

Chapter 5
Feature Code Illustrations

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5. Feature Code Illustrations

A. Introduction

Illustrations of several features have been included in this chapter and are intended to complement the Feature Code Dictionary discussed in Chapter 4. The illustrations are used to show how to collection points, lines, and shapes to define specific features. It is the relationship of these points, lines, and shapes that are used to create surfaces or objects in the planimetric mapping and digital terrain models (DTM).

The illustrations in this chapter are used to show the location of survey shots with the appropriate feature codes to collect specific features. The shots collected in the field are used to define points, lines, and shapes that are coded for complex man-made objects. It is the relationship of these points, lines, and shapes that create the features in the mapping and digital terrain model (DTM). This is accomplished with the MicroStation modeling program and associated Geopak software. There are continuous updates in the mapping software and occasionally the method of collection has to be revised. Ultimately, it is the method of plotting and mapping that dictates how a feature is to be collected in the field.

B. Feature Codes

The correct use of feature codes is an important aspect of preliminary surveys because it will define the correct level, color, line weight and style, text font, and symbology in the mapping process. Consistent data collection is also important because it will influence how each point, line, or shape will be mapped. See chapter 6 for more information on setting linking codes and feature codes in the Trimble data collector.

DTM and map feature codes are two important categories of the complex features discussed in this chapter. Refer to Table 5-1 for a list of features illustrated in this chapter.

1. DTM Feature Codes

DTM codes are used to collect features or ground shots for the mapping and creation of the digital terrain model. The DTM features illustrated in this chapter are as follows:

- Pedestrian sidewalks
- Curb and gutter sections
- Intersections with and without a valley pan
- Bridge approach slabs and concrete slope protection
- Headwalls, retaining walls, and wing walls
- Roadway typical sections
- Irrigation channels and ditches

2. Map Feature Codes

Unlike DTM feature codes, map feature codes are two-dimensional (2-D) elements that do not have an associated elevation for the creation of the digital terrain model. The map features illustrated in this chapter are as follows:

- Bridge deck
- Culverts and flared ends
- Irrigation structures
- Drop inlets
- Cattle guards

C. Feature Code Illustrations

Illustration	Description
Figure 5-1	Depressed pedestrian sidewalk with an approach or driveway
Figure 5-2	Depressed pedestrian sidewalk with an approach or driveway
Figure 5-3	Detached pedestrian sidewalk with an approach or driveway
Figure 5-4	Pedestrian sidewalk with a curb and gutter section
Figure 5-5	Concrete sidewalk with ADA accessibility
Figure 5-6	Curb and gutter section with attached concrete sidewalk
Figure 5-7	Curb and gutter section with gutter drain
Figure 5-8	Curb and gutter section with drop inlet
Figure 5-9	Median drop inlet
Figure 5-10	Drop inlet
Figure 5-11	Invert elevations
Figure 5-12	Large culverts
Figure 5-13	Step beveled pipe end
Figure 5-14	Small culverts
Figure 5-15	Culvert with flared ends
Figure 5-16	Culvert headwall
Figure 5-17	Box culvert
Figure 5-18	Intersection detail with valley pan
Figure 5-19	Intersection detail without valley pan
Figure 5-20	Surfaced roadway typical section
Figure 5-21	Unsurfaced roadway typical section
Figure 5-22	Surfaced approach
Figure 5-23	Unsurfaced approach
Figure 5-24	Bridge concrete slope protection
Figure 5-25	Bridge deck and approach slabs
Figure 5-26	Cattle guard
Figure 5-27	Irrigation box
Figure 5-28	Concrete slope protection ditch
Figure 5-29	Concrete lined ditch
Figure 5-30	Natural-ground irrigation ditch
Figure 5-31	Natural-ground ditch
Figure 5-32	Irrigation headgate
Figure 5-33	Irrigation weir
Figure 5-34	Riprap (line)
Figure 5-35	Riprap (shape)

Table 5-1. Feature code illustrations.

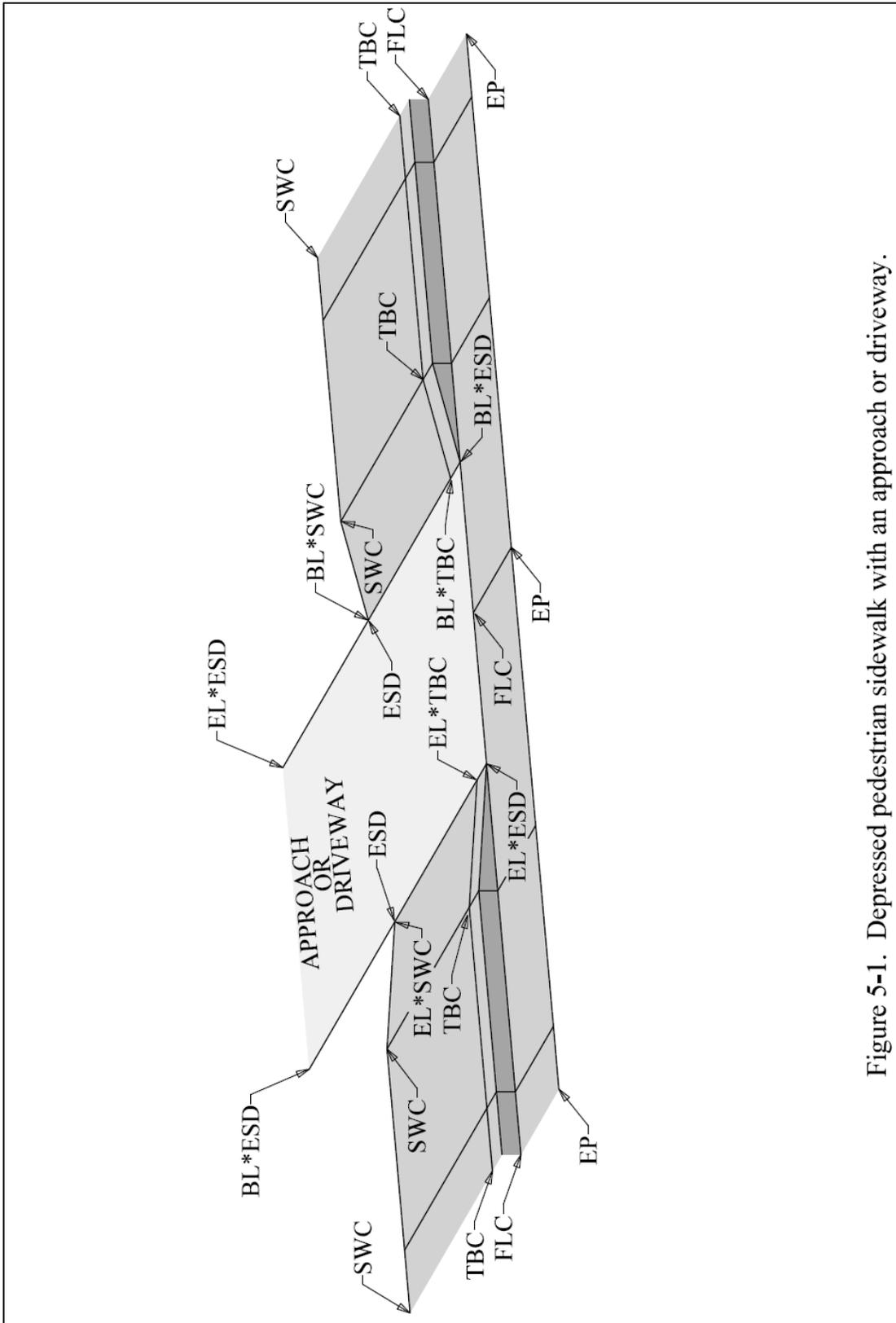


Figure 5-1. Depressed pedestrian sidewalk with an approach or driveway.

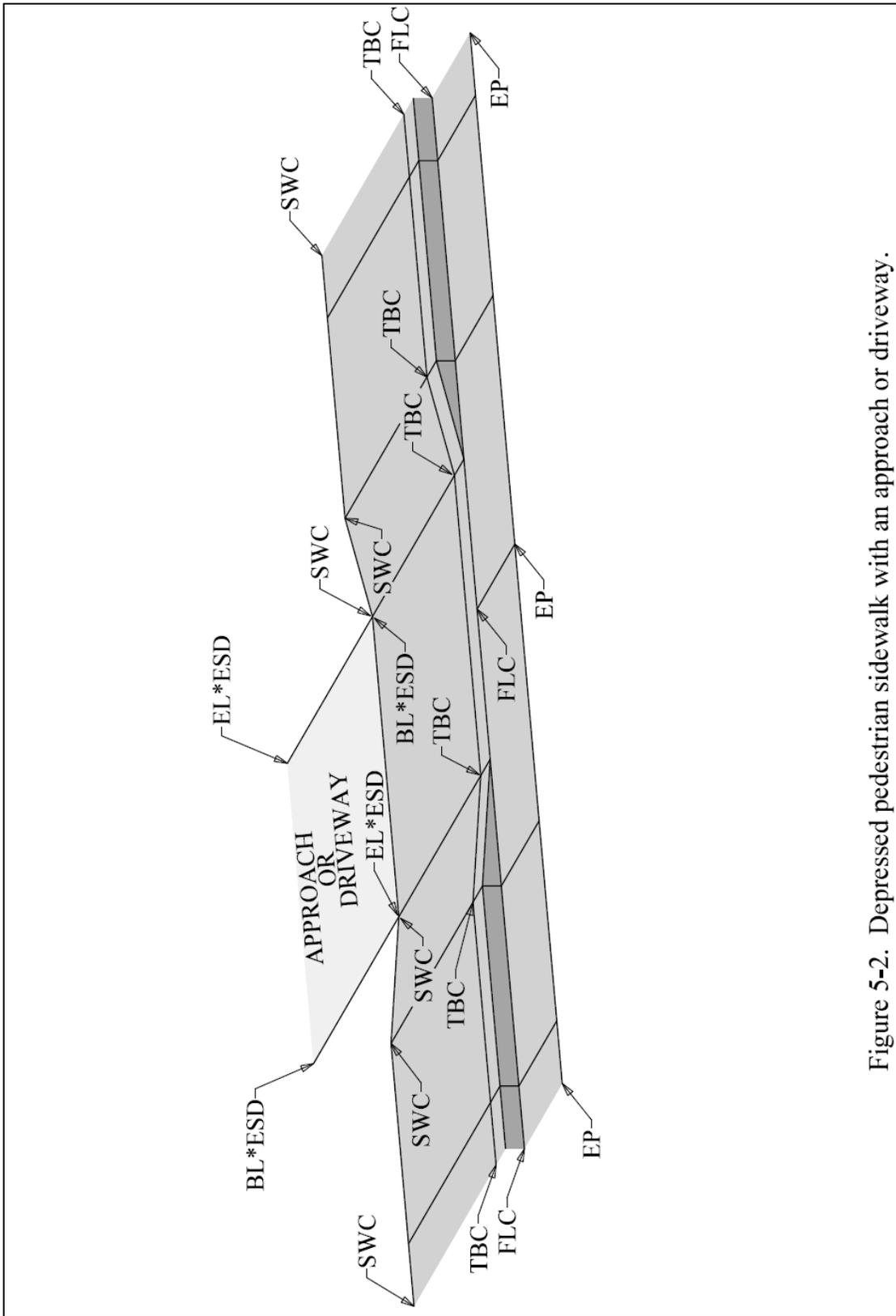


Figure 5-2. Depressed pedestrian sidewalk with an approach or driveway.

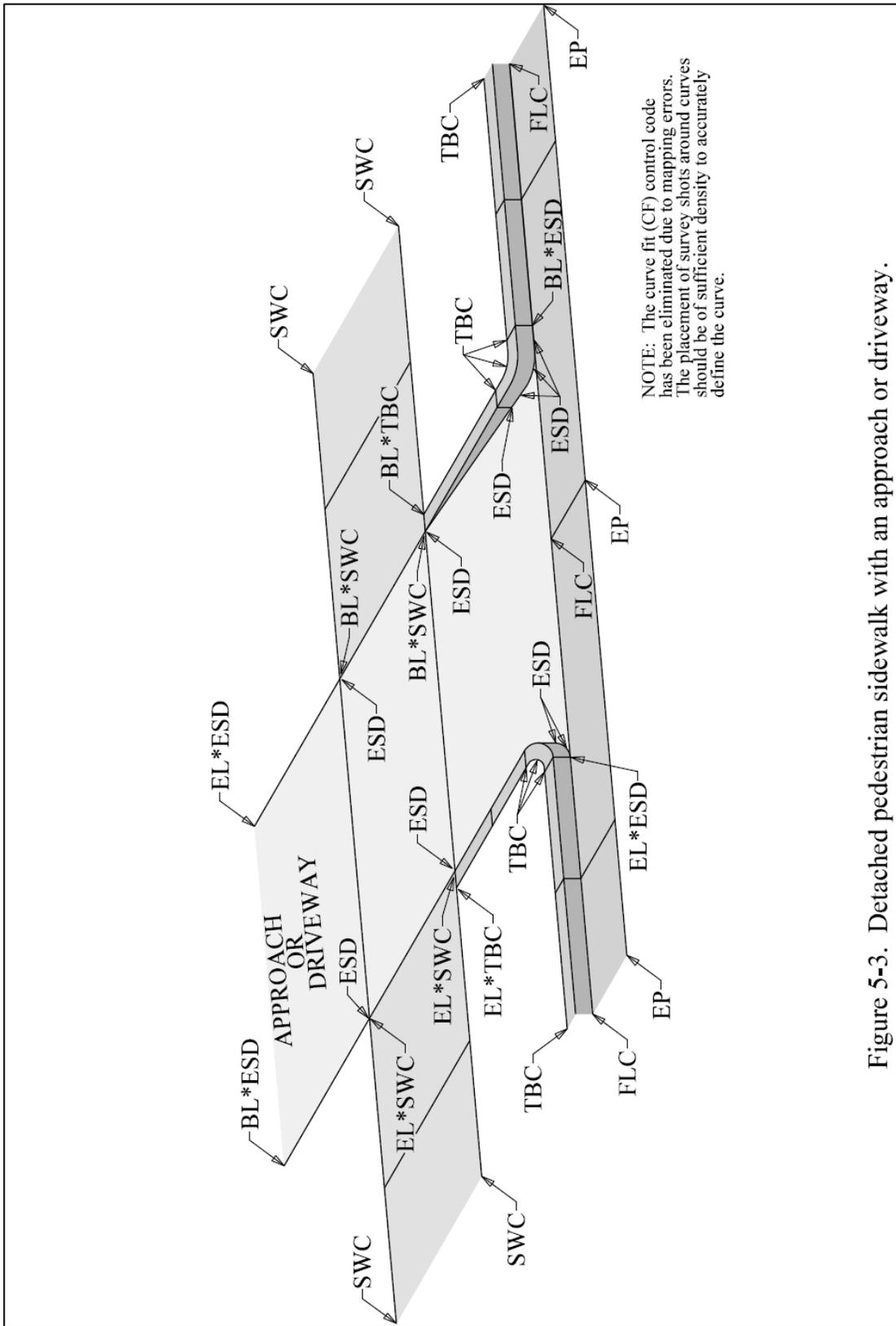


Figure 5-3. Detached pedestrian sidewalk with an approach or driveway.

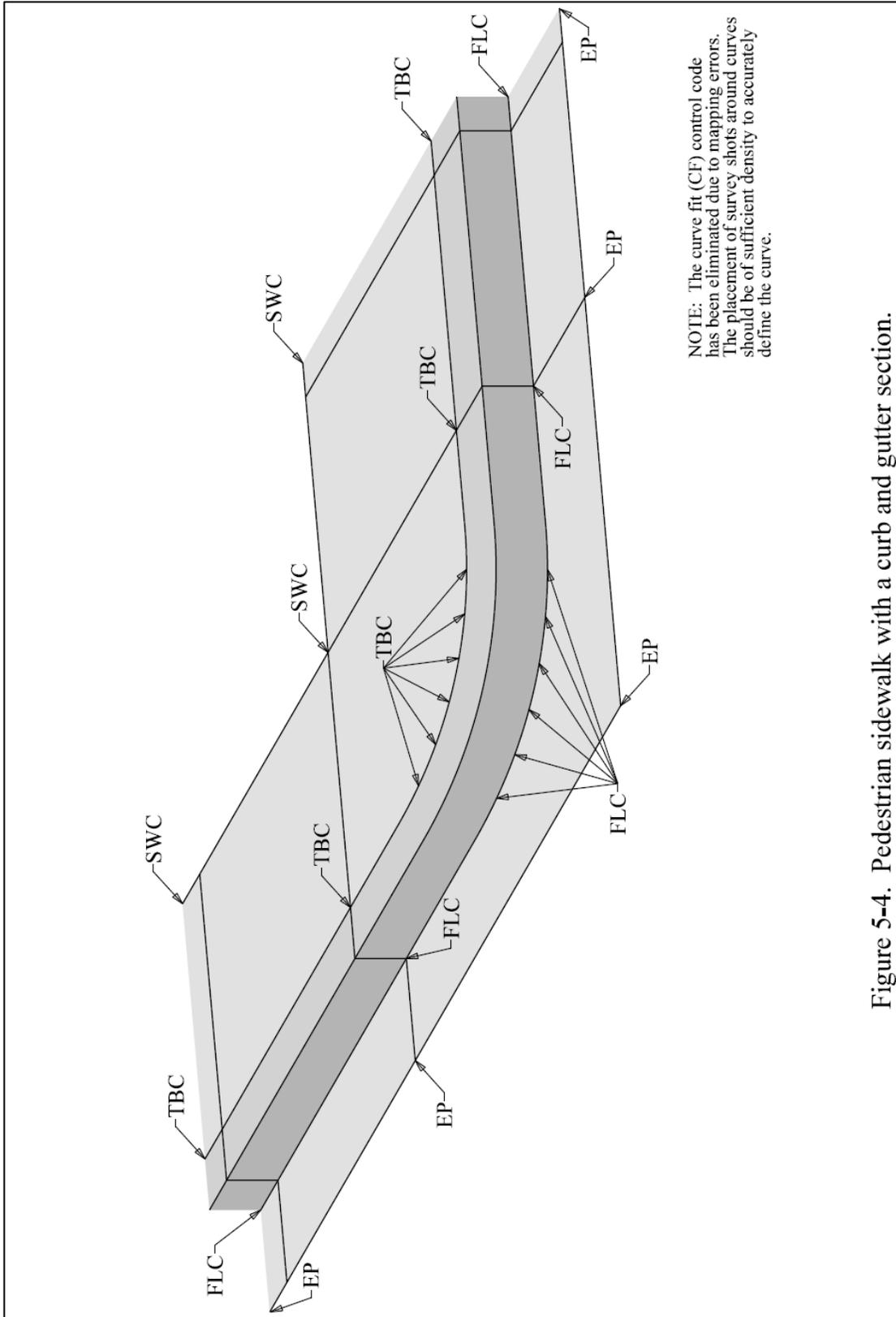


Figure 5-4. Pedestrian sidewalk with a curb and gutter section.

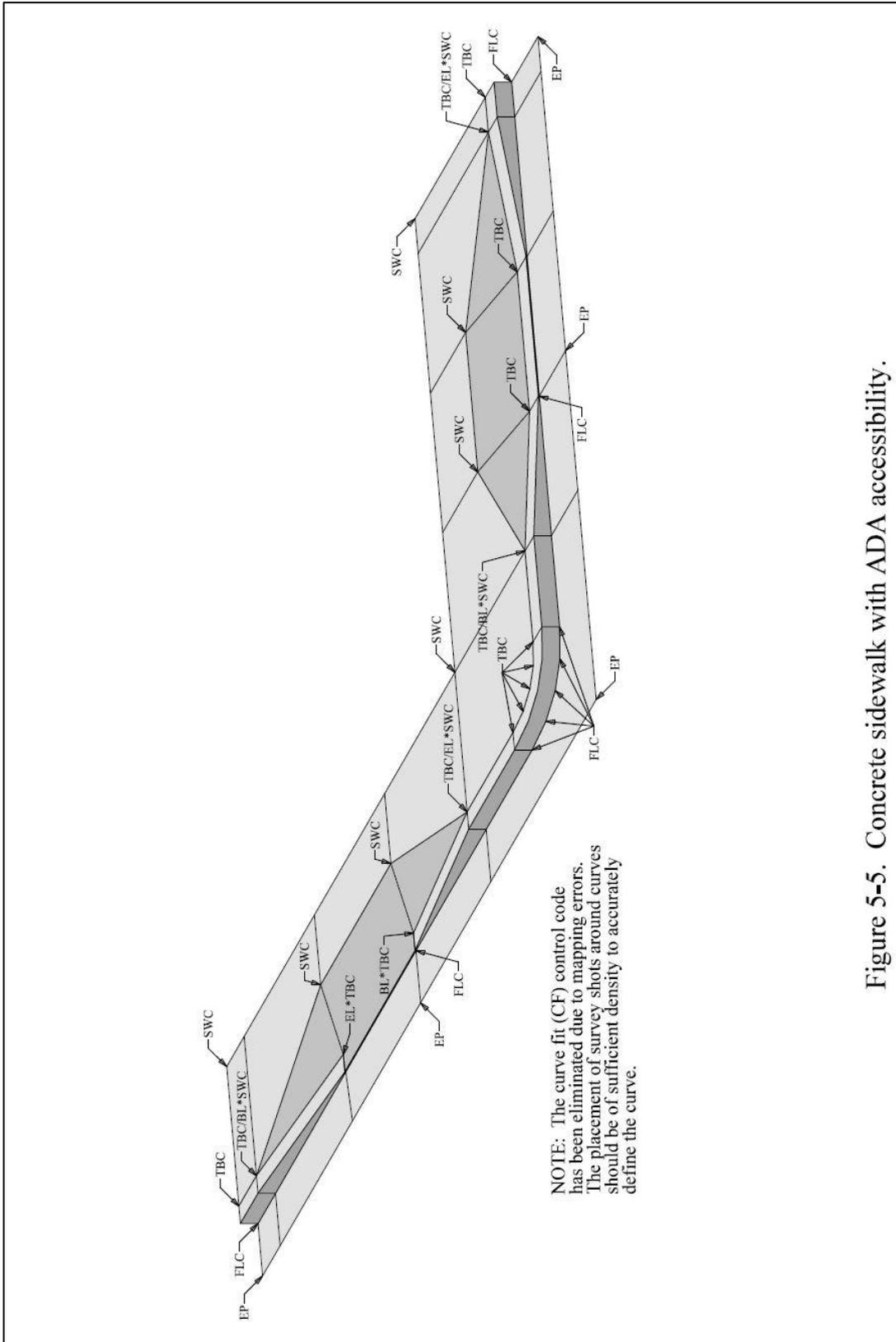


Figure 5-5. Concrete sidewalk with ADA accessibility.

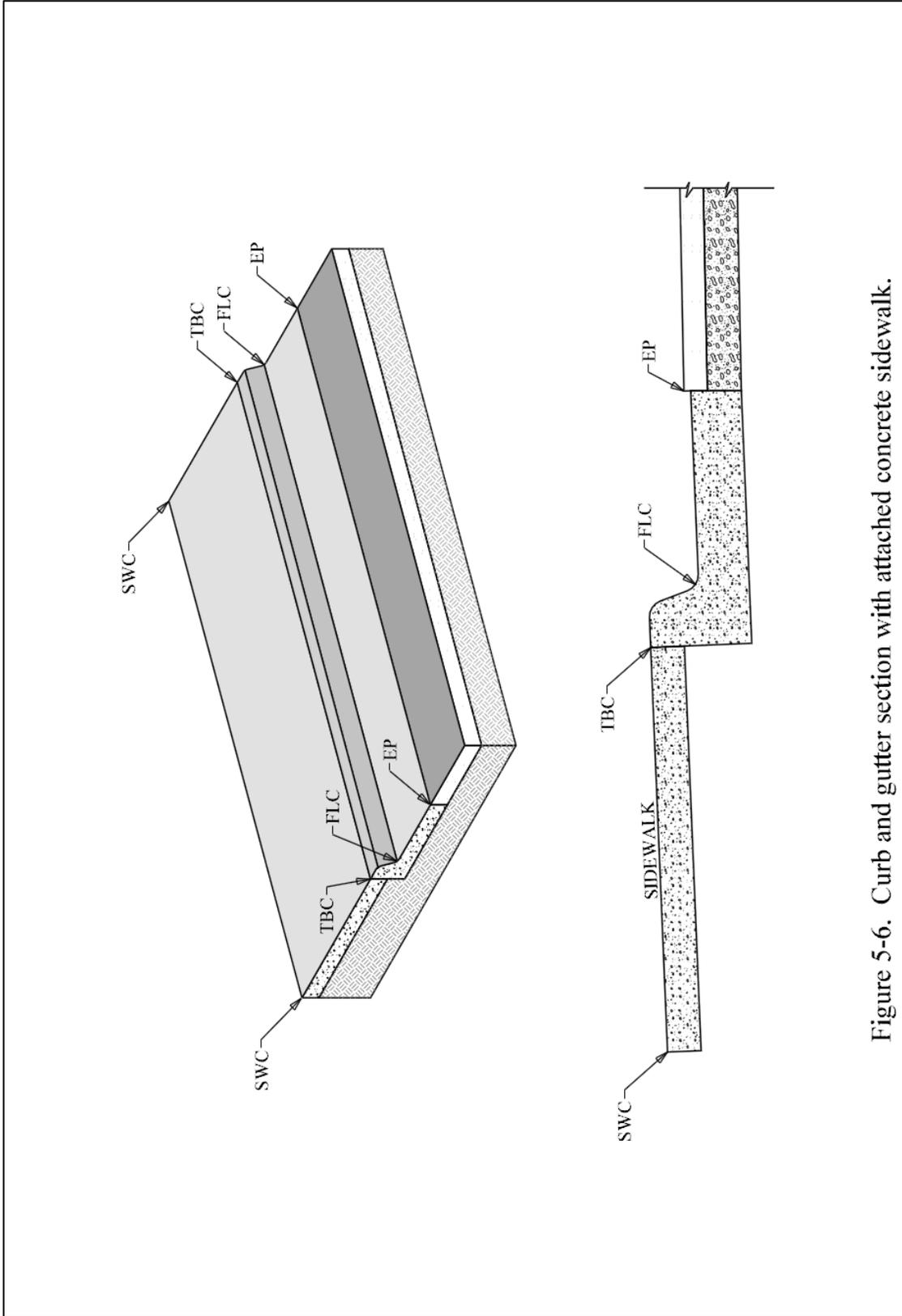


Figure 5-6. Curb and gutter section with attached concrete sidewalk.

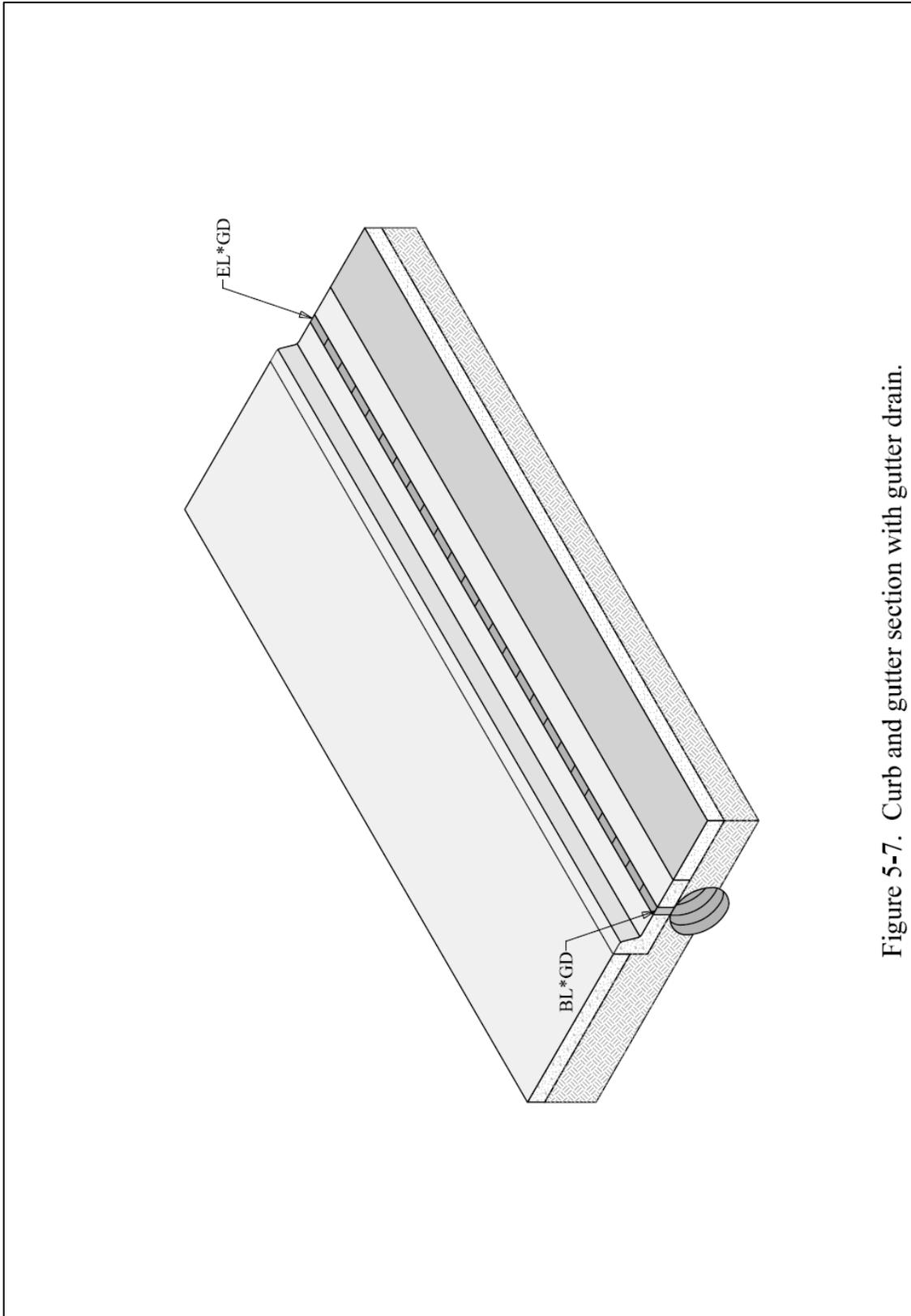


Figure 5-7. Curb and gutter section with gutter drain.

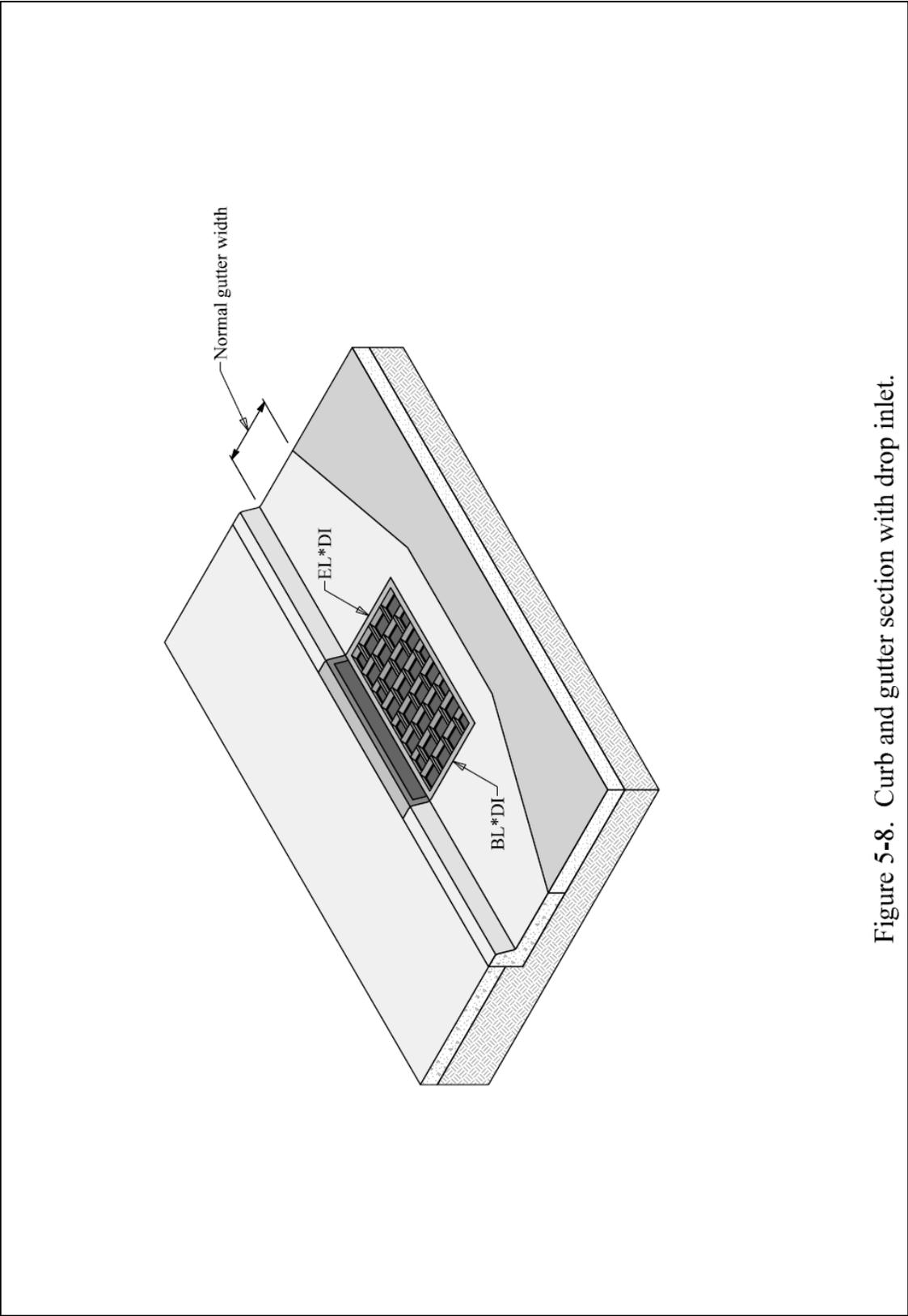


Figure 5-8. Curb and gutter section with drop inlet.

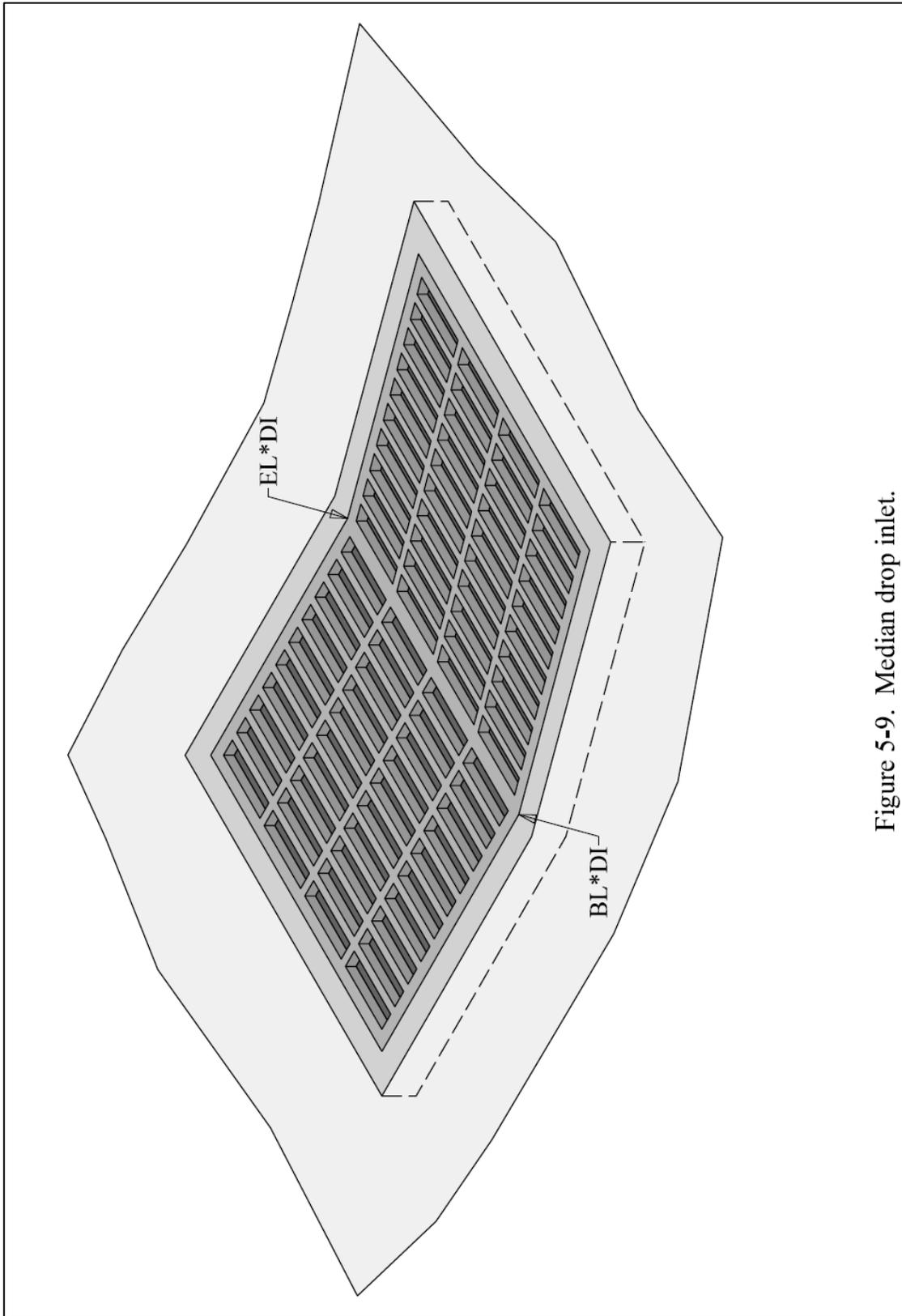


Figure 5-9. Median drop inlet.

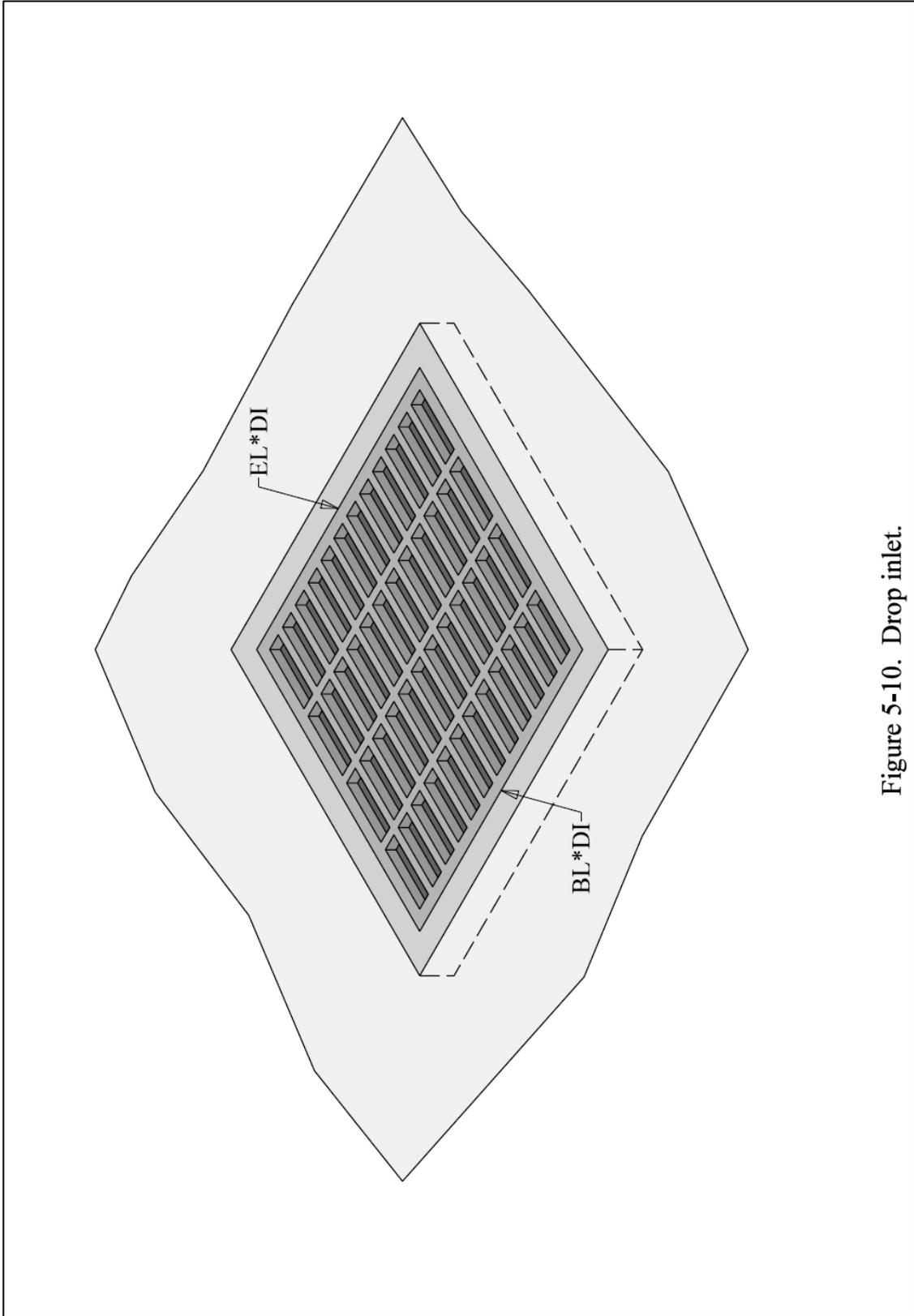


Figure 5-10. Drop inlet.

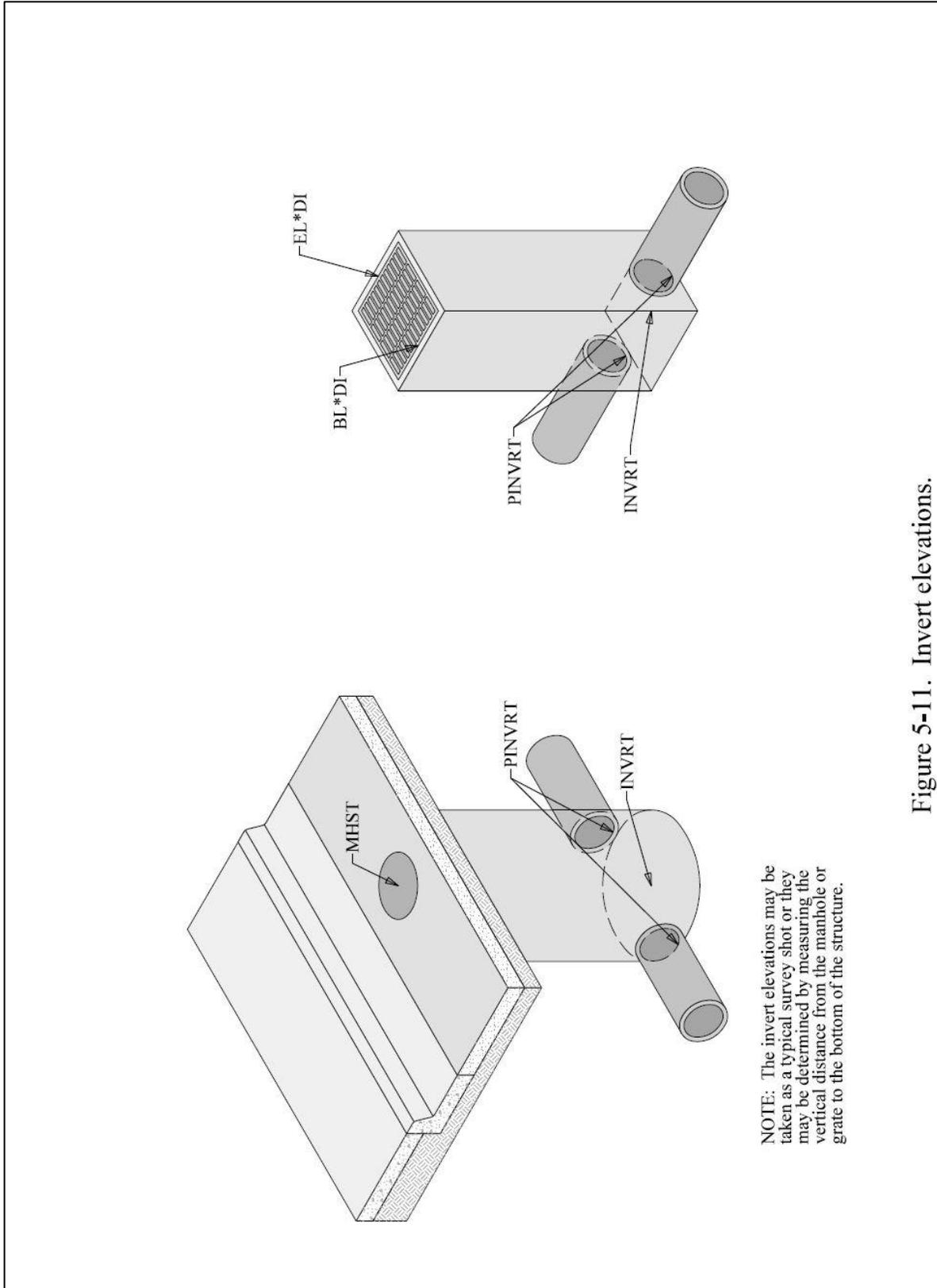


Figure 5-11. Invert elevations.

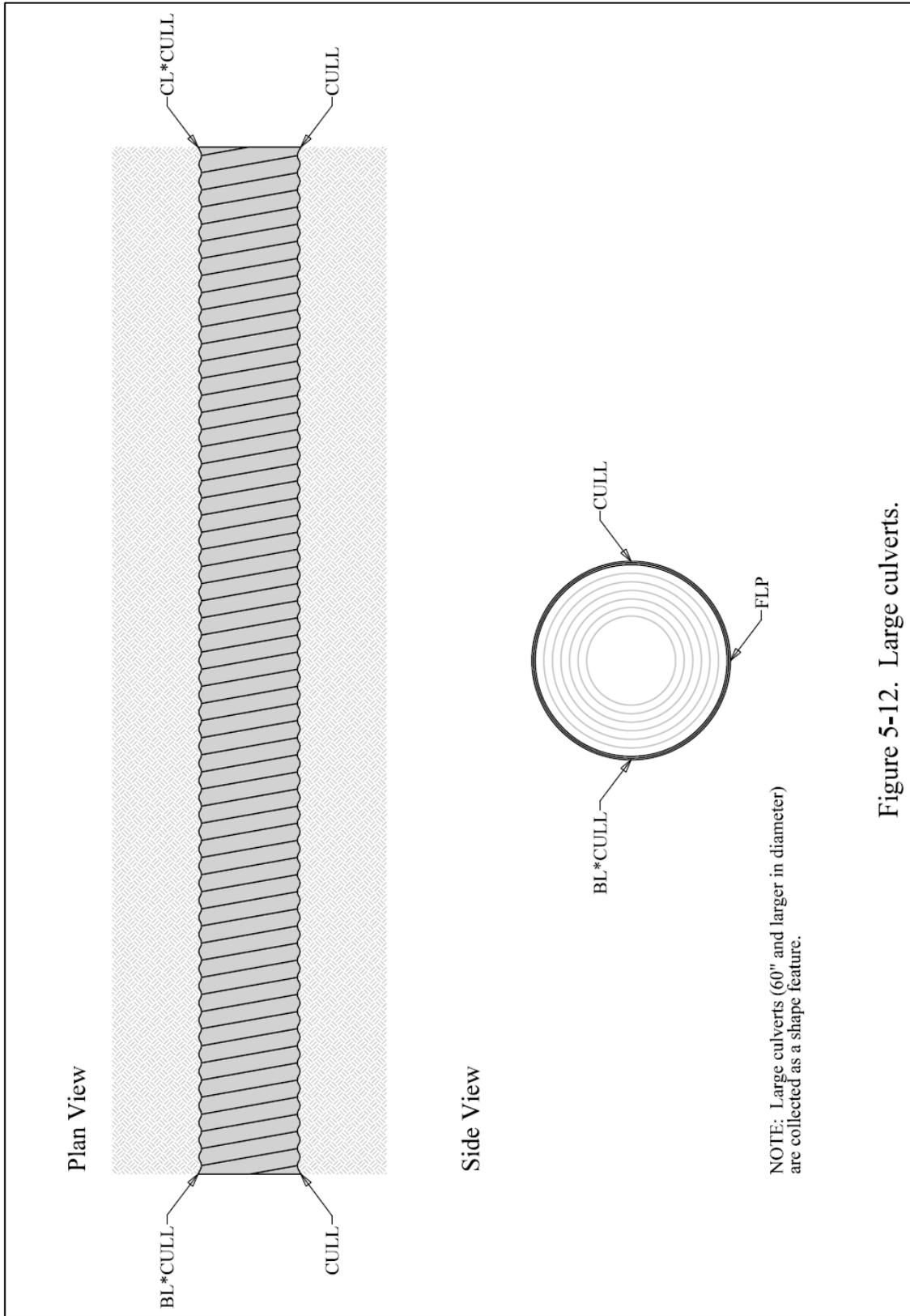
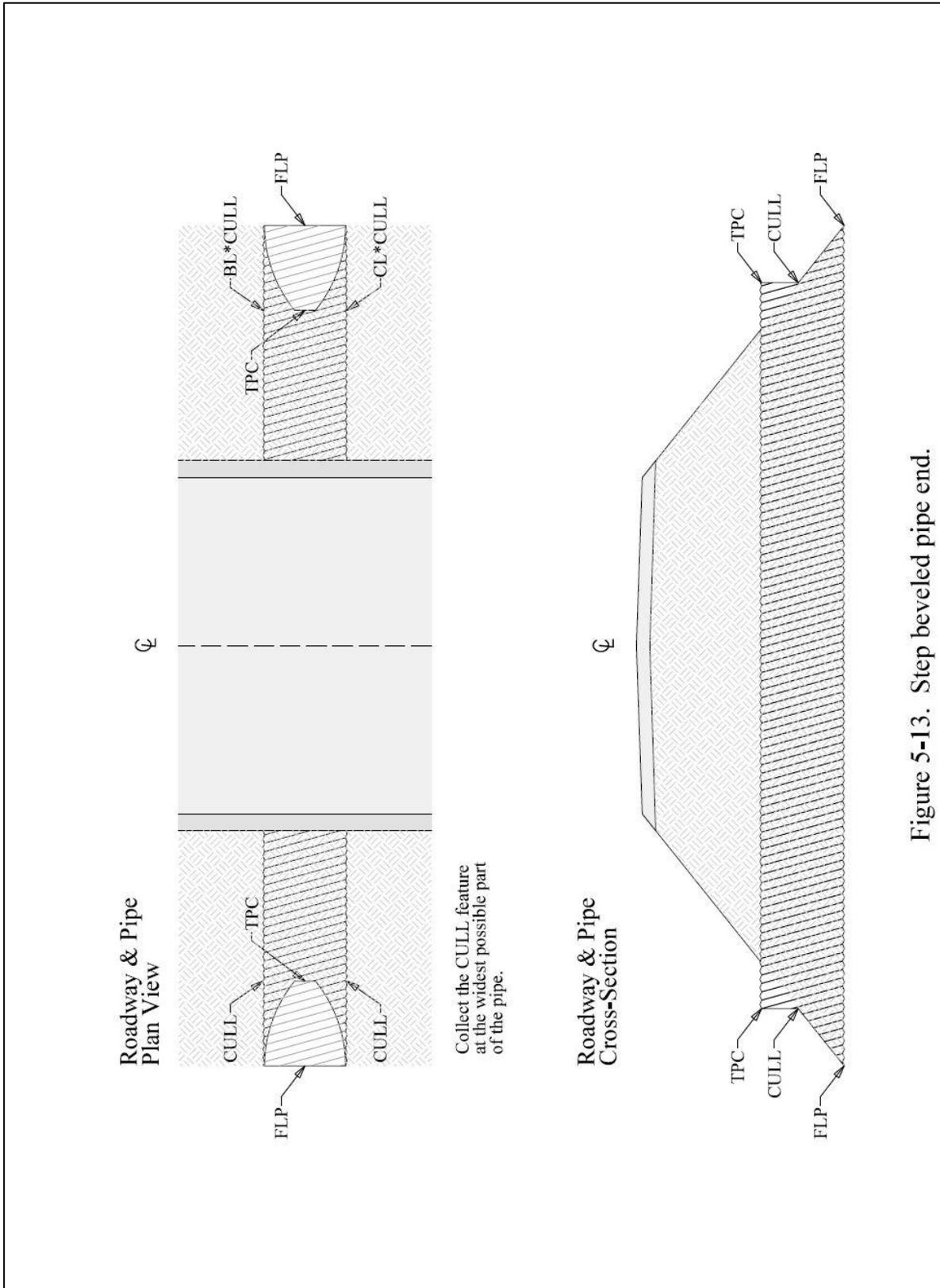


Figure 5-12. Large culverts.



Collect the CULL feature at the widest possible part of the pipe.

Figure 5-13. Step beveled pipe end.

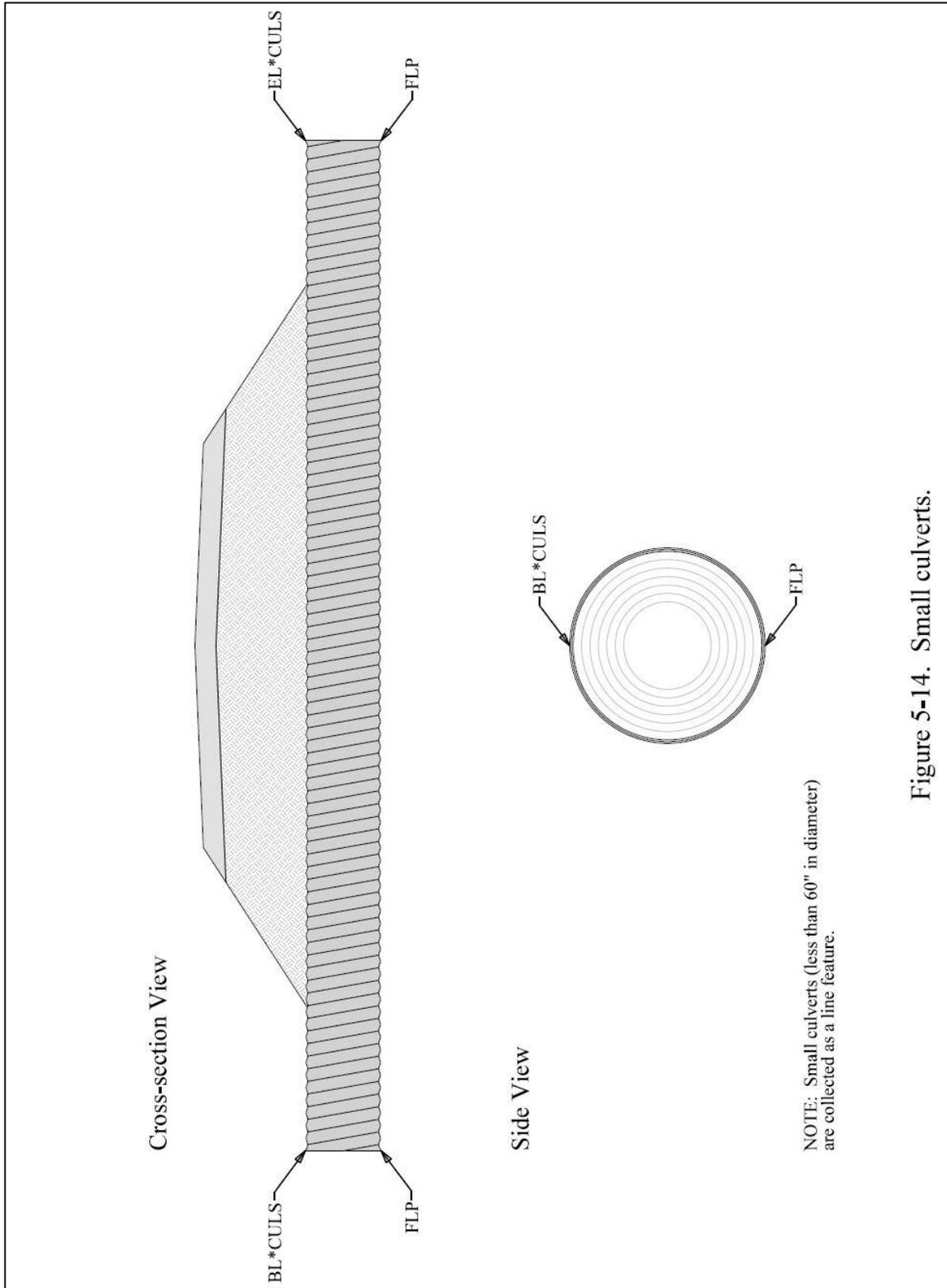


Figure 5-14. Small culverts.

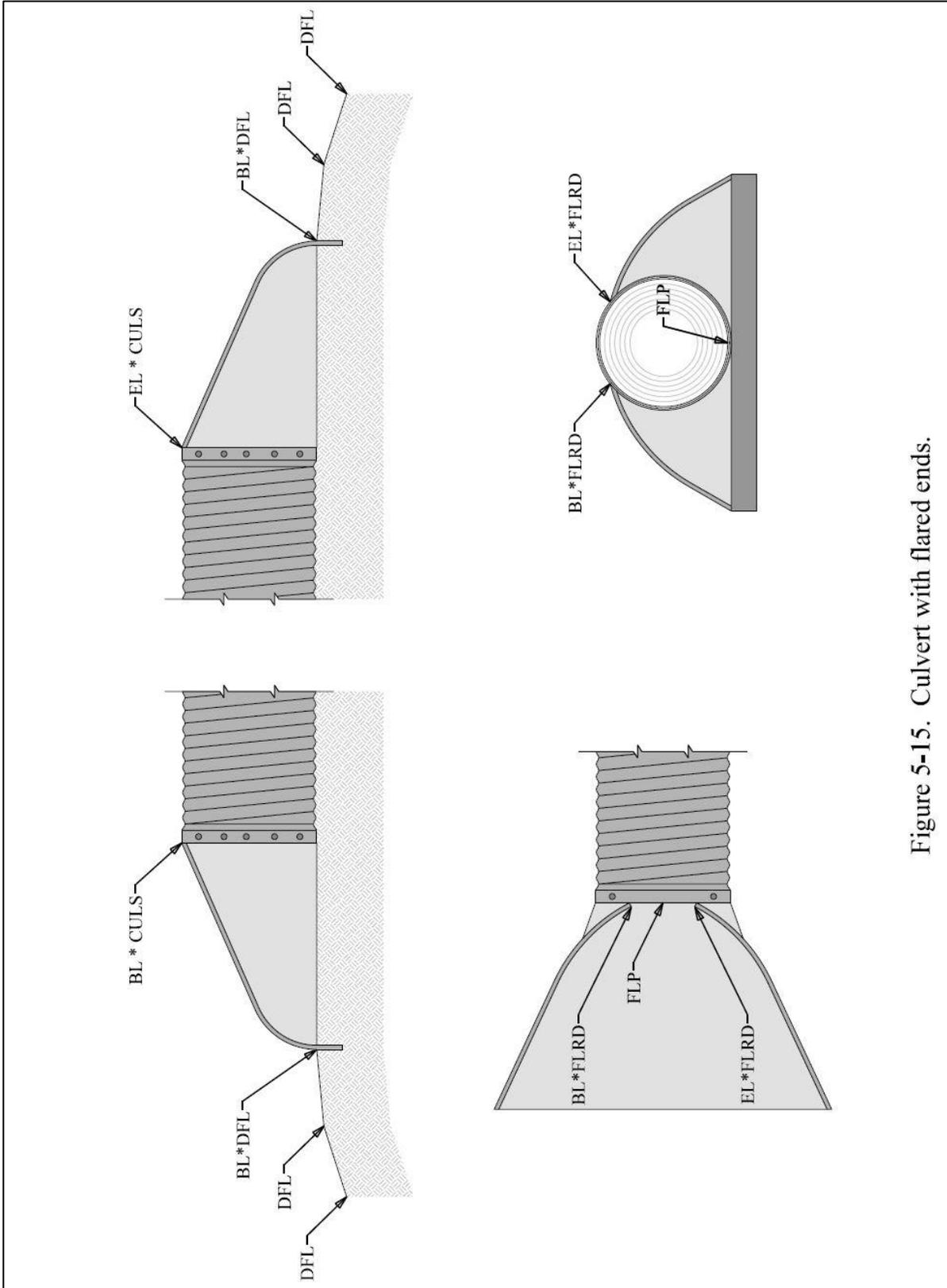


Figure 5-15. Culvert with flared ends.

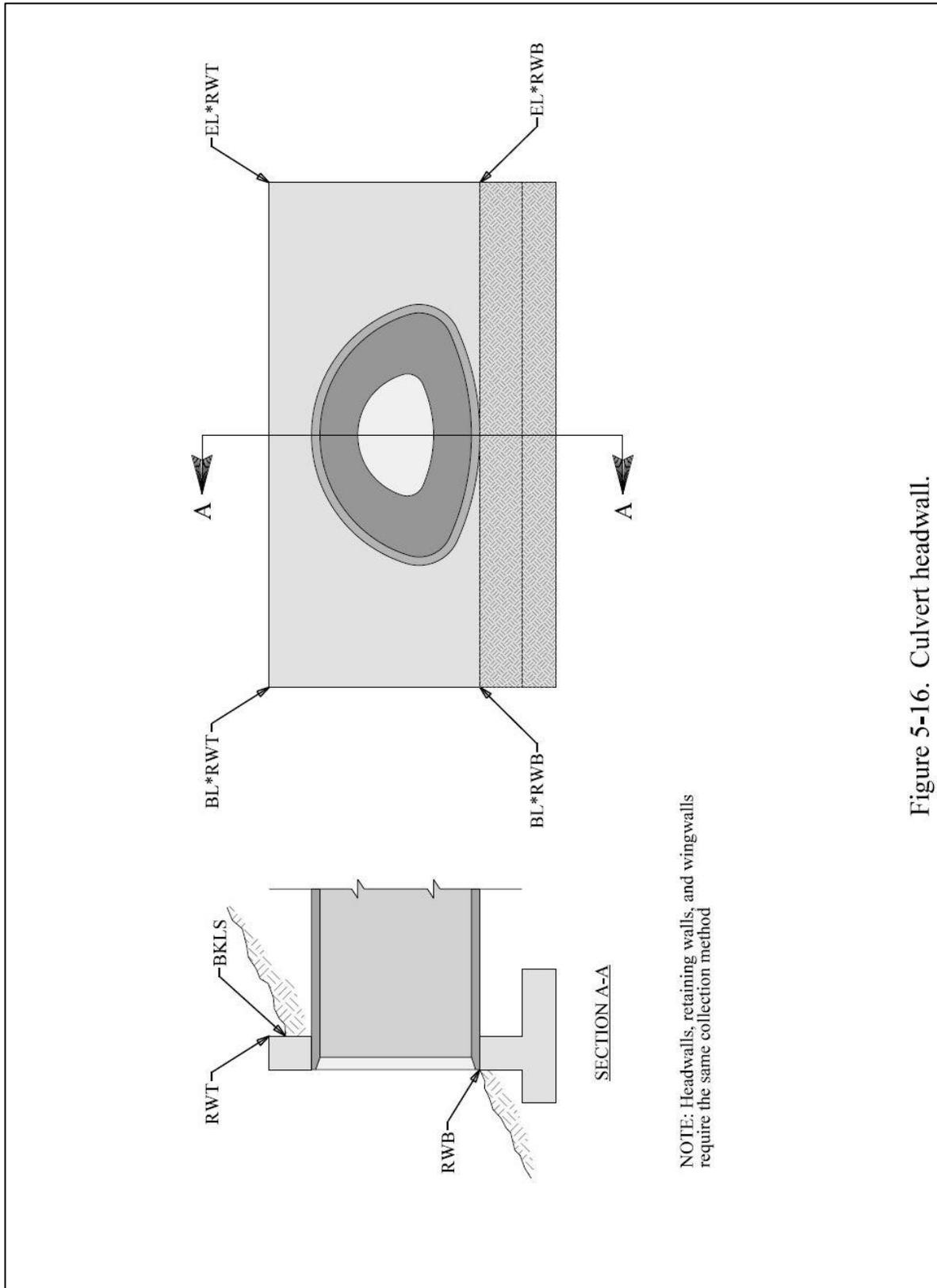


Figure 5-16. Culvert headwall.

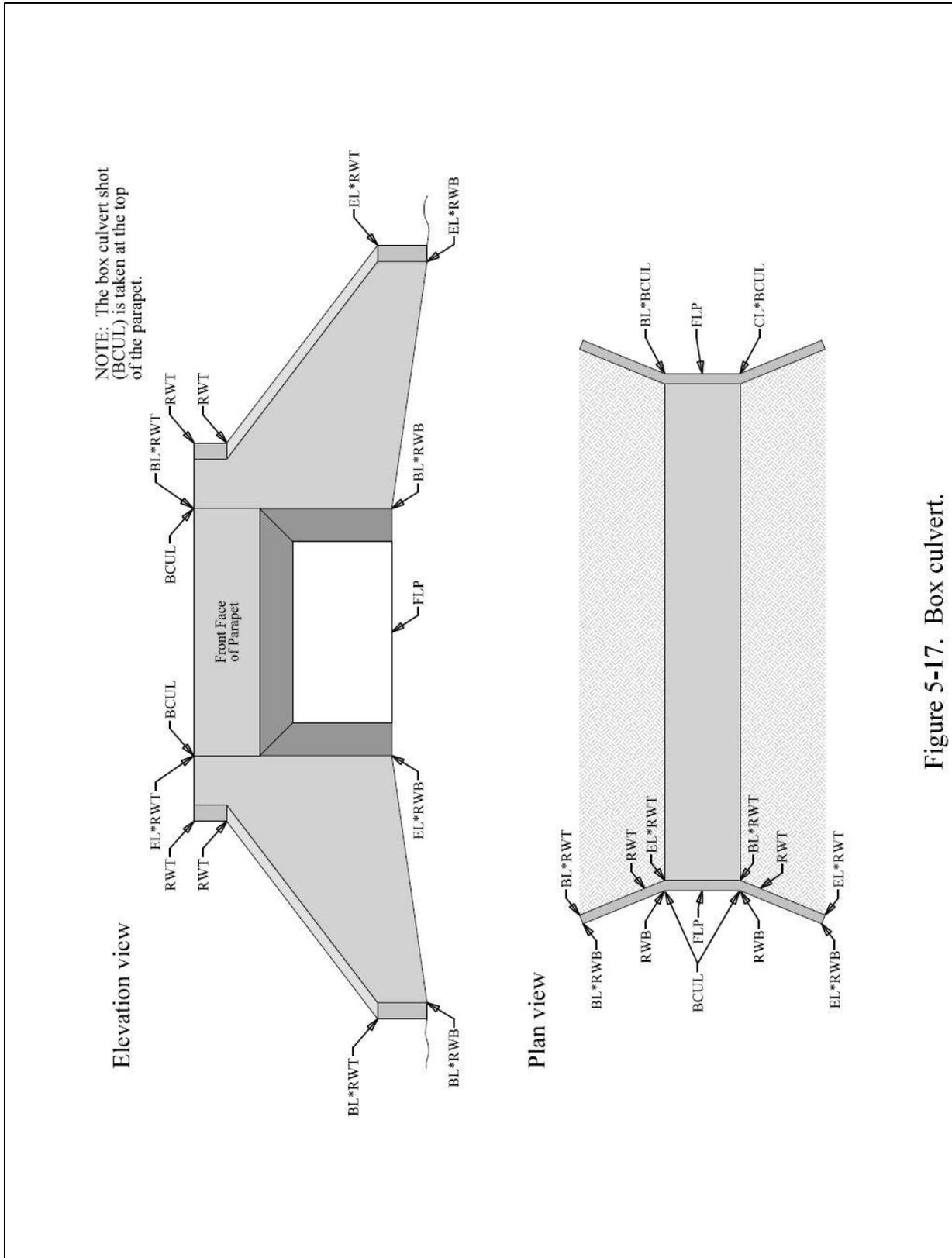


Figure 5-17. Box culvert.

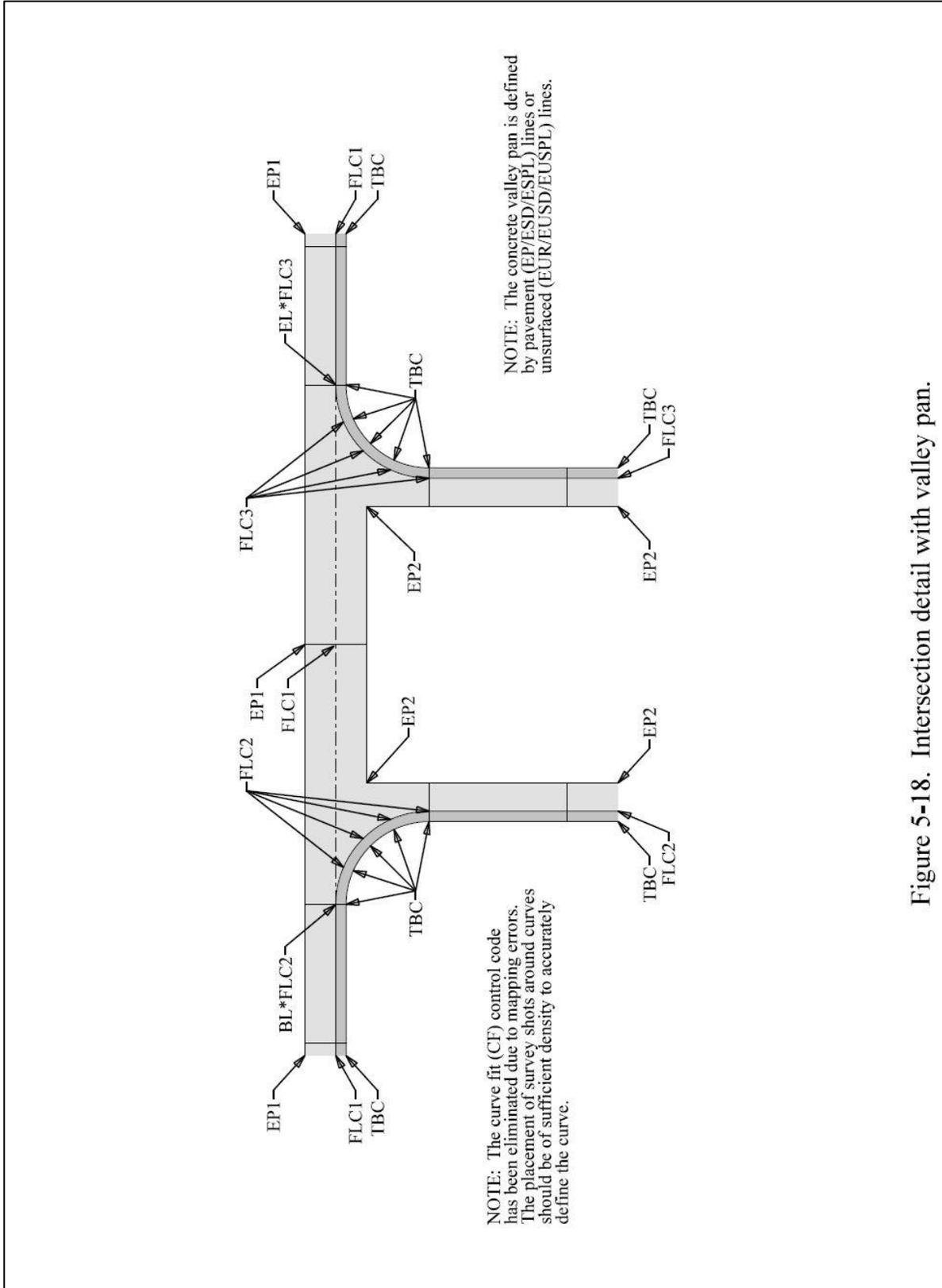


Figure 5-18. Intersection detail with valley pan.

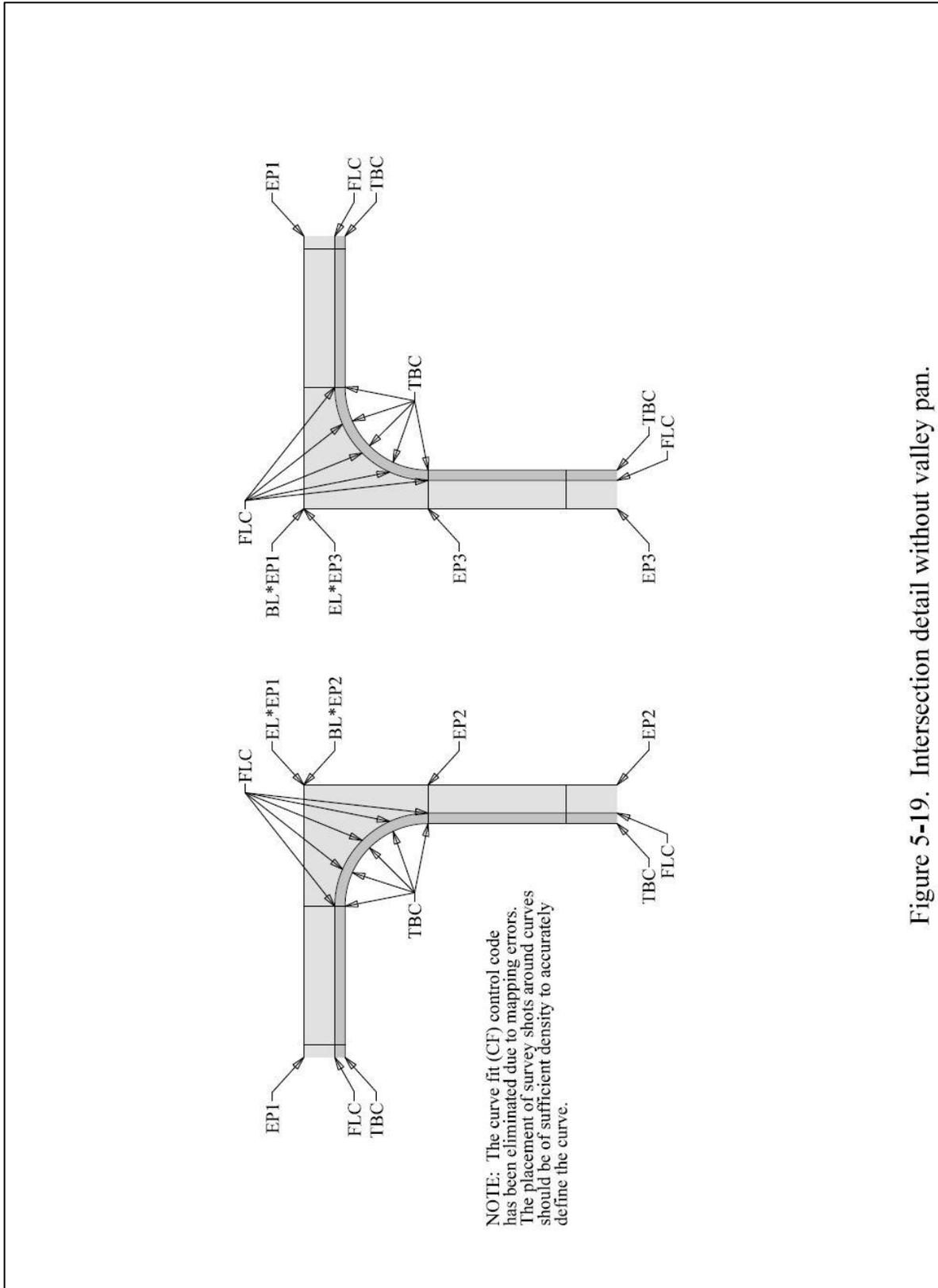


Figure 5-19. Intersection detail without valley pan.

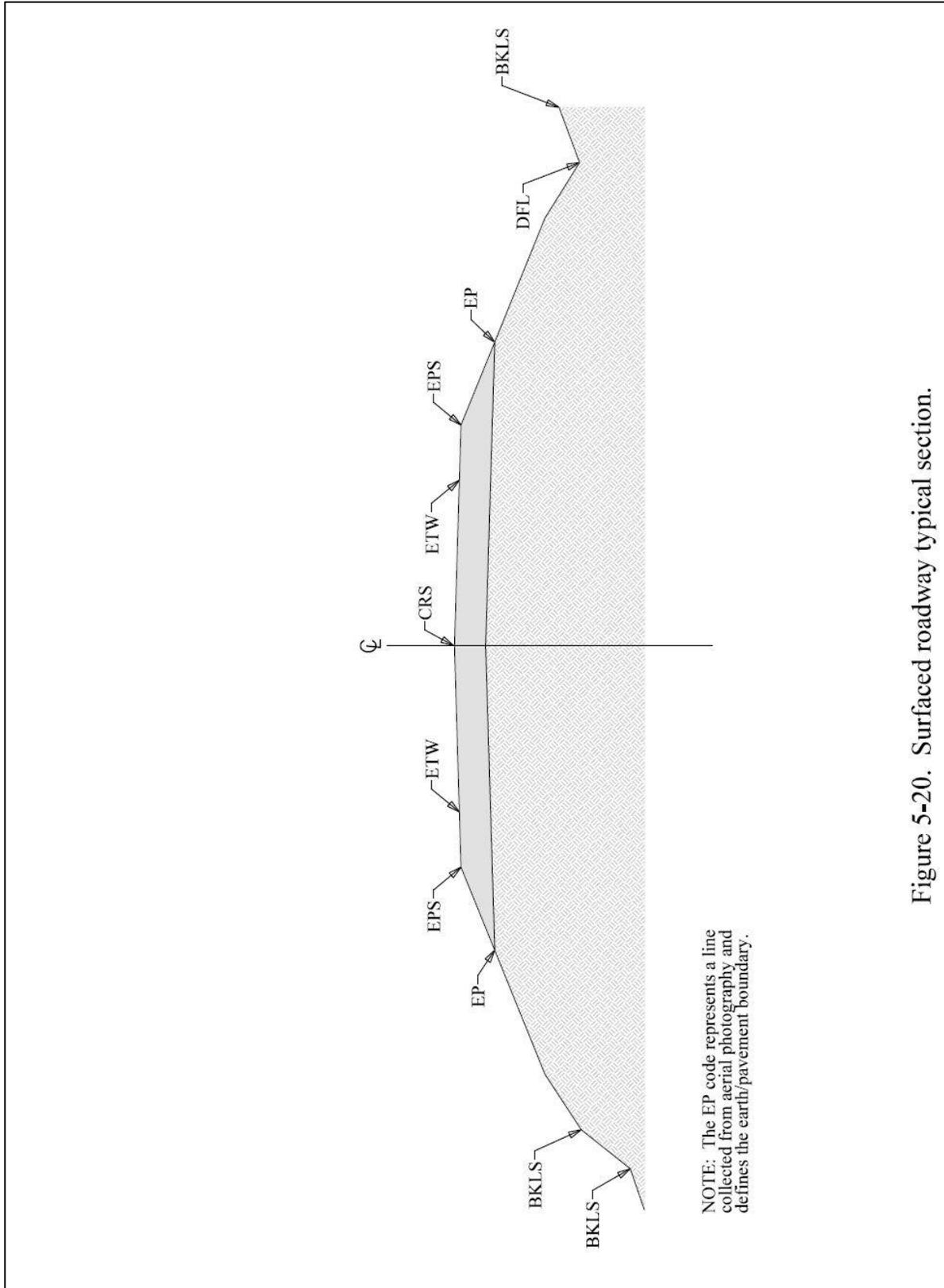


Figure 5-20. Surfaced roadway typical section.

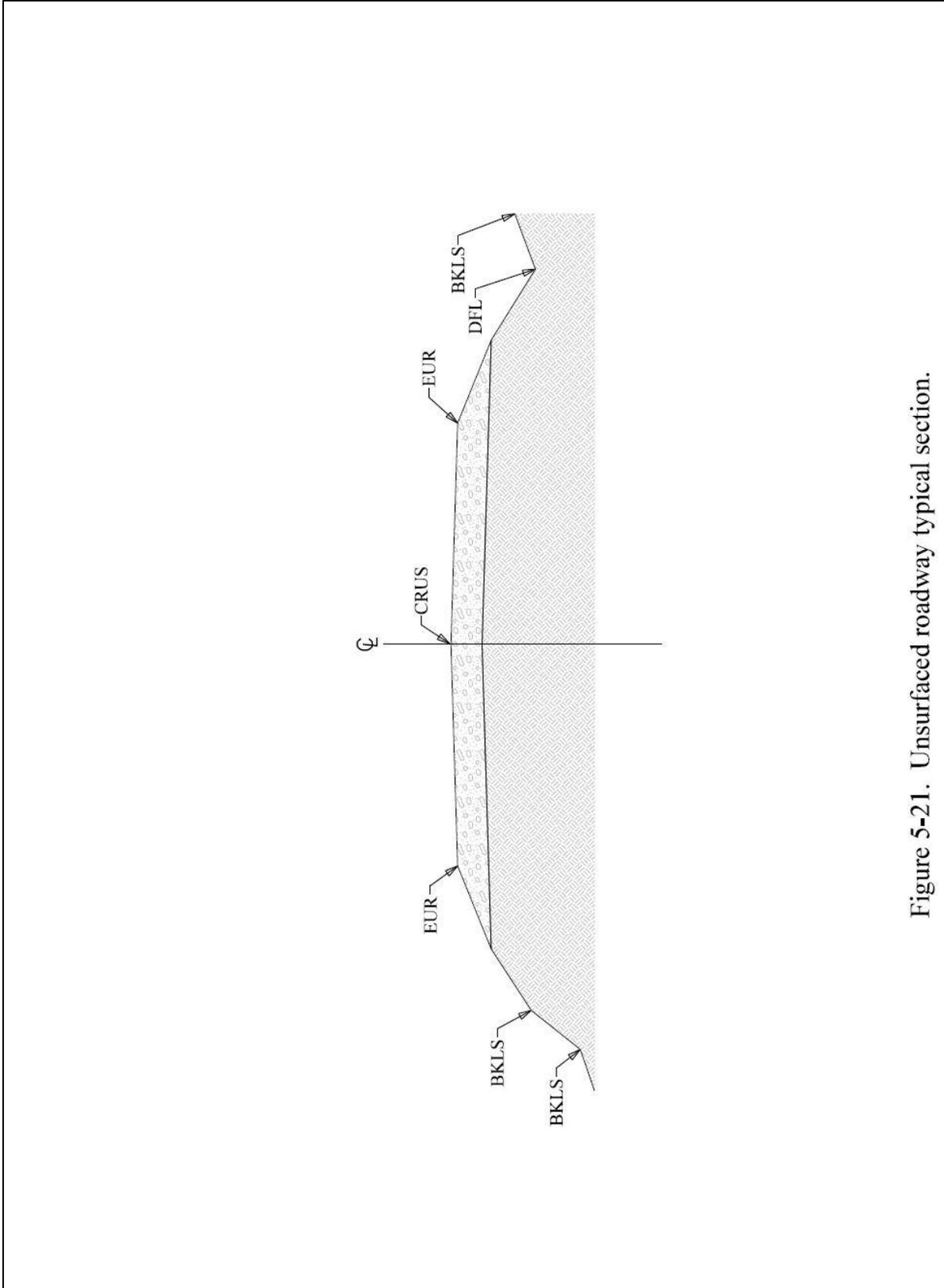


Figure 5-21. Unsurfaced roadway typical section.

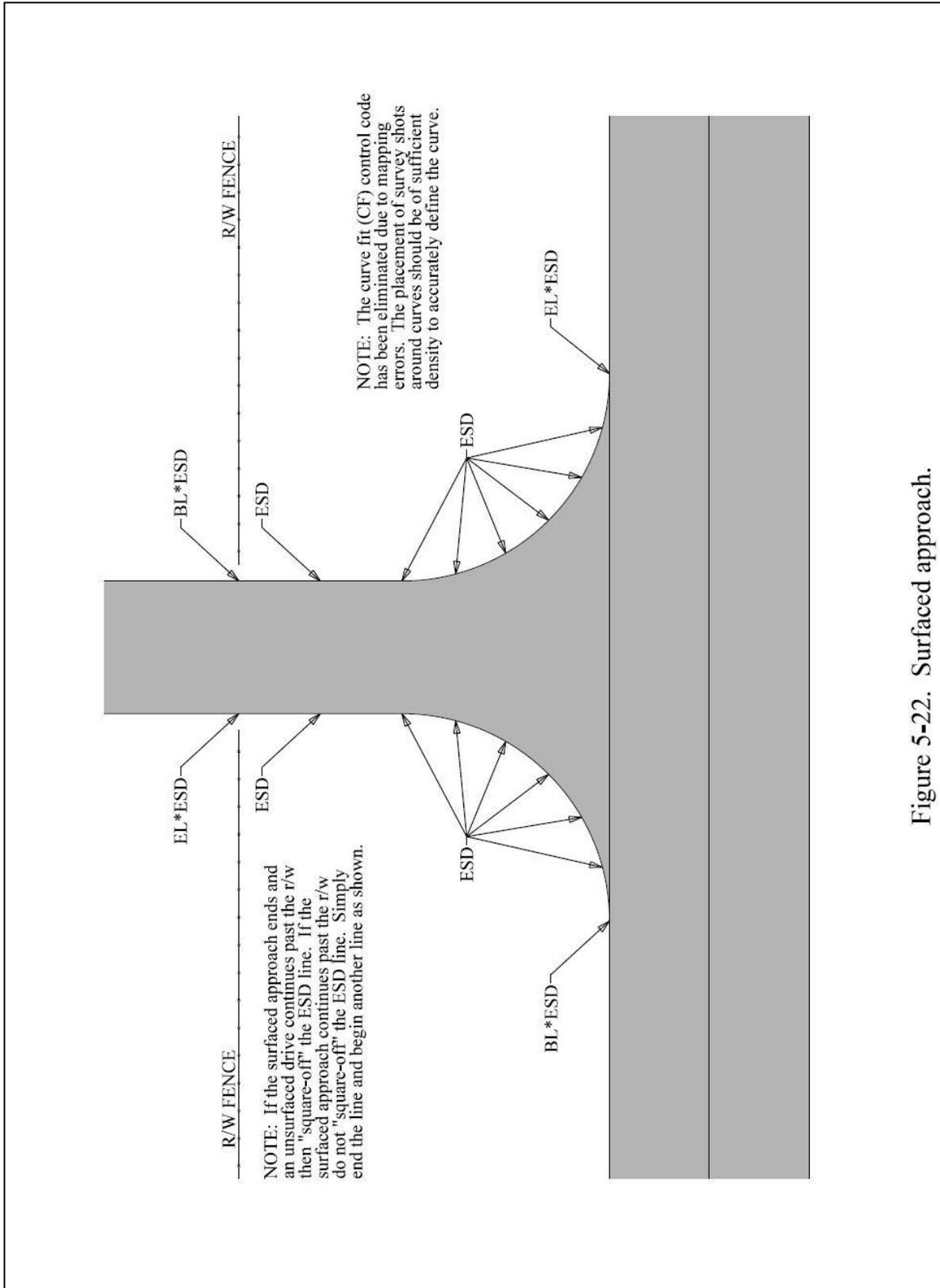


Figure 5-22. Surfaced approach.

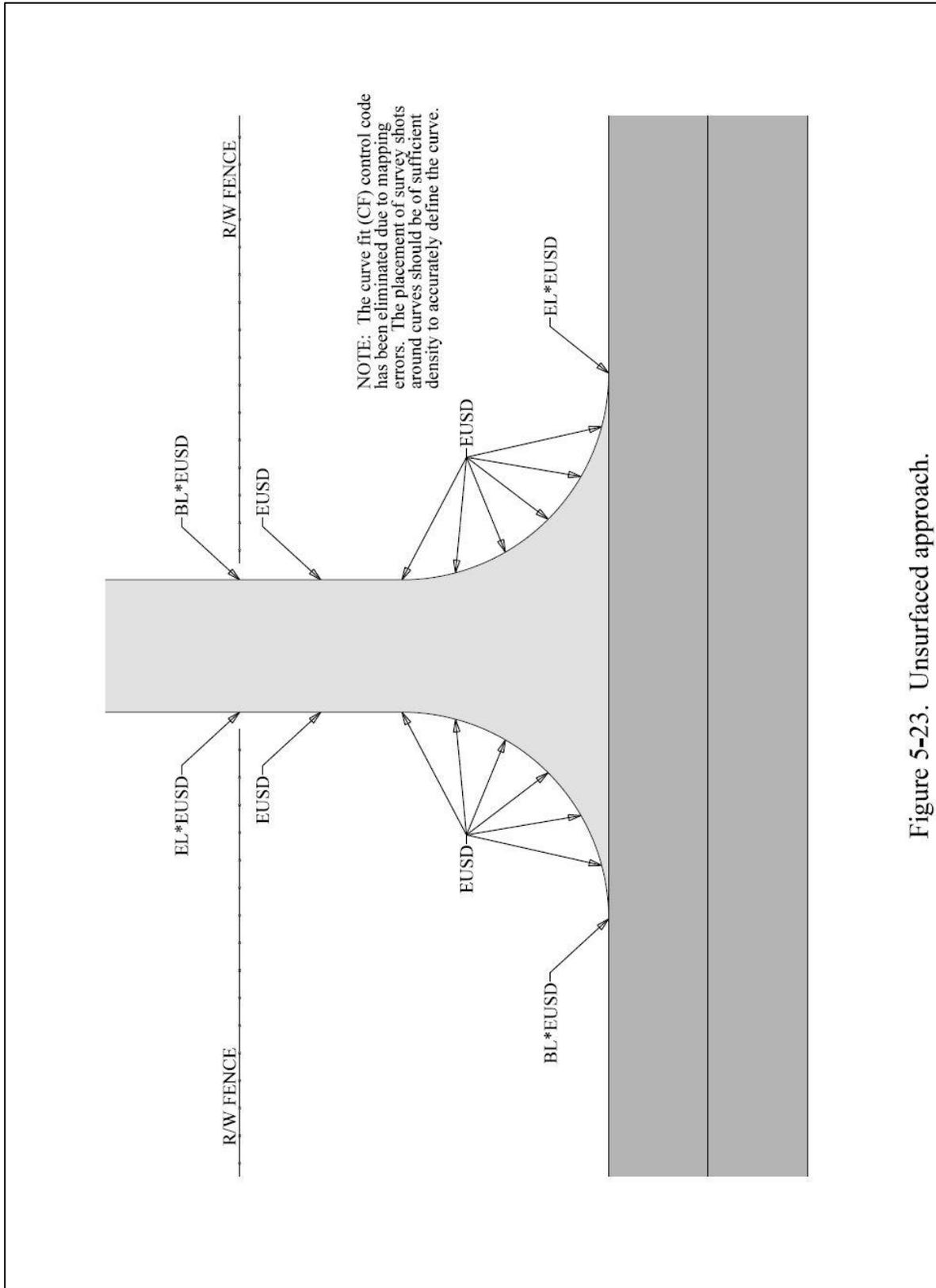


Figure 5-23. Unsurfaced approach.

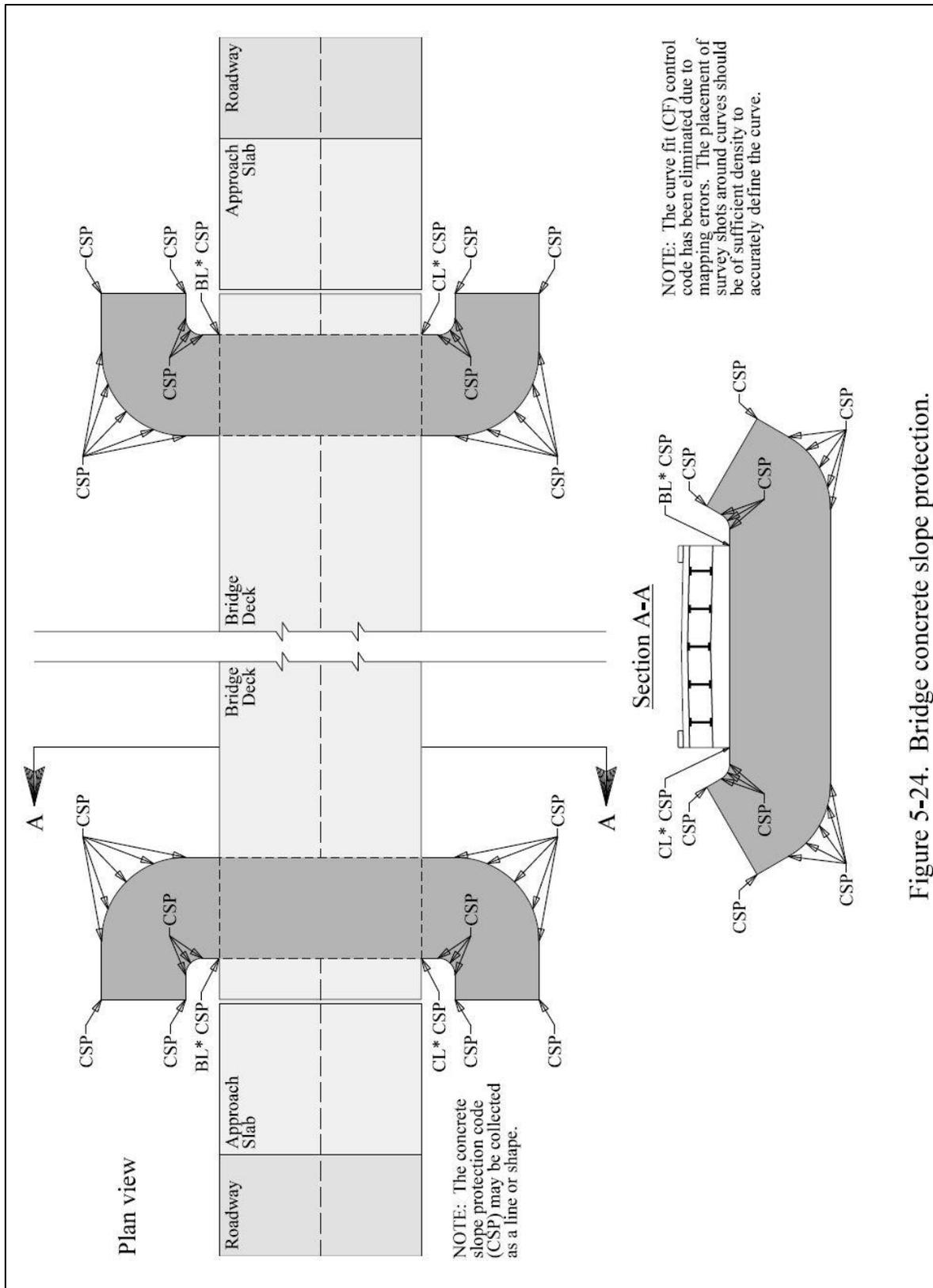


Figure 5-24. Bridge concrete slope protection.

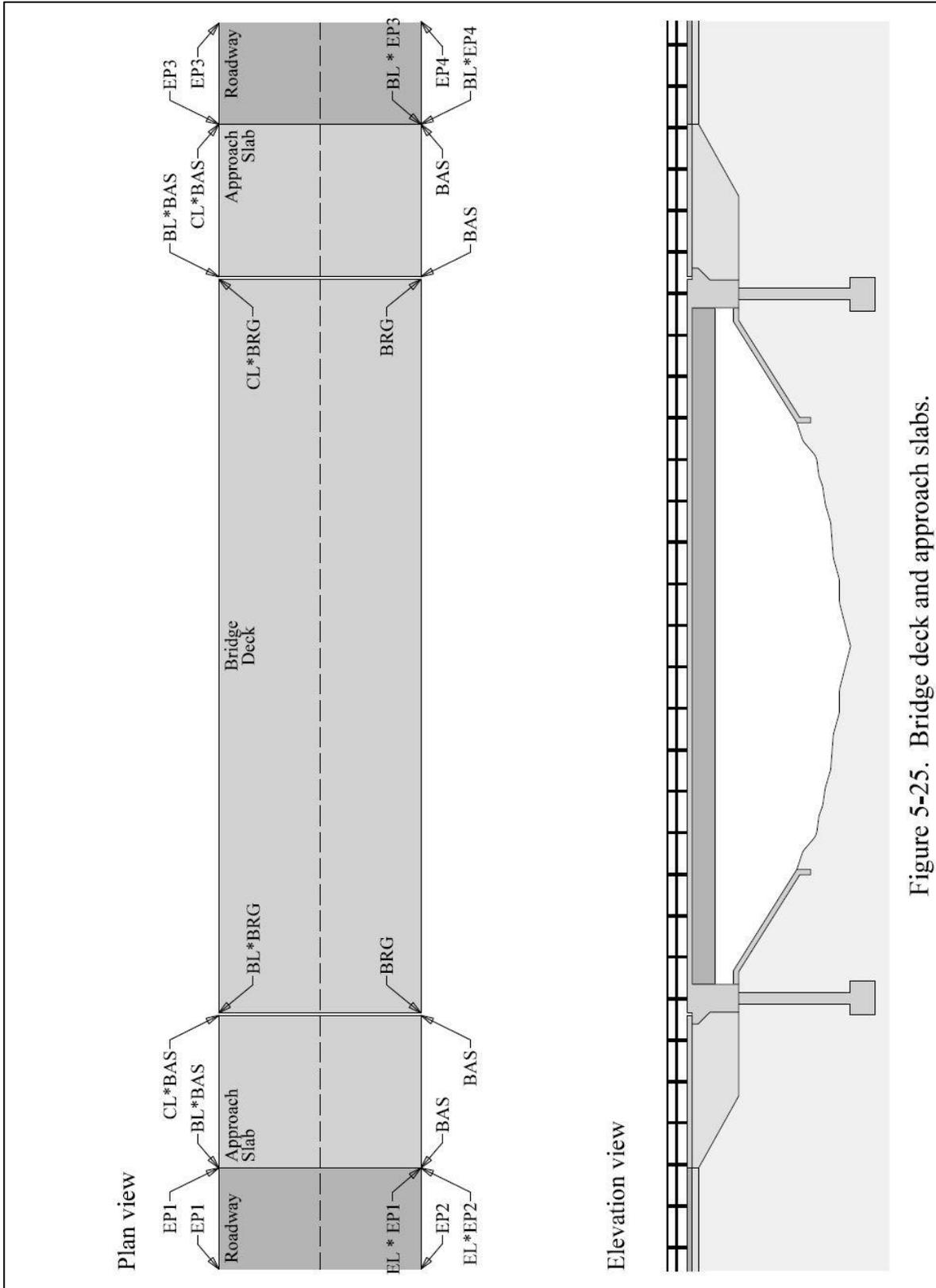


Figure 5-25. Bridge deck and approach slabs.

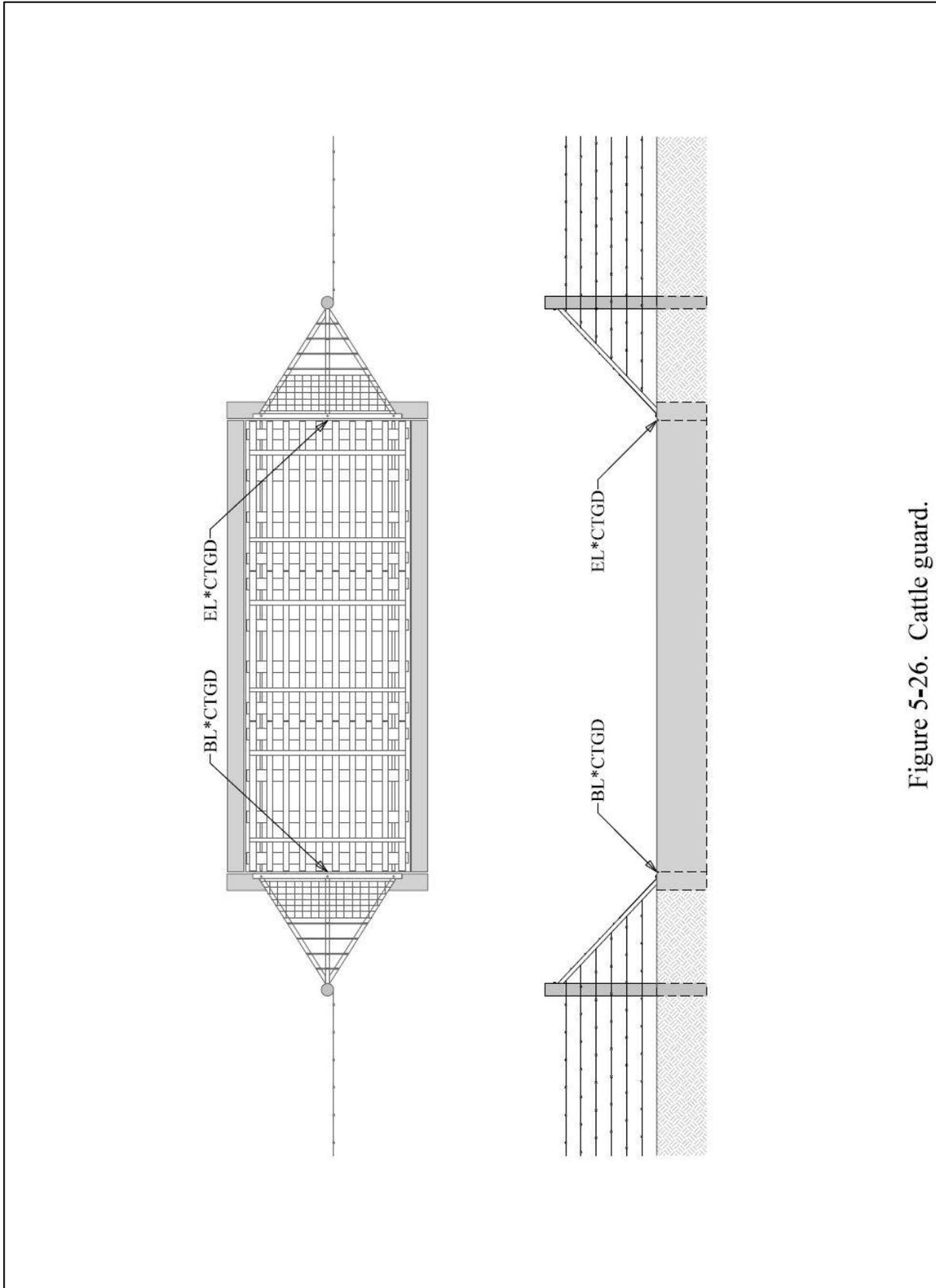


Figure 5-26. Cattle guard.

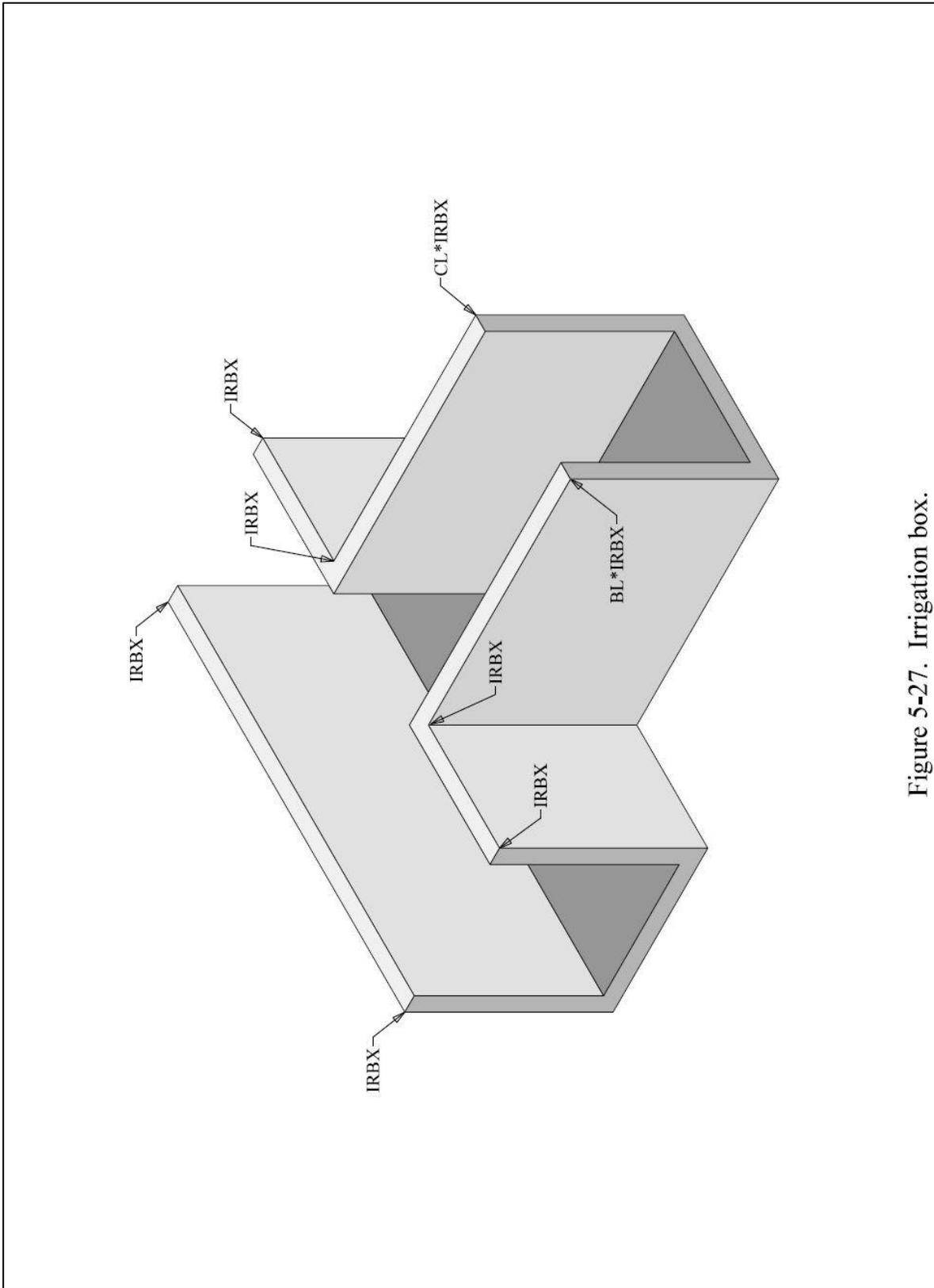


Figure 5-27. Irrigation box.

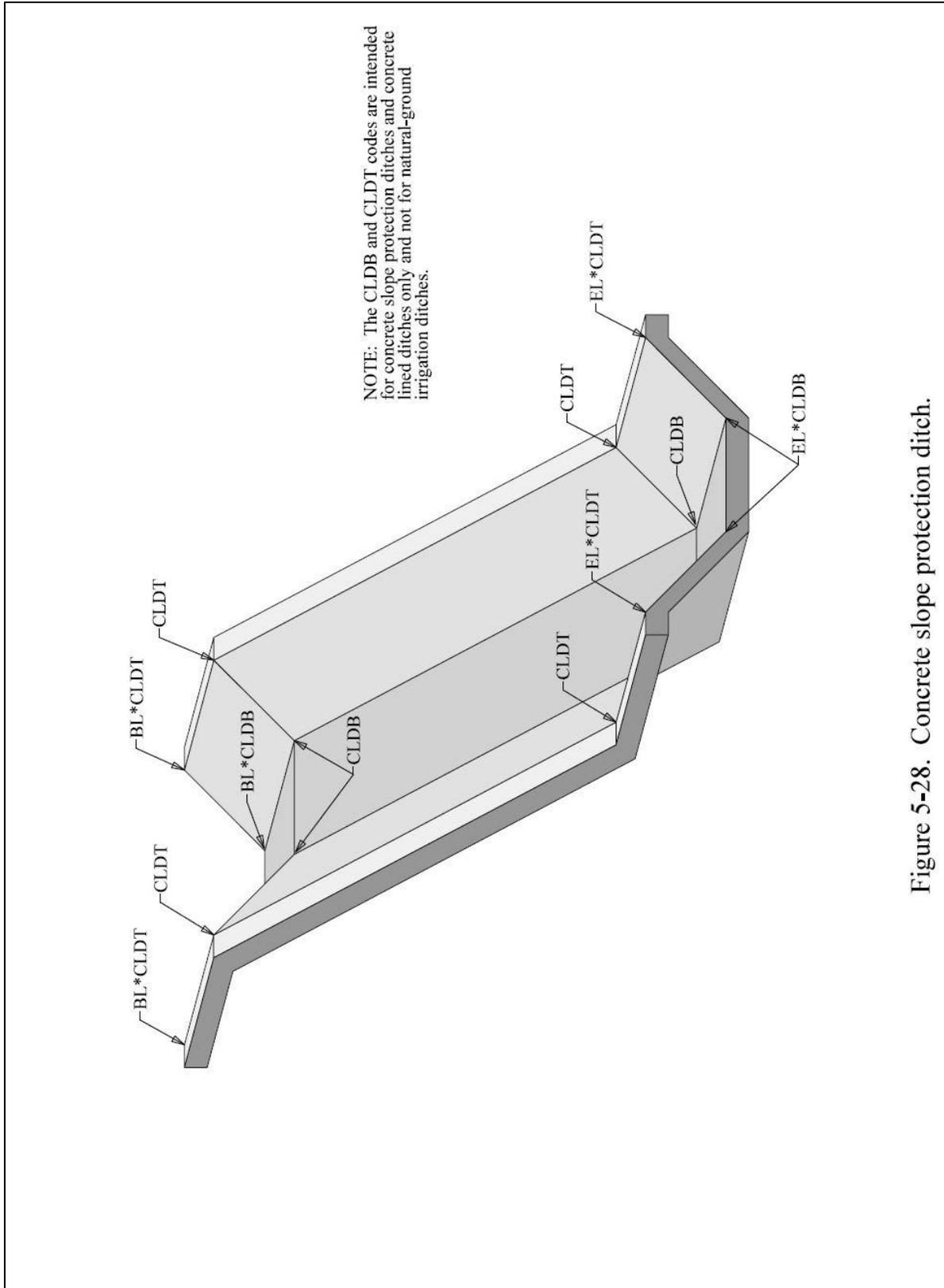


Figure 5-28. Concrete slope protection ditch.

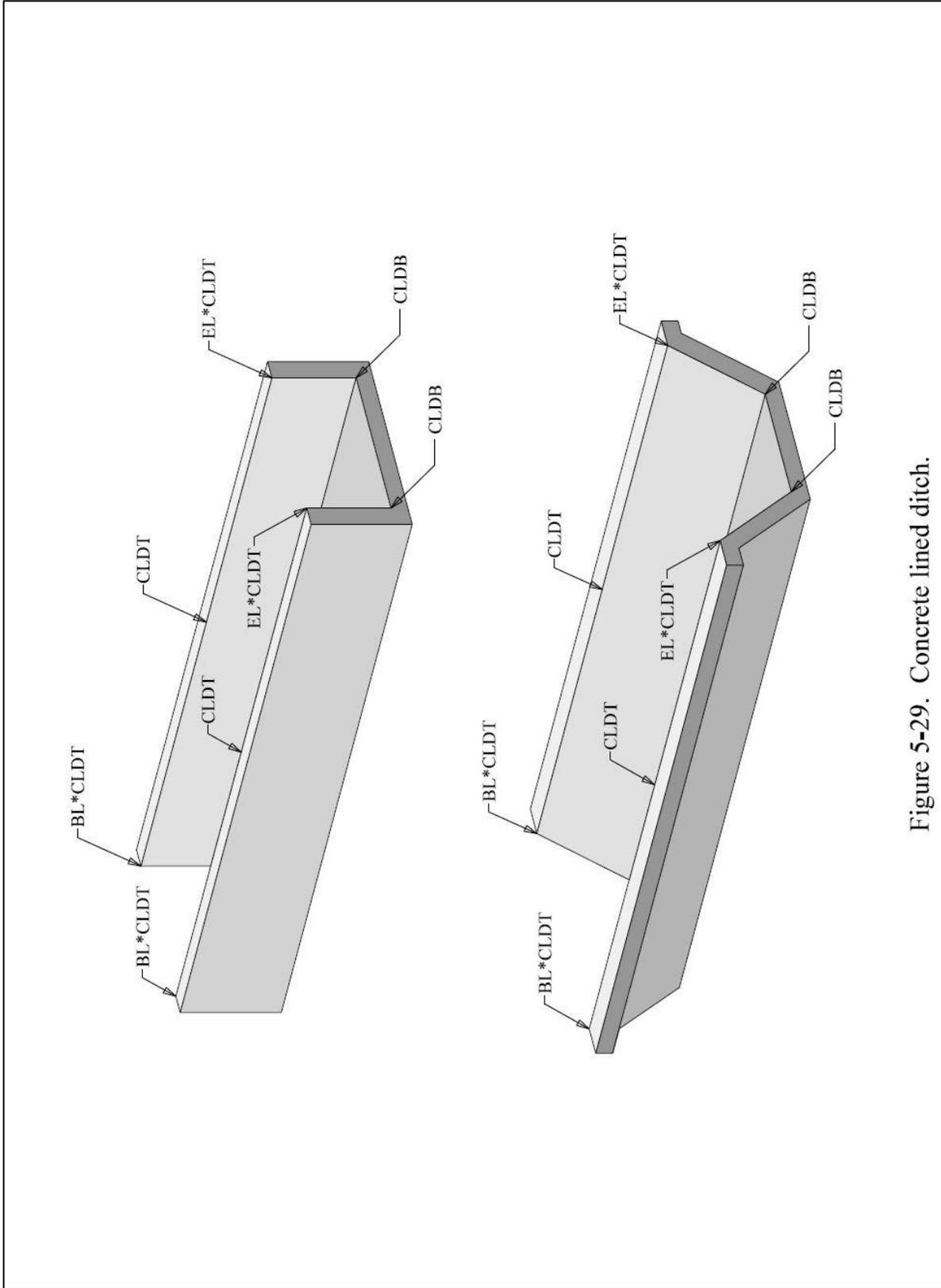


Figure 5-29. Concrete lined ditch.

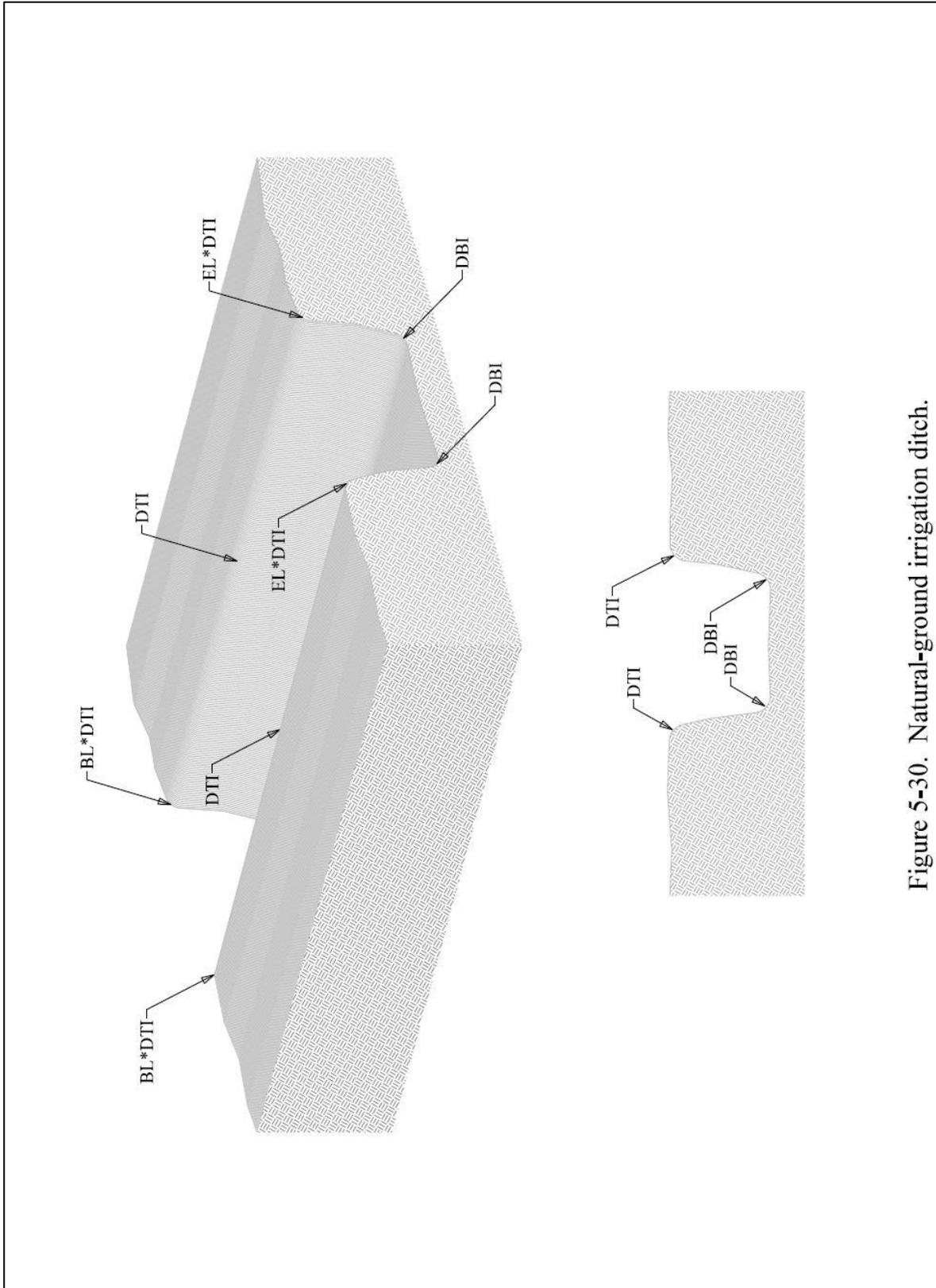


Figure 5-30. Natural-ground irrigation ditch.

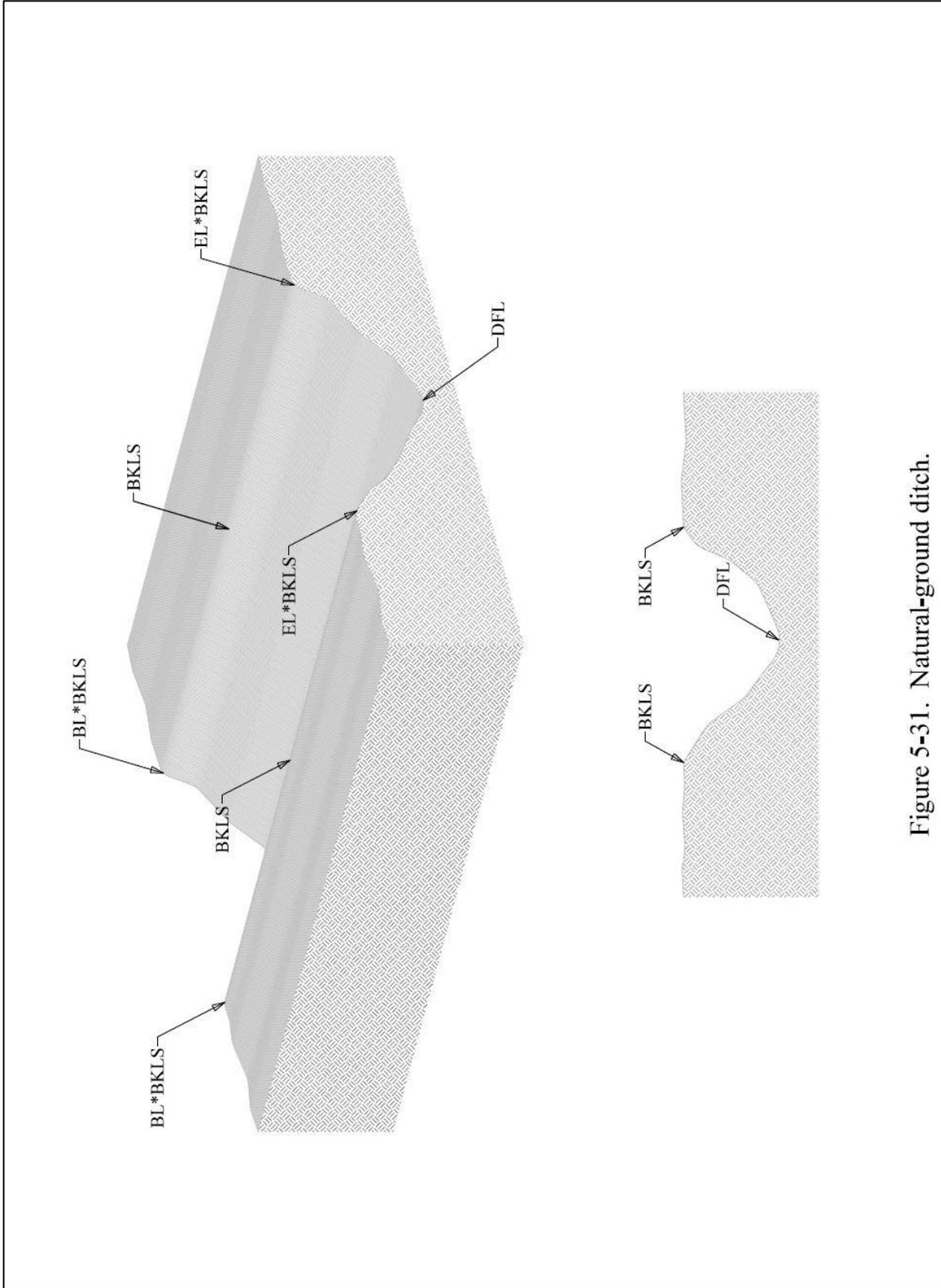


Figure 5-31. Natural-ground ditch.

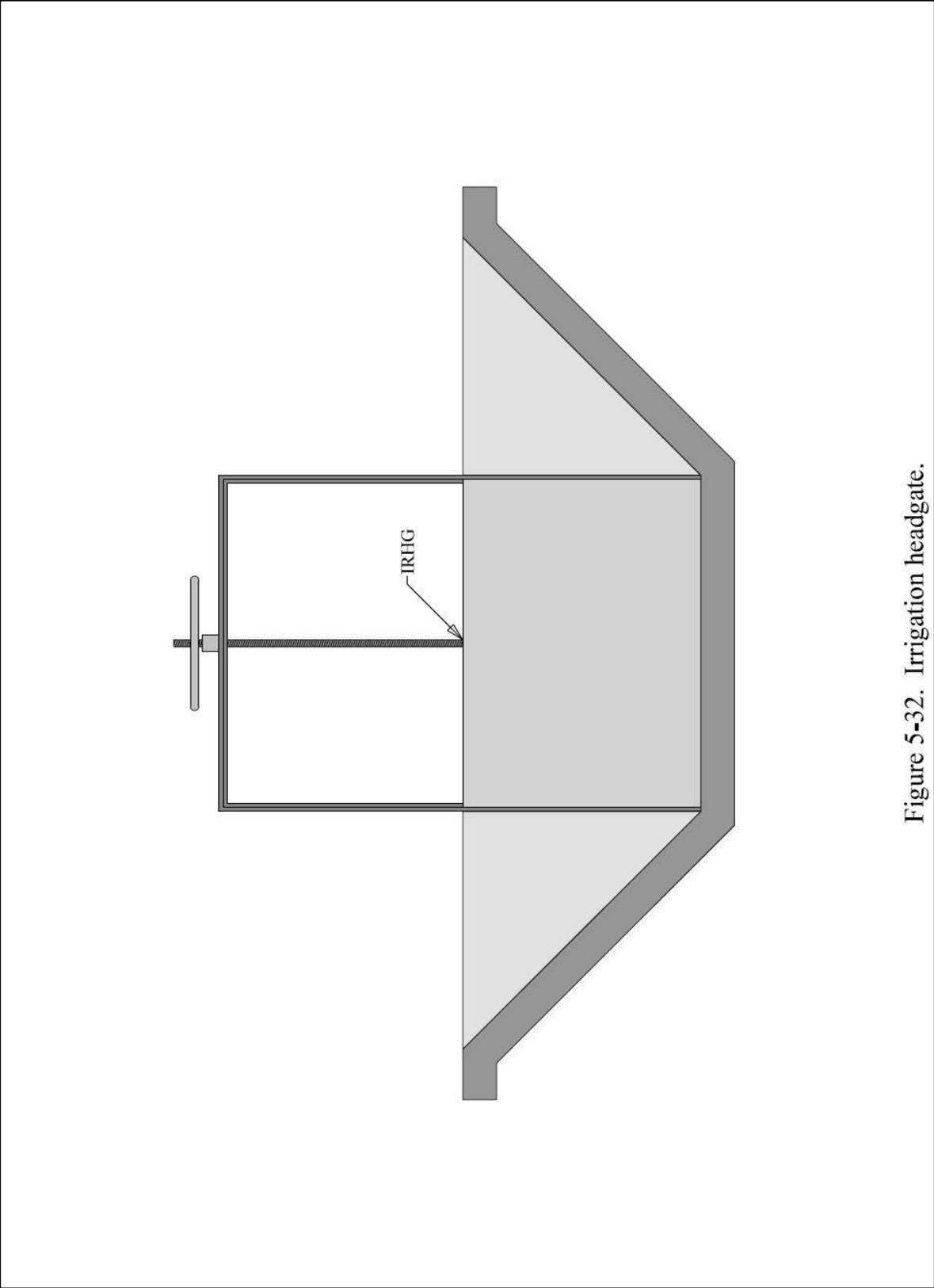


Figure 5-32. Irrigation headgate.

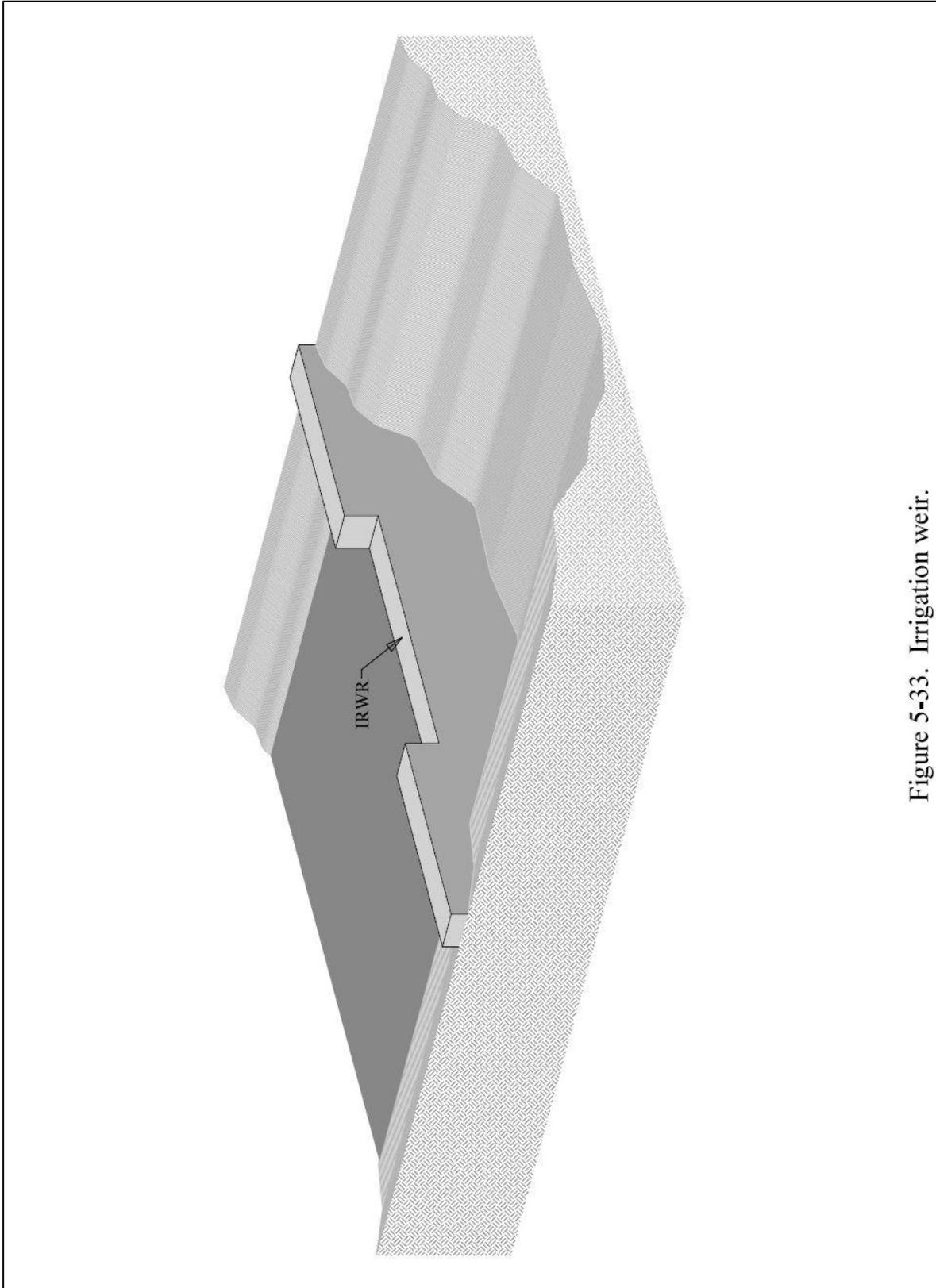


Figure 5-33. Irrigation weir.

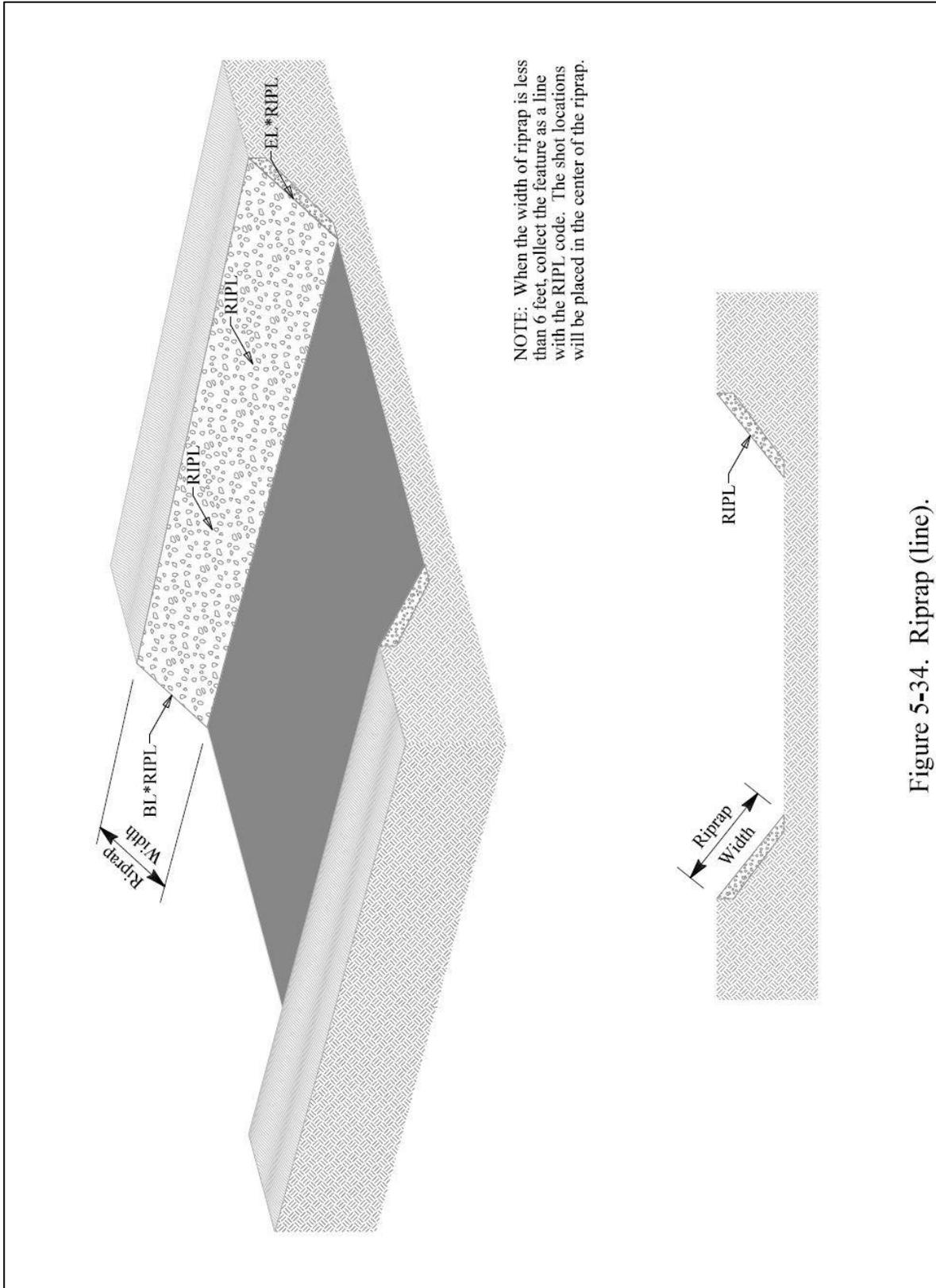


Figure 5-34. Riprap (line).

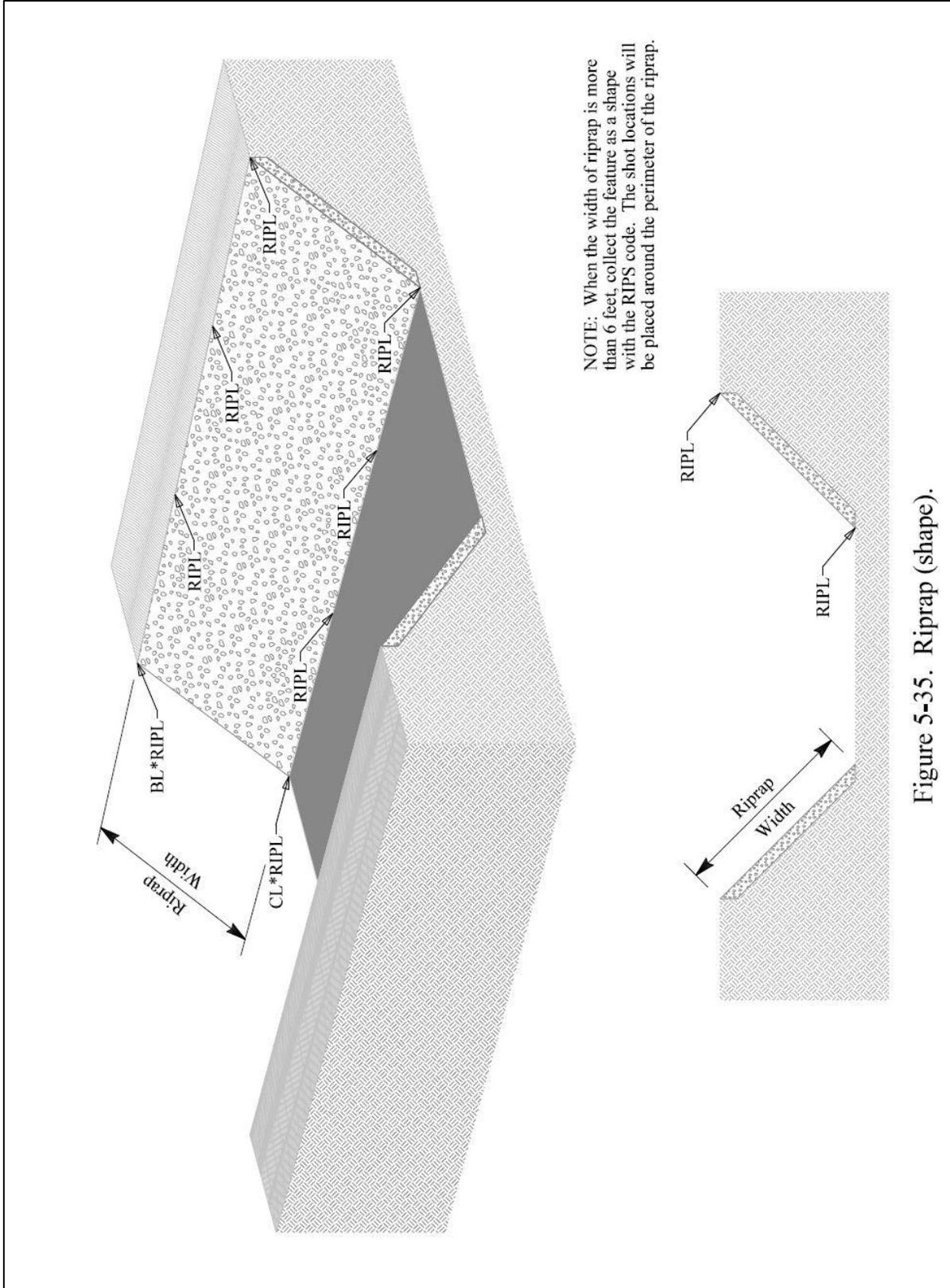


Figure 5-35. Riprap (shape).