CITY OF SAN MARCOS TECHNICAL SPECIFICATIONS FOR POLE ATTACHMENTS

General

1. The term “communication cable facility” refers to facilities installed by telephone, CATV, telecommunication, and public/private companies for voice, video, or data transmission. The term “the City” refers to the City of San Marcos, Texas. The term “electrical facilities” refers to the electrical facilities owned by the City.

2. The owner of the communication cable facilities must follow the proper City attachment permit procedures as specified by the appropriate attachment agreement.

3. Any rearrangement or modification of City electrical facilities or other communication facilities necessary to accommodate the attachment of communication cable facilities on City poles must be negotiated by the communication cable facility owner with the City electric utility and completed prior to making the attachment. Rearrangement or modification of electrical facilities to accommodate the attachment of communication cable facilities shall be at the sole expense of the communication cable facilities owner.

4. All new and existing communication cables and cabinets shall be marked at each pole in a manner such that the ownership of the facility can be determined by City electric utility personnel from ground level.

5. Bolt ends must not project more than one inch beyond the nut.

6. If problems arise which are not addressed in this technical specification, City electric utility engineering personnel shall be contacted to address the problem before continuing with communication project work.

Cable Attachments

7. The communication cable must be attached directly to the pole surface or attached using metallic or fiberglass offset brackets. Offset brackets shall only be used to provide the required horizontal clearance to buildings, signs, trees, and similar facilities or to reduce the change in direction (angle) of the communication cable. Offset brackets shall not be used to avoid required vertical clearances.

8. Attachment to metal distribution poles must be clamped or banded to the poles with stainless steel straps. The drillings of holes in a metal pole for a bolt attachment is prohibited. All attachments to metal poles require prior approval of and final inspection by City electric utility engineering personnel.

9. The use of wood arms for any communication cable attachments is not permitted for new installations, except with the prior approval of City electric utility engineering personnel.

Clearance Requirements

10. Clearance between City electrical facilities and communication cable facilities must be in accordance with the latest edition of the National Electrical Safety Code (NESC) adopted by the City. Use Section 23 of the NESC to determine the clearances at the pole and in-span. Additionally, vertical clearance for communication cable facilities above ground and paved surfaces at the low point of the span must be in accordance with the latest NESC Table 232-1 adopted by the City, state regulations, or local regulations.

11. The minimum vertical clearance between communication cables (center-to-center) supported by different suspension strands must be 12 inches at the pole and 6 inches in span. When communication cables are located on opposite sides of the pole, then the minimum diagonal clearance is 12 inches and the bolts are a minimum of 6 inches apart.

12. Any in-span service drop or device mounted on a communication cable or messenger must be a minimum of 15 inches from the pole face at its nearest point to assure adequate climbing space.

13. A vertical run of communication cable attached to the pole surface shall be covered with a suitable non-metallic material and must have the following clearance from through bolts or other metallic objects which are associated with City electrical facilities:

    - one-eighth of pole circumference, or
    - two inches, whichever is greater

Cable Position

14. The top of the useable pole space is reserved for City electrical facilities. The middle portion of the useable pole space is reserved for third party (Telecom, CATV, and public/private) communication cable facility attachments.

15. Communication cable facility attachment position and available useable pole space must be in accordance with the latest edition of the NESC adopted by the City. Use Section 23, Table 232-1 of the NESC to determine the necessary communication attachment position and adequate available useable pole space.

16. The City allows a bolt extender and communication cable to attach on the same side of the pole as the existing communication cable as long as the owner of the proposed communication cable owns the bolt and existing communication cable.

17. The owner of the proposed communication cable shall not "weave" its cables from one vertical position to another with respect to other communication cables on the same sides of the pole line route. "Weaving" from one side of the pole to another side along the pole line route, except where it crosses a road) is also not permitted.

Grounding

18. Proper bonding or grounding of strand on all poles shall use #6 AWG copper wire and connectors suitable for the purpose. Communication cable that is entirely dielectric (non-conductive) need not be bonded.

19. On City electric utility multi-grounded lines, the owner of the communication cable facility must install and maintain an electrical bond between the metallic communication cable or messenger and the City electric utility vertical pole ground wire.

20. Where there is an existing vertical ground wire connected to the City electric utility's multi-grounded neutral system, the owner of the communication cable facility shall connect the bond wire to the vertical ground wire, keeping the bond wire as short as practical. Where there is no vertical ground wire on non-metal poles, the communication facility owner shall contact City electric utility engineering personnel for advisement before attaching communication facilities to the pole.

21. When attaching to metal poles, the communication cable facility owner shall contact City electric utility engineering personnel for proper bonding and grounding specifications.

22. All communication cable facility guy wires must be bonded to an effectively grounded communication cable suspension strand, the City electric utility vertical pole ground wire, or to an adjacent City electric utility guy wire if no City electric utility vertical pole ground wire exists.

Guying

23. The owner of the communication cable facility must guy unbalanced loads imposed on the pole by dead ending or changes in direction of the communication cable facility. The communication cable facility must not alter the vertical position of City electric poles or change the sag characteristics of City conductors.
24. Guying of City electric poles to accommodate communication cable facility additions must be in accordance with the latest edition of the National Electrical Safety Code (NESC) adopted by the City. Use Section 26 of the NESC to determine the guying of utility poles. Stamped pole loading calculations shall be provided to the City by a professional engineer licensed in the State of Texas for all City poles affected by new communication cable facility additions.

25. The proposed communication cable facility shall be installed with the proper tension so that its final sag meets clearance requirements to existing electrical and communication facilities.

26. All guying must be installed prior to the installation of the communication cable facility. Guy wires may be attached as close as feasible to the communication cable facility. The communication owner will provide its own anchor rod. Should insufficient ground space exist for the addition of an anchor rod, the communication owner will negotiate with the City on joint use of an anchor rod. All sidewalk guying, before and after installation, must be reviewed, inspected, and approved by City electric utility engineering personnel.

27. A minimum spacing (center-to-center) of 5 feet shall be maintained between communication facility and electric facility anchor rods.

28. A minimum spacing (center-to-center) of 6 inches shall be maintained between adjacent guying attachments or between adjacent communication facility and guying attachments.

29. All communication cable facility guy wires must be bonded to an effectively grounded communication cable suspension strand, the City electric utility vertical pole ground wire, or to an adjacent City electric utility guy wire if no vertical pole ground exists.

Horizontal Pole Loading

30. Horizontal loading of City electric poles to accommodate communication cable facility additions must be in accordance with the latest edition of the National Electrical Safety Code (NESC) adopted by the City. Use Section 25 of the NESC to determine the appropriate horizontal loading of utility poles. Stamped pole loading calculations shall be provided to the

City by a professional engineer licensed in the State of Texas for all City poles affected by new communication cable facility additions.

31. It is the responsibility of the communication cable facilities owner(s) to maintain appropriate tree trimming necessary for safe and reliable installation, use and maintenance of its attachments and to avoid undue loading, horizontally or vertically, on City electric utility poles caused by contact between tree limbs and communication cable facilities. Tree trimming shall include property owner notification and consent.

Underground Communication Cable Risers

32. The number of underground (UG) electric and communication cable risers attached directly to the pole surface shall be limited so that one side (180 degrees) of the pole is kept clear for climbing space and replacing the pole. UG communication cable risers shall be located on the same side of the pole as their overhead communication cables are attached.

33. Riser standoff brackets may be used as necessary to provide the required 180 degrees of clear pole space. The UG communication cable risers should be on the same side of the pole as the riser standoff brackets or, if the positions are available, occupy the end conduit positions on the bracket.

Cabinets by Utility Companies

34. Cabinets and equipment cases may be mounted directly on the pole in the unusable space (defined as that pole space less than 18 feet above ground level per the Federal Communications Commission). Do not install any new pole-mounted cabinets and service entrance equipment on:

- Junction poles (a pole with City primary electric line runs in four or more directions)
- Poles that are 60 feet and greater in size or made of metal
- Poles with cabinets already installed by any communication company
- Poles with cabinets containing controls such as fire alarms, police signals, or traffic signals
- Poles with cabinets containing automated metering infrastructure, capacitor controls, recloser controls, air switch motor controls, air switch operating handles, SCADA equipment, or an existing electrical service entrance
- Transformer poles which are not accessible to mechanized equipment
- Poles with underground electric or communication riser conduits which are not accessible to mechanized equipment

A new cabinet can be installed on a pole with an existing cabinet if both cabinets are owned by the same company, the new cabinet is part of a rebuild project and the existing cabinet will be removed upon rebuild project completion, and no other exclusions reasons (as listed above) exist.

City electric utility engineering personnel must approve the pole chosen prior to the installation of all new cabinets and equipment cases to confirm that the pole is suitable.

35. City electric utility engineering personnel must review and approve the size of the cabinet with respect to the pole approved for installation.

36. Vertical clearances of cabinets installed on City electric poles must be in accordance with the latest edition of the National Electrical Safety Code (NESC) adopted by the City. Use Section 23 of the NESC to determine the appropriate minimum vertical clearances of communication cabinets on utility poles.

Transmission Pole Attachments

37. The City electric utility does not own transmission poles or related equipment. The Lower Colorado River Authority (LCRA) is the sole transmission service provider for the City. The LCRA may be contacted at (800) 776-5272.

Wireless Facilities

38. All communication owner wireless related facilities located below the electric supply space shall adhere to the specifications previously cited.

39. All communication owner wireless facilities shall be appropriately identified, including a warning signs at the main disconnect, battery back up disconnect, and at the base of any antennas notifying work crews at the pole to de-energize the communication owner's wireless facilities prior to working within the electric supply space. Communication owner identification on wireless facilities shall include twenty-four hour contact information of the communication facility owner.

40. Antenna shall be placed (5) feet above the highest electric conductor on the pole, unless otherwise determined by the City electric utility.

41. Communication owner drawings and specifications of proposed wireless facility installations shall be approved by the City electric utility and adhere to any applicable Federal, State, and Local Laws, including existing City Ordinances.

42. Communication owner or City approved contractor shall install and utilize adequate protective equipment to ensure the safety of all personnel working within the electric supply space. Safety practices ensured by the communication owner and/or contractors will include those recommended by the American Public Power Association (APPA). Work performed by non-City personnel will be halted by City personnel if safety practices are violated or in question.

43. Communication owner shall not permit its wireless facilities to impair the ability of City electric utility, Joint-Pole users, or any third party to use City utility poles, nor shall the communication owner allow its wireless facilities to interfere with the operation of any City facilities.