

WOOD POLE SPAN WIRE SIGNAL SYSTEMS



A wood pole span wire traffic signal system differs from a mast arm steel pole signal system in that it uses wood poles and span wires to place the signal indications in the driver's line of sight. In most cases, these kind of signal systems are meant to be in place only for a short period of time during a construction phase.

Most are used as intersection traffic control during construction. They provide great flexibility in signal head placement to accommodate traffic switches associated with construction. They are significantly less expensive to install because they have very little underground conduit as most of the electrical cables and conductors are attached to the span wire and conduit attached to the wood poles. If properly laid out, they present few conflicts for road construction.

When a 5-Section vehicle signal head is required on a Mn/DOT span wire signal system, a 5-Section Cluster Head must be used for that type of installation.





When it is necessary to completely remove an existing traffic signal system, it is often desirable to construct a span wire signal system so the intersection can remain signalized while the new signal system is being constructed. The components of the new signal system must be staked before the wood pole system can be staked to prevent any conflict with the construction of the permanent signal system.

Wood pole signal systems can be easily removed, at a low cost, when the new signal system is completed.

Materials used for span wire signal systems are subject to Mn/DOT specifications and inspection.



All electrical cables and conductors installed above ground, except where run on overhead span wire, must be installed in conduit attached to wood poles, metal poles, cabinets or other structures or must be run inside these devices.



Conduit must be securely fastened to wood poles by appropriate type conduit straps that meet the current edition of the National Electrical Code (NEC).

When installing wood poles, they must be placed in the ground to a depth of approximately 1/5 of the pole's total length.



Excavation must be approximately 8 inches larger than the diameter of the base of the pole and free of loose material to allow room for compaction.

The pole must be hoisted into place, without damage, and plumbed or raked as directed by the Engineer. Backfill material must be selected earth or sand and free from rocks, organic material and placed, moistened, and thoroughly compacted in several lifts.

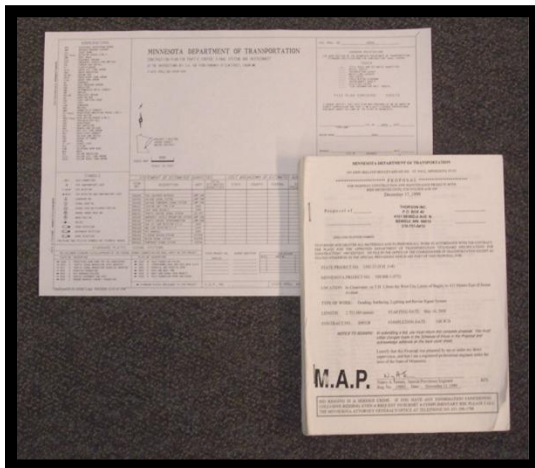
The wood pole must not display a void area between the pole and the backfill when placed under load.





Electrical cable and conductors installed overhead in conjunction with span wire must be attached to the span wire using either metal or UV resistant black nylon straps. The nylon straps must have a minimum loop tensile strength of 250 pounds. Straps must be spaced a maximum of 18 inches apart or by lacing. The ends of the straps must be bent around the cable and cut off to present a neat appearing installation.

Where electrical cables and conductors are to be installed overhead, unsupported and spanned between wood poles or supports, sufficient slack must be provided (generally 5% of the span length).



Specific details for constructing wood pole signal systems, such as department finished materials, Contractor furnished materials, and installation requirements, can be found in the Contract Documents for your project and must be carefully read and understood.

The Mn/DOT District Traffic Office will stake Pole locations and other signal system components.