SECTION 407 -- POLE AND TOWER FOUNDATIONS

407.01 -- Description

1. Concrete Foundations (Conventional and High Mast):

a. Concrete foundations for poles and towers shall be of the size and type shown in the plans. Foundations shall include a ground rod(s), reinforcing steel, anchor bolts, conduit entrance bends, and a spare conduit bend (if required).

b. If the foundation details are not shown in the plans, the Contractor shall obtain the required soil data, design the foundation according to the soil test data, and construct the foundation. Two copies each of the soil test data and foundation design must be submitted to the Engineer before construction of the foundation will be allowed to begin.

c. The concrete foundation must be designed by a Professional Engineer registered in Nebraska. The Professional Engineer must stamp and sign all documents.

2. Power Installed Foundations:

Power installed pole foundations may only be used when specified in the plans. Power installed foundations shall be of the size and type shown in the plans.

407.02 -- Material Requirements

1. Materials for use in concrete foundations shall conform to the requirements of Sections 1002 and 1020.

2. Anchor bolts shall conform to the requirements in Section 1073.

407.03 -- Construction Methods

1. a. The Engineer will stake the locations of all pole and tower foundations. Before constructing a foundation, it will be the Contractor's responsibility to verify that the staked location will not place the finished pole or tower in a conflict situation or at an elevation that would cause the amount of foundation above grade to conflict with specifications for the type of foundation being constructed.

b. Any locations or elevations that appear unreasonable or in conflict with specifications should be brought to the attention of the Engineer. The Engineer will review and decide any changes in location and/or elevation.

2. a. For conventional light poles, the Contractor shall construct the size and type of foundations shown in the plans.

b. For high mast towers, the Contractor shall construct foundations according to the design details shown in the plans or to those he/she has been required to furnish.

3. Concrete foundations for both pole and tower installations shall be constructed according to the following:

a. All foundation excavations shall be dry and free of loose dirt.

b. All concrete shall be Class “47B-20.”

c. The anchor bolt pattern shall be centered in the foundation.

d. The Contractor shall perform all excavations, backfilling, and placing of reinforcing steel and concrete in accordance with Sections 702, 704, and 707.

4. a. The Contractor shall furnish and install power installed foundations in accordance with the manufacturer's instructions and details shown.

b. Foundations shall be installed before trenching for conduit or direct buried wire or cable.

c. The Contractor shall backfill and compact around the foundation to 95 percent of the maximum density as determined by NDR T 99.

407.04 -- Method of Measurement

1. If the pole or tower foundation design is shown in the plans, no measurements are necessary as the foundation is subsidiary to the pole and/or tower.

2. a. If the pole and tower foundation design is not shown in the plans:

b. The pole and tower foundation design is measured by the each per structure.

c. The pole and tower foundation concrete is measured by the cubic meter.

d. Reinforcing steel for the pole or tower foundation is measured by the kilogram.

3. Anchor bolts for the relocated pole and tower foundations are measured by the each.

407.05 -- Basis of Payment

1. Pay Item	Pay Unit
Foundation Design	Each (ea)
Concrete for Foundation	Cubic Meter (m^3)
Reinforcing Steel	Kilogram (kg)
Anchor Bolts	Each (ea)

2. Pole and tower foundations shall be subsidiary to the pole and tower when the foundation design is provided in the plans.

3. Anchor bolts for new pole and tower foundations are subsidiary to the towers and poles.

4. Payment is full compensation for all work prescribed in this Section.