

MOBILE HOME SERVICE REQUIREMENTS ELECTRIC AND GAS

1.0 INDEX

- 1.0 INDEX
- 2.0 PURPOSE
- 3.0 GENERAL
- 4.0 REFERENCE MATERIAL
- 5.0 TYPICAL UNDERGROUND UTILITY LAYOUT
- 6.0 METER PAD DETAILS
- 7.0 GENERAL INSTALLATION PROCEDURES
- 8.0 PEDESTAL SPECIFICATIONS

2.0 PURPOSE

The purpose of this standard is to outline methods of providing underground utility service to mobile homes within the service territory of NVE (NVE).

3.0 GENERAL

- 3.1 In the application of this standard a mobile home development shall be considered either a mobile home subdivision or mobile home park.
 - A. A mobile home subdivision consists of lots for private ownership, where the lot is owned by an individual.
 - B. A mobile home park consists of spaces for rent, where the mobile home owner rents space for his mobile home.
- 3.2 The developer is responsible for the overall design and installation coordination of the various underground facilities of his project.
- 3.3 The developer shall be responsible to contact NVE during the design phase of his project to ensure compliance with this standard.
- 3.4 The developer must follow local codes and ordinances for requirements applicable to customer facilities from the meter pedestal to the distribution panel board within the mobile home. All NEC clearance requirements must be maintained. A 3' minimum space is required in front of any pedestal opening.
- 3.5 Main and service layout of electric and other utilities shown in this standard are to illustrate overall design and installation coordination requirements.

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:	Revision: 6		Page 1 of 10
JL	JF	SJ	5/03			

- 3.6 The developer is responsible to establish finish grade on property prior to start of construction of NVE’s facilities.
- 3.7 Developer shall provide all main trenching, excavation, and backfill in accordance with NVE’s standards and specifications. The developer shall provide, install, and maintain service conduits, meter pads and meter pedestals in accordance with NVE’s specifications. In mobile home subdivisions, the owner shall provide, install, and maintain his service conduits, conductor, meter pad, and meter pedestal.
- 3.8 The developer shall provide a permanent and clearly marked identification mark showing address or space number on each meter pedestal and gas house line.
- 3.9 For feeder facilities, the developer will provide trenching, backfill, and provide and install other material required under applicable extension rules of Nevada and/or California.
- 3.10 NVE may furnish, install, and connect service cables and meters.
- 3.11 Within its gas service area, NVE will furnish and install gas meters.
- 3.12 Meter pads in the immediate vicinity of driveways must be protected by steel posts as detailed on NVE Dwg. PE0009U, “Padmounted Apparatus Barrier Posts”.
- 3.13 Meter pad and Utility Island are defined as follows:
 - A. Meter Pad - The meter pad is where electric meter pedestals and gas meters are to be installed. It shall be located in accordance with this standard and at a location so as to prevent damage to meters resulting from placement of mobile homes.
 - 1. The developer is responsible to stake locations of meter pads. **Locations shall be approved by NVE.**
 - 2. Adjustments of meter pads and meters due to grade or staking errors shall be made by the developer or owner at his expense. Work required by NVE to adjust our facilities will be charged to the developer.
 - 3. In lot sale developments, the individual owner shall own and maintain the meter pad and pedestal and all the electrical and gas facilities from the meter pad to the mobile home.
 - B. Utility Island - The utility island is a central location for all customer facilities (electric, gas, water, sewer, telephone, TV, etc.) at the mobile home which allows the mobile home to be connected to those facilities.

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Page 2 of 10
JL	JF	SJ	5/03			

1. Local city/county codes apply to the utility island and to the electric and gas facilities from the load (customer) side of the meter pad to the utility island. The developer or owner should consult local city/county building departments for applicable requirements.
- 3.14 When certain conditions are met, a mobile home is no longer classified as mobile, but considered a modular or permanent building, and treated in accordance with NVE’s Residential Service Standards and this standard no longer applies. The following conditions make it a fixed, permanent residence:
- A. It is built in accordance with the National Construction and Safety Standards.
 - B. It is placed on a permanent foundation, or
 - C. Its owner also owns the land on which it stands.

4.0 REFERENCES

4.1 NVE Standards:

Trench Excavation Standards
 Typical Trench Details
 Trench Bedding & Backfill
 Conduit Installation Guide
 Conduit Application Guide

Vol. 17, Standard Reference

TE0001U, Section 3.
 TE0003U to TE0027U, Section 3.
 SUB01X, Section 3.
 CD0001U, Section 4.
 CD0004U, Section 5.

4.2 Other Codes & Rules:

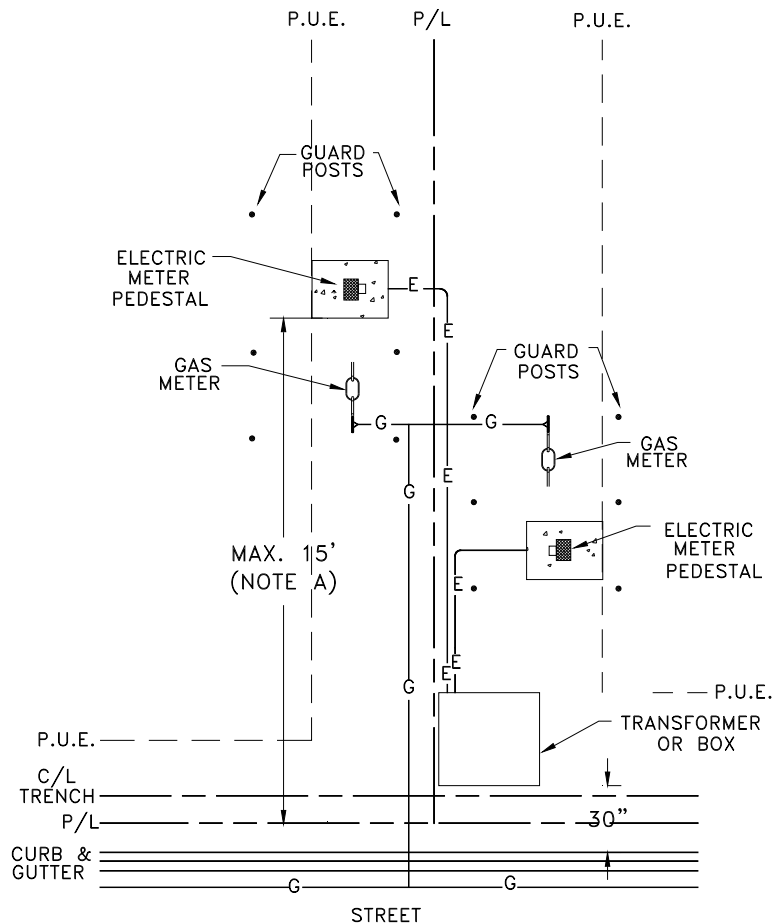
National Electrical Code (NEC)
 National Electric Safety Code (NESC)
 Mobile Home Setup Guide, Washoe County
 Occupational Safety & Health Administration (OSHA)
 Uniform Plumbing Code (UPC)
 Underwriters Laboratory (UL)

5.0 TYPICAL UNDERGROUND UTILITY LAYOUT

- 5.1 Electric primary and secondary cables will be installed in conduit in joint trench with telephone and cable TV. The facilities will be within the public utility easement (PUE) along the front of the lots, with street crossings as required.
- 5.2 Electric services shall be installed from the nearest electric box or transformer to the meter pad alongside the property line within a 5 ft. PUE, see Detail #5A.

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 3 of 10

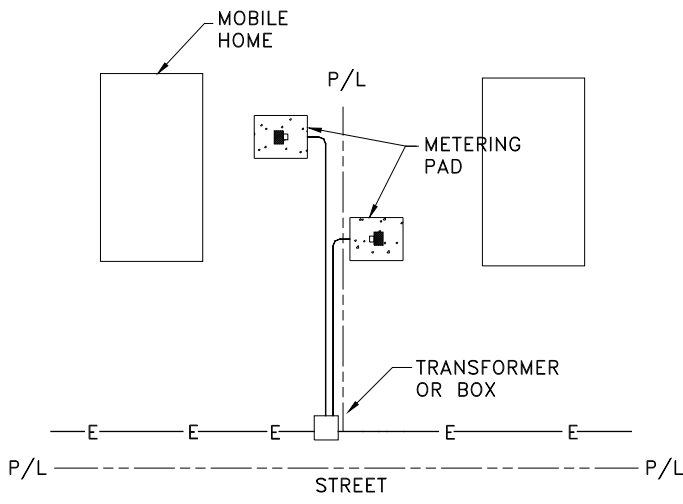
- 5.3 Mobile home parks can install either:
 - A. One electric meter pad with double meters, see Detail #5C.
For gas meter location, refer to Detail #6C.
 - B. Two electric meter pads with single meters, see Detail #5B.
For gas meter location, refer to Detail #6B.
- 5.4 Mobile home subdivisions shall install single electric meter pads for each lot. The pads may be on common lot lines, see Detail #5B. For gas meter location, refer to Detail #6B.
- 5.5 Quadruple electric meter pads may be used in mobile home parks. Approval must be received from NVE prior to construction for correct wire sizing, see Detail #5D. For gas meter location, refer to Detail #6D.
- 5.6 Gas services shall be installed from the main located in the street. Common service trench for electric and gas shall be used to the meter pad location. See Detail #5A.
- 5.7 Any exceptions in the layout of electric and gas facilities must be approved by NVE prior to construction.



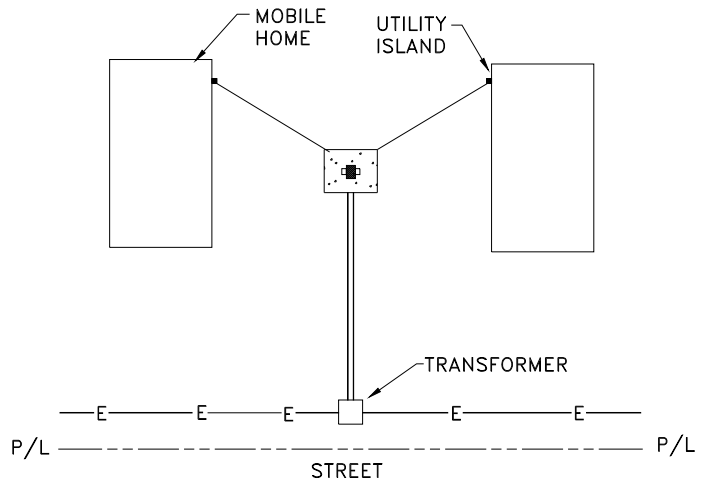
				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 4 of 10

NOTES:

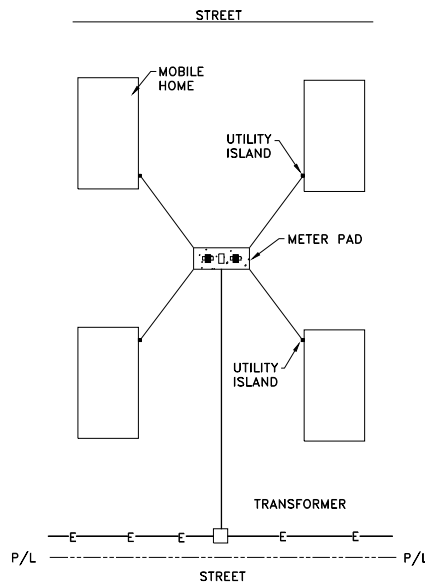
- A. Maximum 15 ft. setback from property line for metering pads. Approval from NVE must be received prior to construction for alternate meter pad locations.
- B. Trench centerline to be 30" from back of curb for electric trenches, transformers, boxes or vaults. If sidewalk is present, trench centerline to be 24" behind sidewalk.
- C. Service trench centerline to be 30" from side property line.
- D. Meter pads to be 30" from side property line.
- E. Guard posts to be 4" standard steel primed and painted yellow. Posts to be 5'-0" long, buried 2' in concrete and filled with concrete.



DETAIL #5B



DETAIL #5C



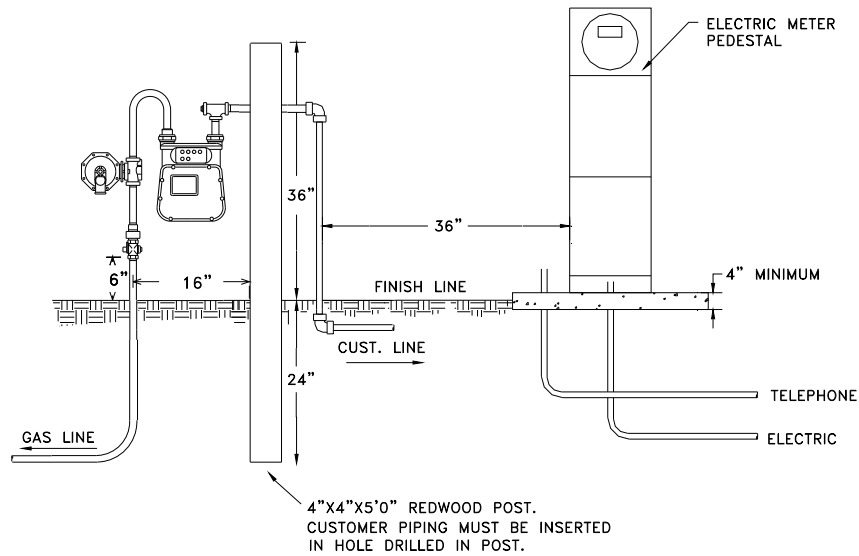
DETAIL #5D

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 5 of 10

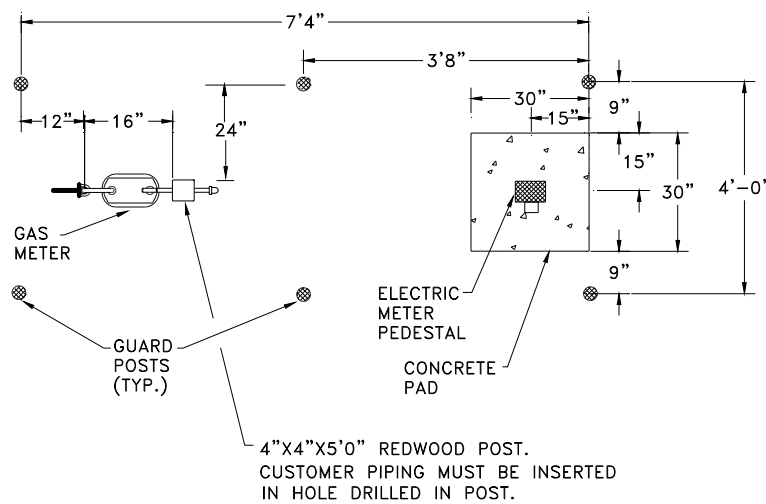
6.0 METER PAD DETAILS

- 6.1 See Details #6A, #6B, #6C, and #6D for pad layout and dimensions.
- 6.2 6" x 6" 10/10 steel mesh shall be used for reinforcing of all pads. Pads shall have a minimum thickness of 4".
- 6.3 For multiple meters, gas house lines shall be offset 6" from service riser.

**DETAIL #6A
METER PAD PROFILE**

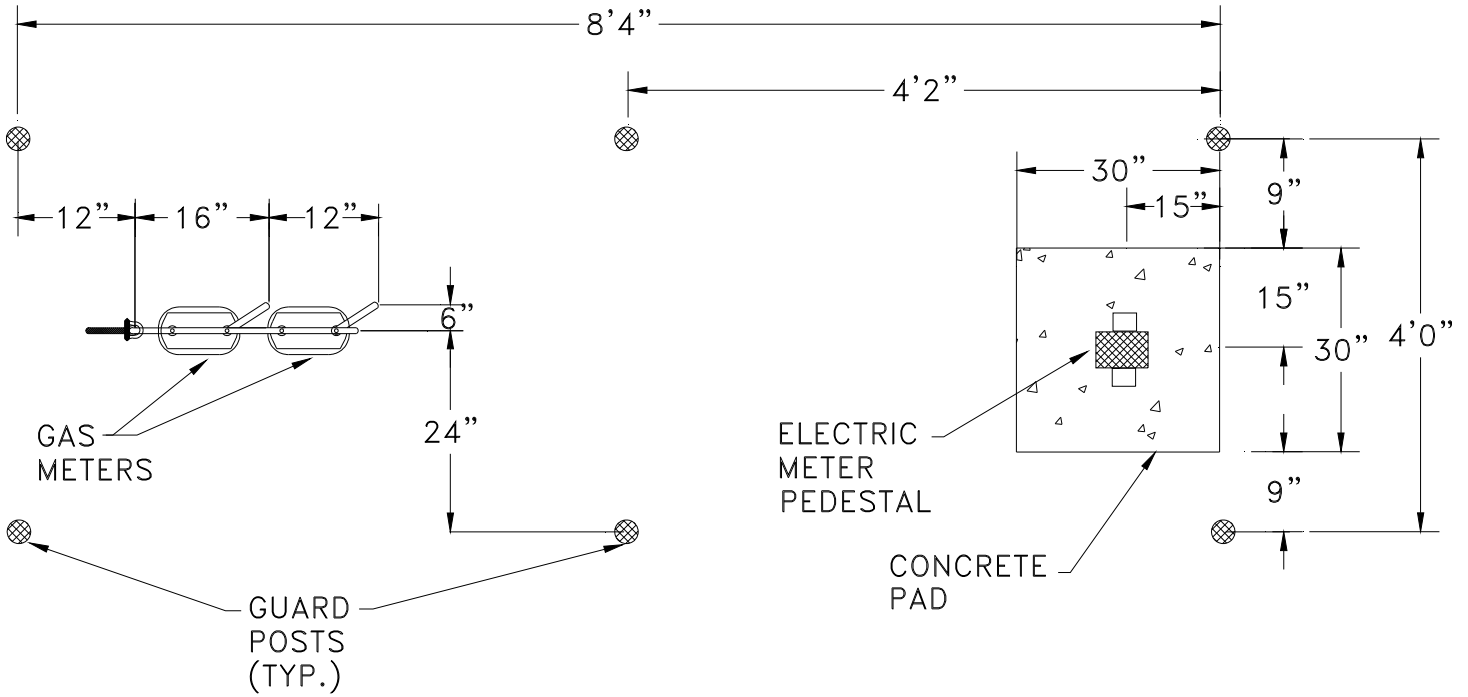


**DETAIL #6B
SINGLE METERS**

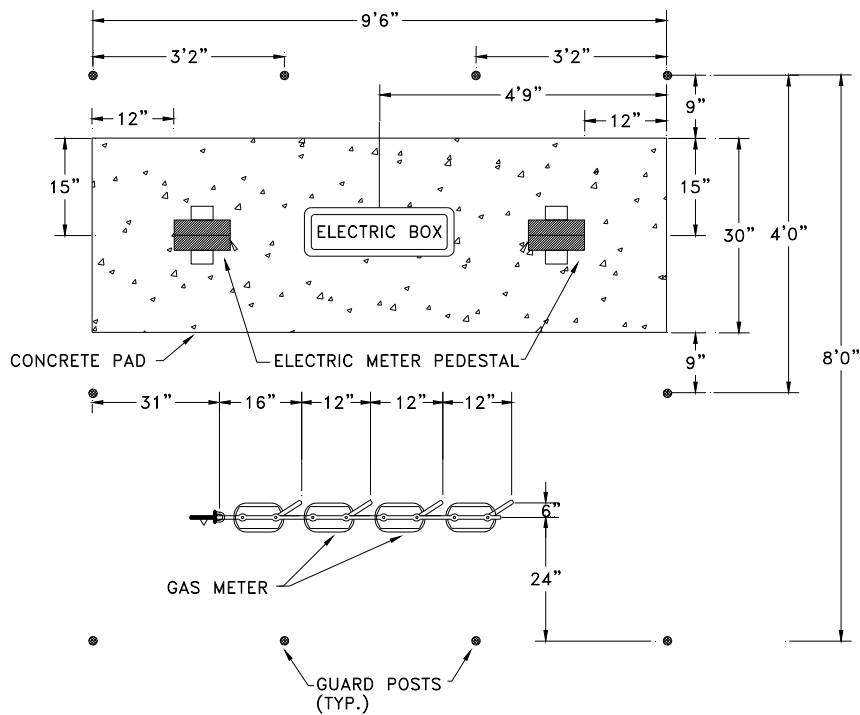


				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 6 of 10

DETAIL #6C
DUAL METERS



DETAIL #6D
QUADRUPLE METERS



				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 7 of 10

7.0 GENERAL INSTALLATION PROCEDURES

- 7.1 This section outlines the general procedures to follow in installing the electric and/or gas service, meter pedestals and pads.
- 7.2 The developer/owner obtains NVE’s approval on utility layout prior to construction. **NVE will designate the service locations.**
- 7.3 The developer/owner provides all trenching, excavation and backfill in accordance with NVE's standards.
- 7.4 Any service conduit/pipe is provided and installed by developer/owner as specified by NVE.
- 7.5 The developer/owner backfills trench to the level of joint utility before joint facilities are installed.
- 7.6 The developer/owner in the general sequence listed below, will then install the electrical grounding system at the meter pad, the meter pedestal and the electric line from the meter pad to the mobile home.
 - A. Install the electrical ground and bare copper grounding conductor. The grounding conductor shall not be connected to the gas pipe system.
 - B. Install the customer electric line (or conduit) from meter pad location to mobile home connection point (Utility island).
 - C. Install the gas service house line.
 - D. Remove the pull section panel of meter pedestal to allow service cable to extend through pedestal. Carefully place pedestal over NVE’s electric conduit and customer’s electric conduit. Position meter pedestal as required and plumb and level pedestal. See Details #6A, #6B, #6C, and #6D.
 - E. Backfill the installation and compact meter pad subgrade to 90%. Form and pour the concrete pad. The concrete pad should extend approximately two inches above finish grade.
 - F. Connect the grounding conductor to the accessible grounding lug inside the pedestal. Ground the pedestal by connecting the accessible grounding lug to the neutral service terminal landing lug.
 - G. Connect the customer’s electric line.
 - H. Call for city/county inspection of electric and gas installation, as required.
- 7.7 Upon approval by inspecting authority, NVE will connect the electric service conductors to the landing lugs in the meter pedestal, install and seal the pull section panel, and blank off and seal the meter socket ring.
- 7.8 NVE will set the electric and gas meter upon application for service.

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:	Revision: 6		
JL	JF	SJ	5/03	Page 8 of 10		

8.0 METER PEDESTAL SPECIFICATIONS

- 8.1 The meter pedestal shall have a minimum rating of 100 amperes and *shall face the street or point of access*. Construction, material, corrosive-resistant finish shall be approved by the Underwriters Laboratory (UL).
- 8.2 The meter socket base shall be UL recognized and provided with a sealing ring. The socket shall be factory-wired with the conductors in a separate or barriered raceway from the utility’s terminating lugs to the meter socket. These conductors shall be inaccessible from the main disconnect and power outlet section. The conductors which extend to the meter socket shall be connected at the utility’s terminating lugs independently of the connection for the customer’s conductors. The minimum meter height is 36” above grade line when the meter is enclosed, or 48” minimum if exposed.
- 8.3 The customer’s main disconnect and power outlet section shall have barriers installed to prevent access to the utility’s cable pull and terminating section and to unmeasured conductors which connect to the socket.
- 8.4 The utility’s cable pull and terminating section shall be covered with a sealable and removable panel or panels, extending from 2" to 6" above grade, and when removed, give full access to the utility’s terminating lugs. Access to the terminating lugs may be from either the front or the rear of the post. Access shall not be restricted by load conduits or raceways.
- 8.5 A minimum 12” opening shall be maintained from the terminating lugs to any fixed panel below the lugs. The minimum lug height is 18” above grade line; the maximum is 48”. The terminating lugs shall be twin No. 2 to 350 kcm aluminum bodied pressure type for connection of the service lateral conductors. The space between terminating lugs, from lugs to sides of post, or from lugs to panel above shall be 1½" minimum. Rigid insulating barriers are required and shall project ¼" minimum beyond any energized parts if this space is less than 1½". Terminating lugs may be positioned either in-line or staggered. The neutral terminating lug shall be bondable to the post.
- 8.6 An accessible grounding lug shall be provided for a minimum #6 to 1/0 AWG grounding conductor.
- 8.7 The post shall have a minimum cross sectional dimension of 4” x 8” inside diameter. A fixed panel shall extend 2" minimum and 5" maximum above grade, and 18” minimum below grade.
- 8.8 The minimum depth of the post in the ground shall be 24” with openings at the base to permit the service lateral conduit or conductors to sweep into the post.
- 8.9 A moisture barrier, located below all terminals and other live parts, or adequate ventilation, shall be provided to inhibit the condensation of moisture.

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 9 of 10

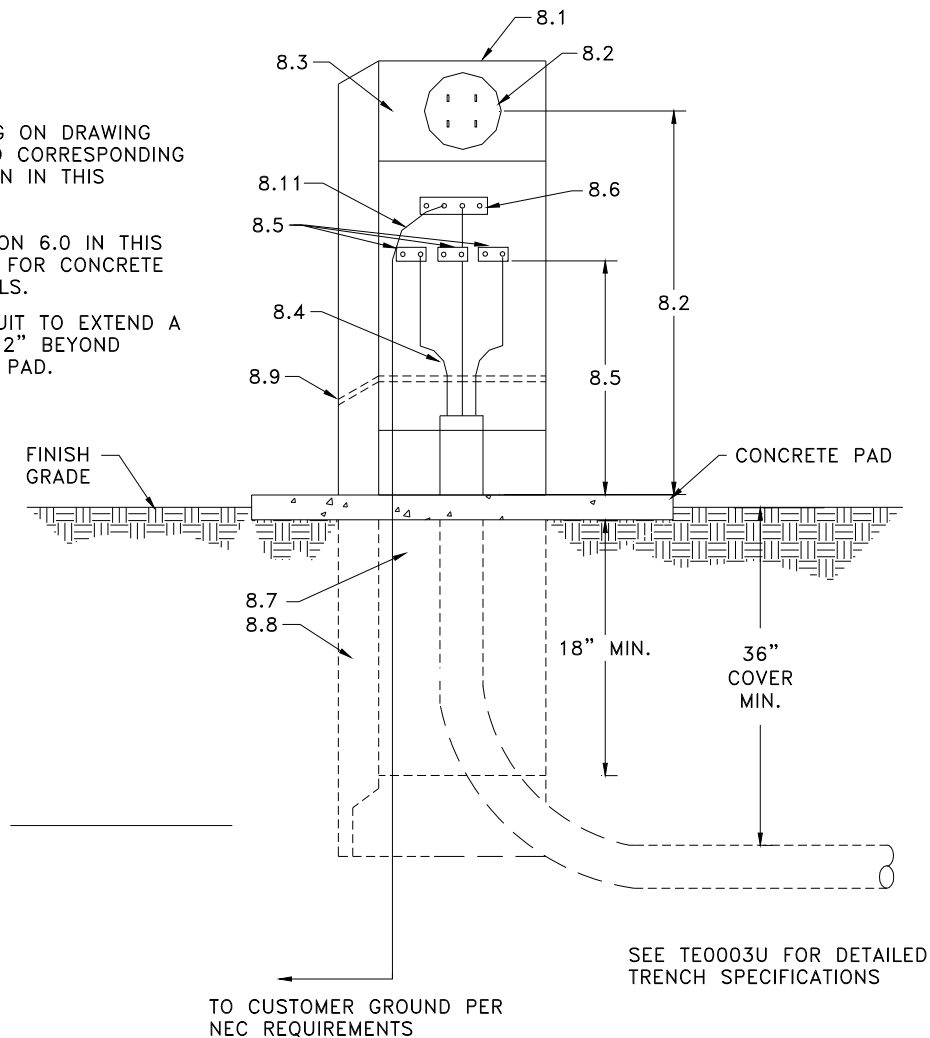
8.10 For authorization to attach telephone and cable TV termination facilities, consult NVE.

8.11 Local codes must be followed for grounding requirements. Lugs for terminating the users ground wire (per A & B below), shall be located outside of the sealable termination section. This may be achieved by being located in a barriered raceway or installed on the outside of the meter pedestal. A minimum ground shall consist of a continuous bare copper grounding conductor extending from the neutral service terminal landing lug to a grounding electrode, which may be either:

- A. Ufer type ground as per National Electric Code, Article 250-66.
- B. Metallic underground water piping system (not gas) with a minimum buried portion of 10'. If the buried portion of the metallic water piping system is less than 10' in length, it shall be supplemented with a 5/8" x 8' copper clad ground rod.

NOTES:

- A. NUMBERING ON DRAWING REFERS TO CORRESPONDING SUBSECTION IN THIS STANDARD.
- B. SEE SECTION 6.0 IN THIS STANDARD FOR CONCRETE PAD DETAILS.
- C. ALL CONDUIT TO EXTEND A MINIMUM 12" BEYOND CONCRETE PAD.



**DETAIL #8A
METER PEDESTAL**

				VOLUME 17 – ENGINEERING & CONSTRUCTION STANDARD		UM0001M
				MOBILE HOME SERVICE REQUIREMENTS ELECTRIC & GAS		
Drawn:	Eng:	Appr:	Date:			Revision: 6
JL	JF	SJ	5/03			Page 10 of 10