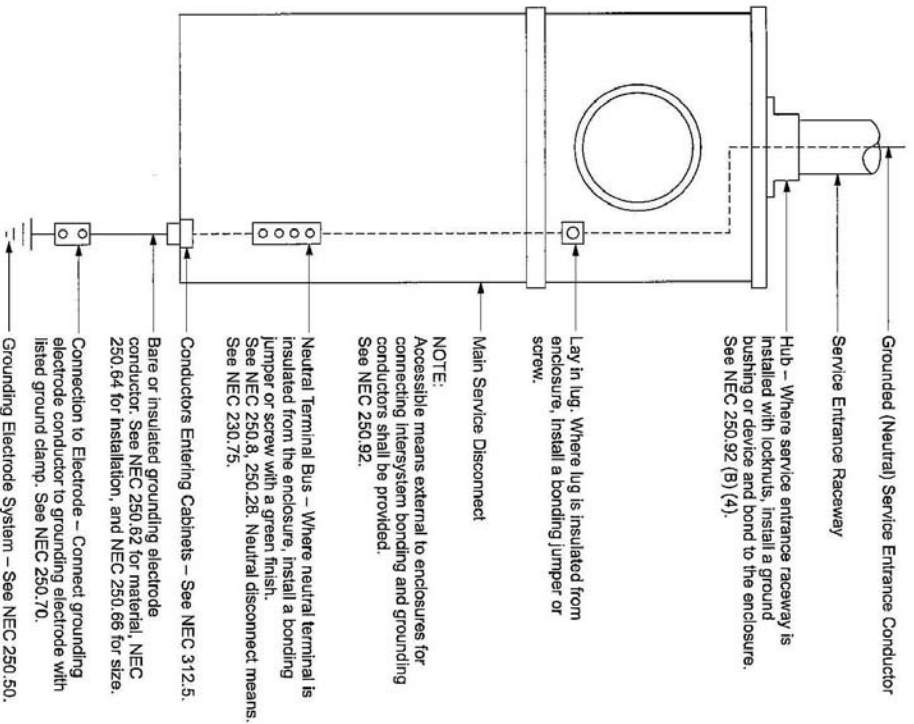
**In the event where there are discrepancies amongst codes, the more stringent shall be applied.**

# UNDERGROUND UTILITY ASSESSMENT DISTRICT No. 100

## Private Conversion Checklist for Owner/Contractor

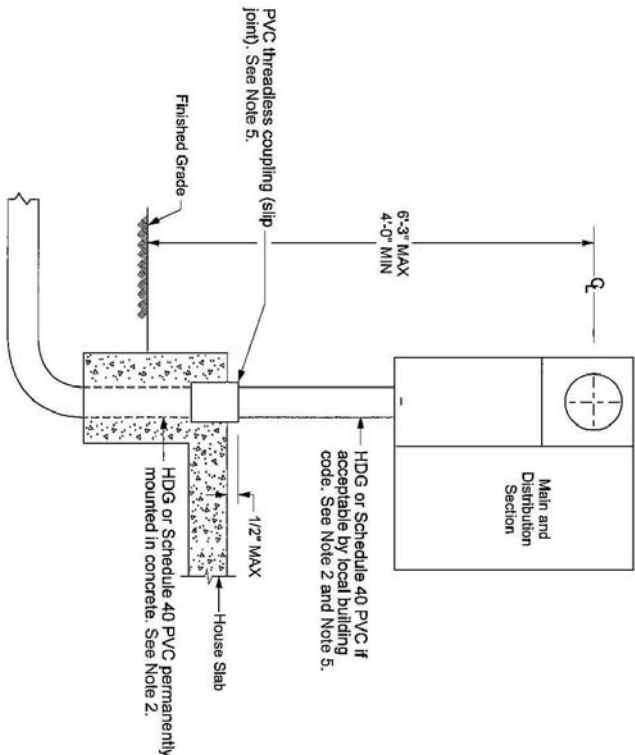
- \_\_\_\_\_ If you did not receive a pre-inspection checklist with this mailer, please call Iris Lee (City of Newport Beach Public Works Department) at (949) 644-3323 to obtain a copy. (owner)
- \_\_\_\_\_ Retain an electrical contactor to perform underground utilities work. (owner)
- \_\_\_\_\_ Contact SCE to approval meter panel location should a meter panel upgrade be performed. (contractor)
- \_\_\_\_\_ Apply and obtain approval for an electrical permit at City's Building Department. The completed pre-inspection list must be presented. Should any portion of the work take place in the public right-of-way, an approved encroachment permit from the City's Public Works Department must be obtained prior to starting work. (contractor)
- \_\_\_\_\_ Contractor to start work by opening trench, installing conduits, and upgrading the meter panel, as necessary. (contractor)
- \_\_\_\_\_ Schedule an "underground" inspection with City's Building Inspector to review trench, proximity of footing, conduits, grounding, and anything that is deemed necessary by the Building Department Inspector. This should be performed prior to closing the trench. (contractor)
- | \_\_\_\_\_ Schedule a SCE "underground (UG)" inspection with designated SCE inspector to inspect trench, - conduit material, pull rope, and all other designated SCE items. This inspection shall be completed prior to closing the trench. (contractor)
- \_\_\_\_\_ Schedule a "rough service release inspection" with City's Building Inspector to inspect installed meter panel and grounding. This inspection shall be scheduled after the trench is backfilled and repaved. This inspection is required even if there is no meter panel upgrade improvements. (contractor)
- \_\_\_\_\_ Contractor to schedule a cut-over once 90 percent of the district has received City and SCE "releases". The contractor will need to meet with the SCE representative at the project site. (contractor)
- \_\_\_\_\_ Schedule a final inspection with City's Building Inspector once all work is completed (contractor).

Figure 5-18: Combination Meter and Service Section for Overhead Dwelling Service



Approved QKH	Meters-EXO Installations	ESR-5
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Figure 3-19: Service Entrance for Single-Family Dwelling Service

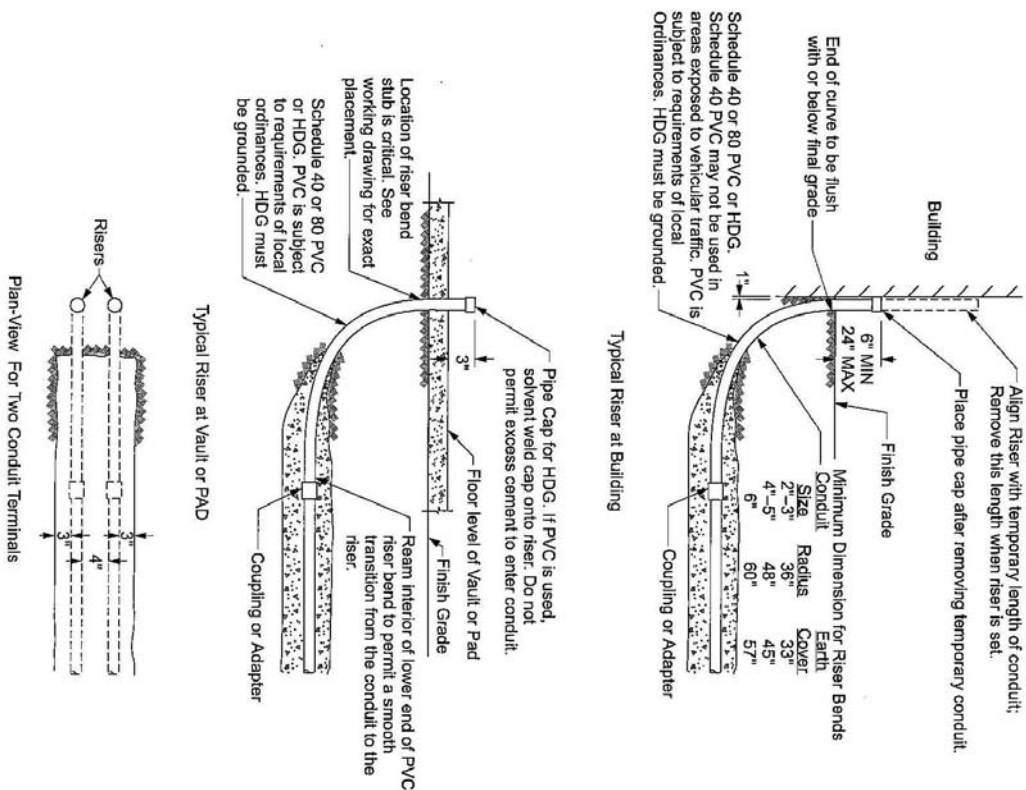


**Notes**

1. Customer's service conduit installation is subject to the approval of the local inspection agency. Backfill and compaction shall comply with all local ordinances.
2. Consult the local Service Planning Office to determine minimum Rigid Conduit to be installed.
  - a. The minimum conduit size is 2-1/2 inches for (100) A service.
  - b. Two hundred (200) ampere services requires a minimum conduit size of three inches.
3. A multiple meter service may require larger conduit than specified in Note 2, consult the local Service Planning Office for details.
4. The conduit may be HDG, or where approved by the local inspection agency, minimum Schedule 40 PVC. See Figure 3-20 (Page 3-38) for exposed conduit.
5. The conduit may be installed in one piece without a coupling or in two pieces with a threadless coupling permanently mounted in the foundation as illustrated in Figure 3-19 (Page 3-37).

Approved <i>Q.L.H.</i>	Underground Service Connections 0-600 Volts	ESR-3
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Figure 3-21: Riser Bend Installation at Wall or Pad

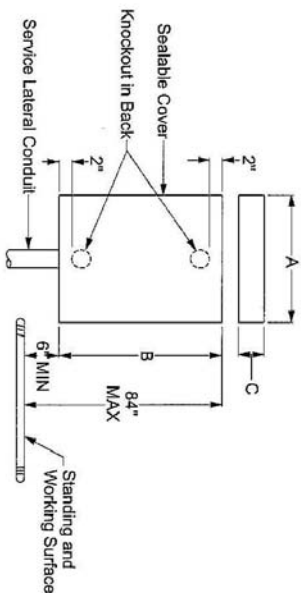


Approved <i>Q.L.H.</i>	Underground Service Connections 0-600 Volts	ESR-3
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**Figure 3-11: Underground Pull Boxes**

EUSER DRAWING NO. 344



**Pull Box Dimensions**

Service Conduit Size	A	B	C
2"(4)	10"	12"	4"
	8"	18"	4"
2 1/2"(4)	12"	16"	6"
	8"	18"	6"
3"	16"	24"	8"

(a) Normally not used for conventional conduit systems. Consult local Service Planning Office.

**Notes**

1. The service conduit may enter the end or the back within two inches of the end of the pull box but shall not enter the side.
2. When a service conduit enters the end of a pull box, the opposite end shall not be less than 24 inches from any side wall, ceiling, or other obstruction. Any projection which extends more than the depth of the box from the surface on which the box is mounted shall be considered an obstruction.
3. No conductors other than service conductors shall be installed in any pull box.
4. Provide two lifting handles on pull box covers of four-square feet or more in area; covers not to exceed nine-square feet.
5. Pull box covers shall be provided with a means of sealing consisting of two drilled stud and wing nut assemblies on opposite sides of the cover. All securing screws shall be captive.
6. Consult the local Service Planning Office for conduit requirements.
7. See to Figure 3-9 (Page 3-28) for larger pull boxes equipped with termination facilities.

**ESR-3**

Underground Service Connections 0-600 Volts

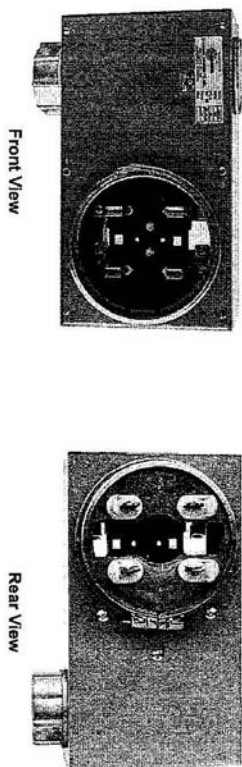
Approved  
*RLH*

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**Electrical Service Requirements**  
SCE Public

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5-16-2005

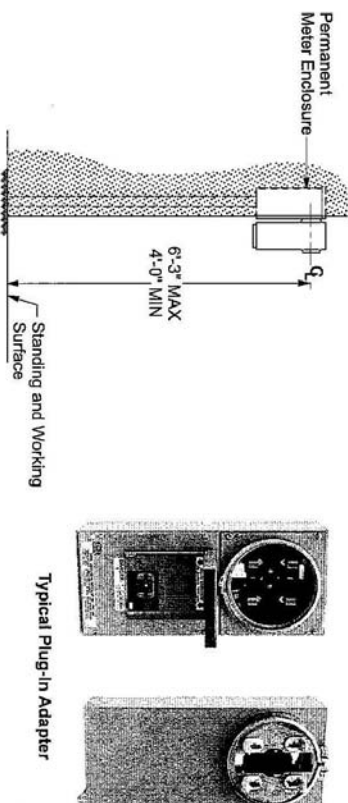
**Figure 3-14: Typical Plug-In Type Meter Adapter**



**Note**

1. The plug-in type meter adapter is limited to 120/240 V, 125 A single-phase service only. The maximum cable size to pull and terminate into the adapter is 1/0 CLP due to limited working clearance in the terminating section.

**Figure 3-15: Plug-In Temporary (Piggyback) Service Adapter**



**Note**

1. Permanent service cables must be installed and approved by the local inspection jurisdiction before a temporary (Piggyback) service adapter may be installed.

Approved  
*RLH*

Effective Date  
5-16-2005

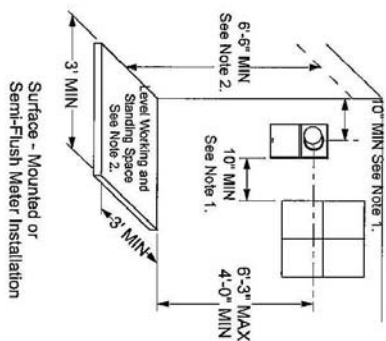
Underground Service Connections 0-600 Volts

**ESR-3**

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**Electrical Service Requirements**  
SCE Public

Figure 5-5: Workspace — Surface-Mounted or Semi-Flush Meter Installation



**Notes**

1. The horizontal clearance from the centerline of the meter to the nearest side wall or other obstruction shall be 10-inches minimum. A horizontal clearance from the edge of the meter panel to the edge of a window or doorway (including sliding glass doors) shall be 10-inches minimum. A gas meter or plumbing fixture that does not protrude more than six (6) inches out from the wall, or extend less than 18 inches horizontally from the outside edge of the meter panel, shall not be considered an obstruction. See Figure 5-4 (Page 5-23).
2. A level working and standing surface, clear and unobstructed, entirely on the property of the customer, shall be provided. The minimum width of the workspace shall be 36 inches overall, but need not be centered beneath the meter. The minimum depth of the workspace shall be 36 inches. Where meters are enclosed in a closet or recessed in an enclosure, the depth of the workspace is measured from the outer face of the closet or recess. The minimum height of the workspace shall be 78 inches.

Figure 5-6: Minimum Enclosed Meter Clearances — 0-600 Volts

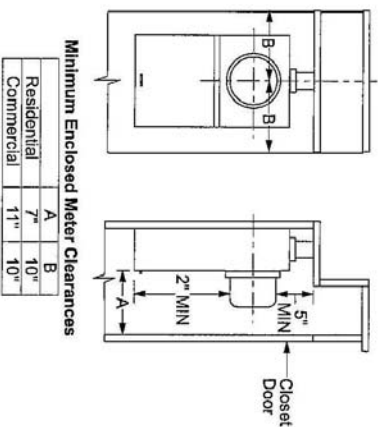
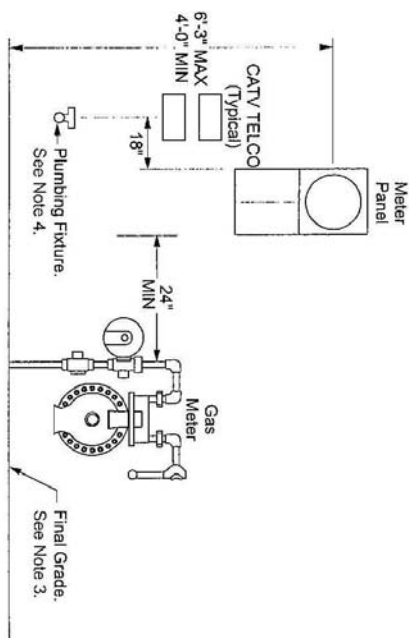
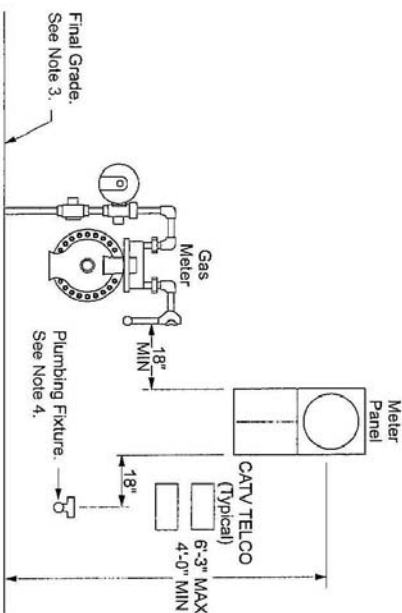


Figure 5-4: Separation of Meter Assemblies for Electric and Gas Services



**Notes:**

1. Size and dimensions of panels will vary. Drawings are not to scale.
2. This drawing pertains to both overhead and underground electric service applications.
3. Maintain a three-foot clear, level, and unobstructed work space in front of electric service equipment.
4. Plumbing fixtures that extend more than six (6) inches out from wall surface must be located 18-inches minimum from the outside edge of the meter panel.



ESR-5	Meters-EXO Installations	Approved RLH
Page 5-24	Electrical Service Requirements ► SCE Public ◀	Effective Date 7-28-2006

ESR-5	Meters-EXO Installations	Approved RLH
Page 5-23	Electrical Service Requirements ► SCE Public ◀	Effective Date 7-28-2006



# AT&T Specifications

Trenching  
Conduit  
Boxes

## A Guide for California Residential Property Owners in a Municipal Underground District

This guide consists of AT&T California specifications and diagrams for trenching and underground support structure and other make ready work performed by property owners and their agents as required by AT&T for conversion of its aerial communication facilities on residential private property. Any deviation from the specifications provided in this document must be approved by the local AT&T Engineer.

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# General Information on Underground Districts

Your local municipality has passed an ordinance in your neighborhood for the conversion of aerial communication and power facilities to underground facilities. The area to be converted from aerial to underground facilities is referred to as the "District".

AT&T's California Public Utility Commission Tariff Schedule A2 defines responsibilities for both the property owner and AT&T to convert the communication facilities on private property as described below.

The property owner is responsible for the trenching and underground supporting structure (conduit and pull boxes) between the public way and the building on your private property.

AT&T is responsible for converting the existing aerial service wire or cable to underground using the supporting structure provided by the property owner.

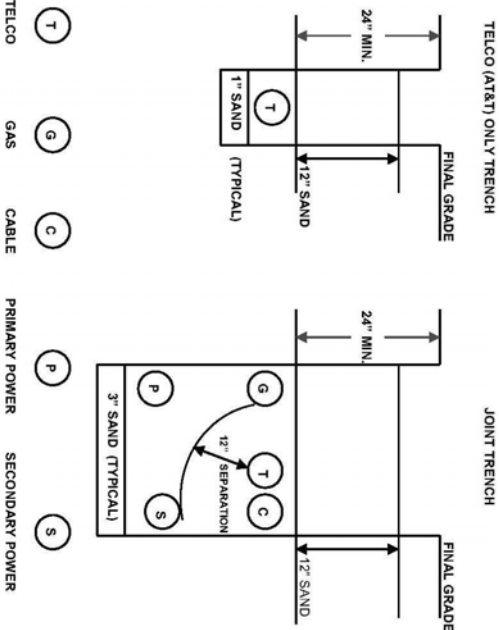
The trench work on the private property must be completed prior to the start of construction scheduled for your neighborhood street.

## General Construction Requirements

- Construct trench and place substructures according to AT&T plans and specifications.
- Request and get authorization for any design change from the AT&T engineer or AT&T inspector prior to implementing the change.
- Call [insert phone no.] for questions or information regarding the requirements in this Guide.
- All trenching and conduit work must be completed on your private property before the scheduled date for conversion of facilities on your neighborhood street.

# Trenching

- The trench route from the telephone box on your house to the boundary of the street at your property line will be determined by AT&T.
- Minimum radial clearance from all other trench occupants, except CATV, must be no less than 12 inches. A minimum 24" of coverage (dirt backfill) over the conduit is required within 5' of your property line (trench depth should be 27"). A minimum of 18" of coverage is acceptable for the remainder of the trench.
- There may be no more than two 90 degree bends or a combination of bends that exceed 180 degrees total. If this requirement can not be met, then a minimum size 1" x 17" pull box must be installed in the conduit run in lieu of the bend. Consult with the AT&T engineer if necessary.



## Conduit

Conduit placed for AT&T must be for its exclusive use. AT&T will not occupy the same conduit with other utilities or foreign cable/communication systems. AT&T may refuse to occupy conduit that deviates from our plans and specifications.

The property owner is responsible for repairing or resolving any problems with the conduit they have installed that prevents AT&T from pulling its wire through the conduit using normal installation methods. Conduit must be rodged, cleared, and roped prior to AT&T pulling in wire.

### Material Requirements

1. Two inch (2") conduit must be type PTS 66/DB 120 rigid plastic or Schedule 40.
  - Minimum sweep for 2" conduit is a two ft 90 degree radius
  - Maximum of two (2) 90 degree bends
  - Install one quarter inch (1/4") plastic rope pull line, No. 12 pull wire, or weather proof pull tape
2. Rigid steel, condulets, plumber's fittings, flexible tubing, or water and gas pipes are not acceptable materials.

### Installation Requirements

1. Minimum trench coverage for conduit is detailed under Trenching.
2. Conduit must be terminated into the ends or sides of the box. Conduit may not enter the bottom of the box.
3. Conduits at the house must be plugged by the property owner to provide a seal against water intrusion.
4. Use a temporary universal plug to keep conduit free of debris. Cap all stubbed conduit. Stake conduit at property line for AT&T tie-in.

## Pull Boxes

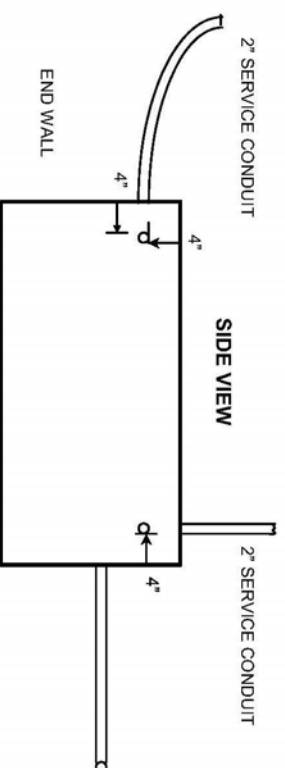
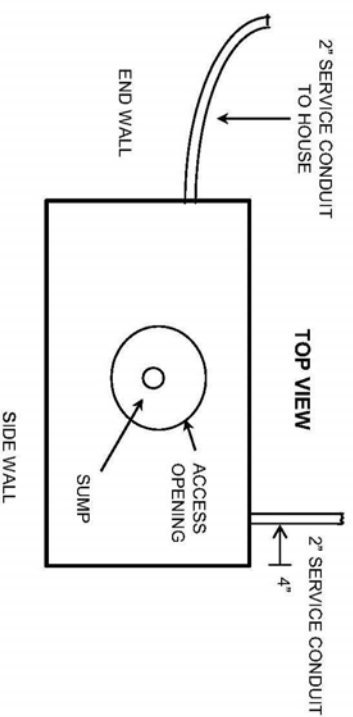
### Material Specifications

All pull boxes that will be owned and maintained by the property owner must be approved for use by AT&T. You may purchase from any manufacturer that meets AT&T's specifications for boxes. Boxes placed on private property and owned by the property owner must have a generic telephone emblem on the lid. The use of AT&T's name or logo is not permitted on a property owner's box. The pull box must be for AT&T's exclusive use. AT&T will not install its facilities in any box that is also being used by other utilities.

### Installation Specifications for Boxes

1. Boxes must be installed at the final grade of the property.
2. A pull box for drainage and to prevent water from entering your house is required on your property at the property line when the conduit to the telephone box on your house is below sidewalk elevation or when your house is more than 2% down grade from the street elevation.
3. A minimum of six inches (6") of compacted sand, graded level is required under all pull boxes. Equip each box with sump hole and crushed rock for drainage.
4. Conduit must terminate at the end wall or side wall of a pull box. Entry through the bottom of a box is not acceptable.
5. All conduits entering knockouts in a plastic or polymer box must be cut within one inch (1") flush with the inside of the wall and sealed. Bush ends on conduit to remove sharp edges. All joints must be mortared and all unused ports and openings sealed. Use cement mortar, water play cement or other approved prepared mortars.

## CONDUIT TERMINATIONS IN PULL BOXES



DO NOT INSTALL SERVICE CONDUITS INTO THE BOTTOM OF THE BOX

## Bonding and Grounding

Bonding and grounding requirements must meet the National Electrical Code. Grounding Options are listed in the order of preference.

1. #10 copper ground wire to Electrical Power Service Grounding Electrode, Service Grounding Electrode Conductor or Service Panel
2. #10 copper ground wire to a Concrete-Encased Electrode meeting the requirements of the NEC (UFER Ground)
3. #10 copper ground wire to a Ground Ring meeting the requirements of the NEC or to the metal frame of the building which is effectively grounded.