# temporary interconnect *(Kane Co. Special Provision)*

Updated: 10/20/2023

Description.

This work shall consist of furnishing and installing a temporary fiber optic system, maintaining system throughout the project and removal of the complete system upon completion of the permanent interconnect system. This work shall include installation of wood poles, messenger wire, fiber optic cable (at the fiber type and quantity specified on the plans), conduit, and any necessary labor or materials to establish, maintain, and remove the temporary interconnect system as required throughout the project. **This work will also include a requirement for the contractor to sub-contract fiber optic cable splicing, termination, and testing to Kane County’s fiber optic contractor managed and paid for by the contractor of this project.** Temporary Handholes if required will be paid for separately unless otherwise stated on the plans.

Materials.

Wood Poles: Shall meet the requirements of Article 1069.04, class 5

Conduits/Conduit Risers: Rigid Galvanized Steel or High Density Polyethylene Duct according to article 1088.01

Cable Mounting Hardware to Wood Pole: Aluminum body, clamp supports shall be utilized for fiber cable mounting to wood poles containing soft, pliable material to grip but cushion an ADSS fiber cable.

Fiber Optic Cable: Shall be at the type (SM/MM) and fiber quantity specified on plans but be rated for ADSS (All-dielectric self-supporting) for outdoor aerial applications and as indicated in article 1076.02 or project specific special provisions for fiber optic cable.

Coordination with Kane County’s Fiber Optic Contractor

Any project containing fiber optic cable work associated with Kane County Information Technologies (Kane I.T.) will contain specific notes in the plans of a Contractor’s need to use a specific Kane County contractor for any work involving cutting/splicing/terminating/testing of a Kane County I.T. Fiber cable. Any costs required in use of Kane County’s I.T. contractor are to be paid by the Contractor of this contract.

Before unit pricing bids are submitted, Contractor is encouraged to be inclusive of all factors associated with use of Kane I.T.’s fiber contractor. Relocation of existing fiber optic cable may be done by the Contractor or Kane I.T.’s fiber contractor.

Typical scheduling for interconnect migration from existing to temporary interconnect, or from temporary to proposed interconnect may involve the scheduling of night and weekend work with advanced scheduling occasionally requiring up to 30 calendar days notice of network interruption to network users.

Construction Requirements.

Shall be as outlined in Article 871.04.

Pre-migration from Existing interconnect to Temporary Interconnect:

Contractor is to establish wood poles, messenger wire, ADSS fiber cable with associated hardware with conduit risers and connections to existing handholes and/or proposed composite concrete handholes. Any required drilling of existing handholes and install of conduits or conduit risers are to be included as part of this pay item. ADSS outdoor rated fiber cable is to be installed throughout the limits of the temporary interconnect system with cable ends slacked at the locations of proposed splicing locations. See project plans for exact limits or notes on limits and connection intent for temporary fiber cable. Contractor and Kane I.T.’s contractor may need to field verify accuracy of plans and current active fibers to ensure fiber assignment and network links the temporary interconnect system will re-establish. Wood pole layout shall not exceed 250 foot pole spacing.

Migration from Existing interconnect to Temporary Interconnect:

Contractor shall utilities Kane I.T.’s contractor for any scope of work involving fiber terminations, splicing, cable cutting. Plans may indicate a desire to cut existing fiber cables and safely remove and relocate existing fiber cable(s) to the outer limits of the project/temporary interconnect system OR plans may indicate a cutting of existing fiber optic cable near the limits of the temporary interconnect system. Contractor and Kane I.T.’s contractor shall mutually schedule and cumulatively achieve the re-establishment of all existing impacted network links. Where Traffic Signals and PTZ cameras are part of the devices connected with this interconnect system, The intersection’s active traffic signal controller and PTZ camera shall be connected throughout the length the temporary interconnect system is active. See plan details and notes for connection requirements at each traffic signal. Contractor shall ensure the Engineer is notified 5 working days or better in advance of this interconnect migration. Where existing fiber optic cable is to be removed and reinstalled in the permanent interconnect, OTDR and power meter testing results shall be done, bidirectionally, on all cable fibers before cable is to be relocated for the temporary interconnect to benchmark existing cable losses and pre-existing broken fibers.

Migration from Temporary interconnect to Permanent Interconnect:

Same provisions as previous paragraph, except the permanent interconnect shall be in operation prior to a proposed traffic signal turn on if applicable. When a proposed interconnect is constructed but terminations reside inside a control cabinet which remains powered down. Contractor shall ensure appropriate jumper cables are installed to bypass a powered down cabinet or to be run between the proposed signal cabinet and the temporary traffic signal controller. Contractor shall seek approval from the Engineer on acceptable durations of network outages while planning interconnect migrations in combination with migration of traffic signal systems; less than 5 working days is required unless otherwise approved by Engineer.

Post Migration to Permanent Interconnect:  
All elements of the temporary interconnect system shall be removed with restoration completed to the satisfaction of the engineer. Wood poles shall be backfilled with CA-6 or approved equal, compacted in 6 inch lifts, with the 6 inches nearest grade being topsoil and class 2A seed and erosion control blanket if requested by engineer. All Handholes drilled for use in temporary interconnect raceways, shall be patched and handhole bottoms cleaned of debris. Contractor shall notify the Engineer upon completion of removal and restoration efforts. Kane I.T.’s contractor shall complete required testing if any fiber cables required reinstallation after having been used during the temporary interconnect. For Projects involving proposed fiber optic cable, testing results can be submitted as part of that same deliverable. Reinstallation testing should include results from before and after the temporary interconnect. Contractor shall provide a statement or summary indicating an opinion of any performance impacts/changes from any fiber cable which was removed and reinstalled.

Ongoing Maintenance:

Contractor shall be prepared to be responsive to troubleshooting, testing, locate, or related maintenance activities when required or requested. Where troubleshooting involves a network link / switch/ termination at a location outside the limits of the project, The contractor of this project shall take the lead on testing and validating the source of a network outage, such as through OTDR, until reporting can demonstrate the source of an issue is outside the project limit. Failure of maintaining the satisfaction of the Engineer in the responsiveness to issues or performance of the interconnect system may provide the County with an intent to use County’s Division of Transportation’s electrical maintenance contractor to correct an issue at Contractor (of this contract’s) expense.

Basis of Payment.

This work will be paid for at the contract unit price L SUM for TEMPORARY INTERCONNECT. Where Proposed or Temporary Handholes are required (HANDHOLE, COMPOSITE CONCRETE, DOUBLE HANDHOLE, COMPOSITE CONCRETE) these items shall be paid for separately.