326 Lighting Plans

326.1 General

Lighting plans include construction details, electrical circuits, pole data, conduits, service points, luminaires, foundations, boring details and other data relevant to lighting projects.

Lighting plans are usually a component set of plans. Component plans are assembled as a separate plans set complete with a Key Sheet, Tabulation of Quantities and all other required lighting sheets. Number the component plans with the sheet numbers prefixed by the letter “L”; e.g., L-1, L-2, L-3.

Modification for Non-Conventional Projects:
Delete the second sentence from the above paragraph and replace with the following: Component plans are assembled as a separate plans set complete with a Key Sheet and all other required lighting sheets.

Projects with minimal lighting improvements may show these features on lighting sheets included in the roadway plan set (lead component), or detailed on the Roadway Plan sheets. Do not use the prefix letter “L” when including lighting sheets in the roadway plan set. See ***FDM 307.1*** for placing Tabulation of Quantities sheet in the Roadway plan set.

Modification for Non-Conventional Projects:
Delete the last sentence from the above paragraph.

326.2 Key Sheet

The Key Sheet is the first sheet in the component plans set. The location map and Contract Plans Components list are not required on this sheet. Show the Index of Lighting Plans on the left side of the sheet. Assemble lighting plans in the following order:

(1) Key Sheet

(2) Signature Sheet (if required)

(3) Summary of Pay Items (when lead component)

(4) Tabulation of Quantities

(5) General Notes (if required)

(6) Lighting Data Table and Legend

(7) Lighting Plan

(8) Foundation Details - High Mast (if required)

(9) Boring Data - High Mast (if required)

Modification for Non-Conventional Projects:
Delete Item (3) from the above list.

Lighting plans may require insertion of sheets that were prepared early, or prior to the design process; i.e. early works. See ***FDM 302.6.1*** for instructions on including early works sheets.

See ***FDM 302*** for other Key Sheet requirements and ***Exhibit 302-3*** as an example Component Key Sheet.

326.3 Signature Sheet

See ***FDM 303*** for Signature Sheet requirements.

326.4 Tabulation of Quantities and Standard Notes

The Tabulation of Quantities sheet lists the item numbers, description and quantity of materials. List pay items in numerical order. Provisions must be made to show the original and final quantities per sheet or by station. When the number of pay item columns exceed one page, the additional sheet is to be numbered using an alphabetic suffix; e.g., L-3 and L-3A, L-4 and L-4A.

When there is not a roadway component, see ***FDM 307.1*** for placing Summary of Quantities sheets in the Lighting plan set.

On contracts with multiple Financial Project ID numbers, or Federal Aid and non-Federal Aid quantities, provisions must be made to tabulate and summarize their respective quantities.

Place pay item notes and standard notes that refer to item numbers on this sheet.

Modification for Non-Conventional Projects:
Delete ***FDM 326.4***.

326.5 General Notes Sheet

Show general notes on a separate General Notes sheet. See ***FDM 311*** for instruction in creating a General Notes sheet.

326.6 Lighting Data Table and Legend Sheet

Prepare the Lighting Data Table and Legend sheet on a standard plan format and include details and notes pertaining to pole placement and construction. Provide a listing of each pole by pole number on this sheet. The following information must also be given for each pole:

(1) Roadway Station and Offset

(2) Number of Luminaires

(3) Mounting Height

(4) Arm Length

(5) Arm Configuration (e.g., Top Mount)

(6) Location (e.g., Mast Arm)

(7) Foundation (e.g., Cylindrical)

(8) Pay Item Number - The pay item number will indicate if the pole is a standard pole or a special design. Two groups of pay item numbers are utilized: one for standard poles and one for non-standard poles.

Modification for Non-Conventional Projects:
Delete Item (8) from the above list.

Show the design values for light intensities and uniformity ratios together with a legend and description of the symbols used on the plan sheets.

326.7 Lighting Plan Sheets

Prepare Lighting Plan sheets on a standard plan format. The scale must be such that all details are clear and legible; however, the scale must not be smaller than 1" = 100'. For simple projects, or for narrow sections of a project, it may be possible to "stack" two plans on one sheet, one below the other. Stationing must progress from left to right and be stacked from top to bottom. Clarity and legibility must be preserved in all cases.

Use symbols in accordance with the requirements of the FDOT CADD Software.

326.7.1 Required Information

The basic information pertaining to roadway geometrics and project limits required on the lighting plan sheets is the same as that required on the plan portion of the roadway plan-profile sheets. Topography and construction details need not be shown. Check utilities, drainage, signal structures, sign structures, landscape features, sidewalks, and driveways for conflicts. Identify those that may cause conflicts in the plans.

Provide the following on the Lighting Plan sheet:

(1) Show existing high mast light poles and label as existing poles. For existing high mast light poles to be removed, include the existing foundation depth when information is provided by Department and label as “for information only.”

(2) Show the lighting layout on the plan format using symbols which represent poles, conduits and service points.

(3) Flag and station the begin and end of the lighting limits.

(4) Place a north arrow and scale at a point of maximum visibility on the sheet. If two plans are "stacked" on one sheet, include a north arrow and scale in each plan portion.

(5) Note conduit runs providing conduit size, number and conductor sizes.

(6) Flag poles proving pole number, baseline or centerline station, circuit number, and offset from baseline or centerline (for high mast). Show the symbols for poles at the correct baseline or centerline station and note the approximate offset from the roadway.

(7) Flag and station service point locations as determined through utility negotiations. ***Standard Plans*, Index 639-001** provides details for the service point. Provide the following service point description on the Lighting Plan sheet:

   (a) Voltages and Phases (e.g., 240/480 Volt, 3 phase)

(b) Main or overhead breaker size

(c) Number of branch circuits and breaker size of each

326.8 Foundation Details Sheet

The foundation design for standard conventional poles is shown in the ***Standard Plans*****, *Index 715-002***. The foundation design for standard high mast light poles is shown in the ***Standard Plans*****, *Index 715-010***. These foundations do not need to be shown in the plans.

Provide design details in the plans for non-standard foundations for any of the following conditions:

- Non-standard high mast poles
- Soil conditions weaker than those shown in the ***Standard Plans*** (applies to high mast poles and conventional poles)
- Other site restrictions (e.g., limited R/W, utility conflicts)

326.9 Boring Data Sheet

Boring Data sheets provide the boring data for high-mast poles and non-standard foundation details.