

Sec. 7.06 **Small Drainage Structures**

(Culverts less than 3 feet in diameter and ditches with top span less than 10 feet)

The following survey data is required for small drainage structures with the exception of roadside cut or toe ditches:

1. Stream traverse and profile taken a sufficient distance up and downstream of the anticipated construction area (not less than 100 feet beyond the construction area) to define the alignment and grade of the stream or swale (the traverse is not necessary on sites covered by aerial mapping).
2. Description of channel characteristics [\(Sec. 7.04\)](#)
3. Information pertaining to the past hydraulic performance of the existing stream, culvert, etc. to the extent practical. This may include maintenance observations by local citizens.

Sec. 7.07 **Large Drainage Structures**

(Culverts with diameter 3 feet to 20 feet and channel top width greater than 10 feet)

The following survey data is required for large drainage structures:

1. The stream DTMs and topo should be extended 500 feet \pm upstream and downstream of the anticipated right-of-way line. The DTM should be taken at intervals not to exceed 50 feet (**50 ft**) and should extend each way from the existing channel to points that are above known or anticipated high water levels. The stream traverse shall begin upstream of the structure and run downstream through the structure to the downstream limits of the survey.
2. Description of channel characteristics. [\(Sec. 7.04\)](#)
3. High water elevations, date, source of information, point of measurement. [\(Sec. 7.05\)](#)
4. Maximum elevation of headwater permissible at the proposed structure without causing flood damage to developed upstream property.
5. When structures are in place at the proposed site or within one thousand feet (**1000 ft**) up or downstream, the following information is required:
 - a. Description of structure, date of construction
 - b. Dates and high water elevations for major floods that have occurred since construction
 - c. Performance during past floods
 - d. Evidence of scour or erosion