Index 649-020 Steel CCTV Pole

Design Criteria

AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LRFDLTS-1); Structures Manual (SM), Volume 3, FDOT Modifications to LRFDLTS-1; Structures Manual (SM) Introduction, I.6 References; FDOT Design Manual (FDM)

Design Assumptions and Limitations

See FDM 261 and Structures Manual (SM), Volume 3 for additional design criteria.

The steel CCTV poles are designed for:

1. 170 mph wind speed with a 700 year Mean Recurrence Interval (MRI),

2. A one inch maximum deflection in a 40 mph wind speed (3 second gust), and

3. A maximum camera effective projected area (EPA) of 5.6 square feet total with a maximum camera weight of 240 pounds total.

Wind load is calculated assuming a maximum fill height of 5 feet. Do not use the design tables for fill heights more than 5 feet.

Foundations and base plates are designed based on the following soil criteria:

- Classification: Cohesionless (Fine Sand)
- Friction Angle: 30 Degrees
- Unit Weight: 50 lbs/cubic foot (assumed submerged)

When the designer considers soil types at the specific site location to be of lesser strength properties than shown above, an analysis is required. Auger borings, SPT borings, or CPT soundings may be used as needed to verify the assumed soil properties, and at sites confirmed to be uniform, a single boring or sounding may cover several foundations. Borings in the area that were performed for other purposes may be used to confirm the assumed soil properties.

Plan Content Requirements

Intelligent Transportation Systems (ITS) Plans:

See FDM 328. Include poles in “Tabulation of Quantities”. 
See the BOE and Specification 649 for additional information on payment, pay item use and compensation.