

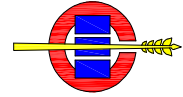
Signal Standards

Elkhart County allows video, loop, and radar detection at signal installations with dilemma zone (if prevailing approach speed greater than 40 mph) managed by radar system. Loop and radar detection is preferred. Cameras, if used, shall be mounted near-side above the stop bar with near-side roadway lighting on signal pole (lighting the video detection zone).

Each signal installation also requires a battery back-up system, LED signal indication modules (all colors), back plates on all signal heads, and pole mounted supplementary signal heads. Roadway lighting shall not be connected to the battery back-up system.

Loop detector housings shall be installed outside of the travel lanes in the shoulders or median if lane is adjacent to one of these areas. Interior lane housings shall be installed in the center of the lane. All signal components shall be NEMA TS-2 compliant. Pedestrian heads and push buttons are required where marked crosswalks exist, are planned, or pedestrian volumes warrant. New signal systems shall be installed on mast arms.

Controller:	Econolite ASC/3-2100 with Ethernet and Purdue Data Logging enabled
Video Detection:	Autoscope Solo Terra
Conflict Monitor:	Reno A&E MMU-1600G with Ethernet
Radar Detection:	Wavetronix Matrix System
Loop Detectors:	Reno A&E PLA Preformed Loop
Loop Amplifier:	Reno A&E Model C-1203 with counting enabled
Load Switches:	Reno A&E LS-200
Back Detection:	Wavetronix SmartSensor Advance
Pedestrian Head:	General Electric Model GT1 LED 16"x18" with countdown timer
Roadway Lighting:	150 W HPS, GE M-400A with cutoff optics
Battery back-up:	Alpha Technologies Novus FXM Series UPS. UPS and batteries housed in separate cabinet mounted on controller cabinet.
Conduit:	PVC meeting the requirements of NEMA TC-2, Type 2, Minimum diameter 3", no greater than 30% of interior area filled by wiring.
LED Modules	Must be InterTek-ETL certified to meet ITE specifications



Each lane of an approach shall have it's own detection channel on the controller. Adjacent lanes of the same movement may not be configured as a single channel.

Six months after construction of any signal that is not a County project, the developer must submit a report comparing the turn movements logged by the controller vs. those manually counted during the same period. This information will be used to adjust signal timings to real traffic, and to verify the operation and calibration of the required data logging function.

More detailed specifications/model numbers can be provided upon request.

Signal installations at intersections within or adjacent to coordinated/managed signal operation zones will be required to provide fiber optic links to the management system. Contact the Highway Department to determine these zones and for specific requirements on communications equipment.

(rev. 12/09)