Index 425-001 Manhole Covers, Frames, Tops, and Supplementary Inlet Details

Design Criteria

FDOT Design Manual (FDM); ***Drainage Manual (DM)***; ***Drainage Design Guide (DDG)***

Design Assumptions and Limitations

Manholes:

- Specify Manhole top Type 8 in the Plans when depths shown in the Manhole Tops details can be maintained.
- Verify the minimum thickness (h) above the pipe opening is met with the Type 8 Manhole. If the minimum thickness (h) cannot be met, specify a Type 7 Inlet. See Index 425-001 sheet 6 of 8
- Consider using the 2-piece cover where depths exceed 5’ and manual entry may be required for cleaning. Clearly note the requirement for a 2-piece cover on the Drainage Structure sheets in the Plans.
- 2-piece covers are required when sump depths exceed 2’.

Structure Bottoms:

- Sump bottoms may be used with all manhole and inlet types.
- Only use Rectangular Riser Segments with Pipe Opening at Corner when round structures are not practical. Obtain Engineer of Record Approval for these segments. Shop Drawings are required for rectangular segments with Pipe Opening at Corner.

Replace Manhole Top:

- Use the standard cover for all frames Types I, II, III, two-piece covers, and as a replacement cover for all previous frames with 1 ½” deep seats (traffic type).
- Use the 185 lb. (non-traffic) cover from the 1984 Roadway and Traffic Design Standards, Index 201, as the replacement cover for existing frames with ½” deep seats only. Installation of new frames with ½” seat is not permitted.

Plan Content Requirements

Summarize the Drainage Structures in the Plans in accordance with the requirements of the Basis of Estimates Manual (***BOE***).

Specify 2-piece manhole cover when required for maintenance access.

Reference 1984 Design Standard Index 201 for replacement of manhole covers with ½” seat.

Payment

For pay item purposes, the height used to determine if a drainage structure is greater than 10 feet shall be computed using:

A. The elevation of the top of the manhole lid,

B. The grate elevation or the theoretical gutter grade elevation of an inlet, or

C. The outside top elevation of a junction box less the flow line elevation of the lowest pipe or to top of sump floor.

Item number	Item Description	Unit Measure
425-1-AAB	Inlet – Drainage	EA
425-2-AAB	Manhole – Drainage	EA
425-3-AAB	Junction Boxes – Drainage	EA
425-4	Adjust Inlet	EA
425-5-A	Adjust Manholes	EA
425-7	Replace Manhole Cover	EA
425-8	Adjust Miscellaneous Drainage Structure	EA
425-11	Modify Existing Drainage Structure	EA
425-12-A	Retractable Inlet Screen	EA
425-13-AA	Drainage Structure Pipe Connection Screen	EA
425-14-A	Grate for Existing Drainage Structure	SF

See the ***BOE*** and ***Specification 425*** for additional information on payment, pay item use and compensation.