Explanatory Note on
Height of Specified Dam under DSA, 2021

As per Dam Safety Act, 2021, a specified Dam is defined as

(x) "Specified dam" means a dam constructed before or after the commencement of this Act, which is,-

1. Above fifteen meters in height, measured from the lowest portion of the general foundation area to the top of dam; or

2. Between ten meters to fifteen meters in height and satisfies at least one of the following, namely:-

(A) The length of crest is not less than five hundred meters; or

(B) The capacity of the reservoir formed by the dam is not less than one million cubic meters; or

(C) The maximum flood discharge dealt with by the dam is not less than two thousand cubic meters per second; or

(D) The dam has specially difficult foundation problems; or

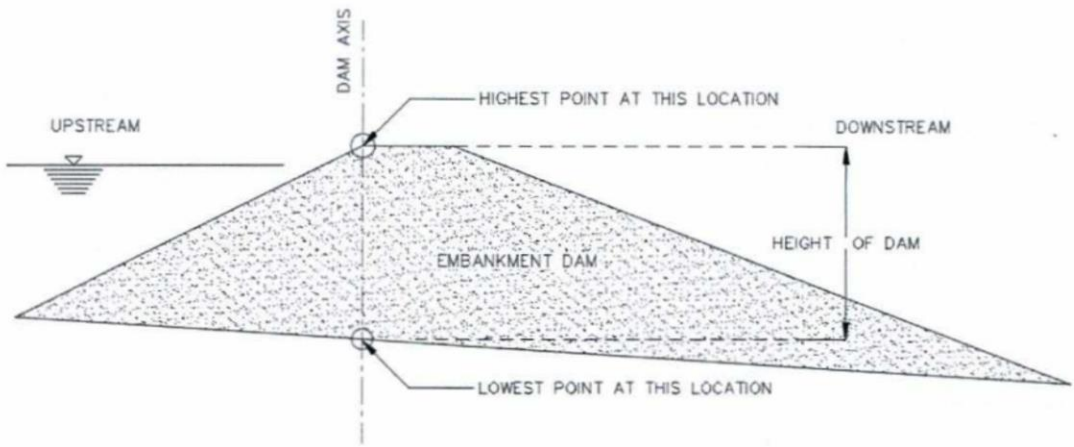
(E) The dam is of unusual design;

Since a specified Dam (which also includes Barrages as per Cl 4(e) of DSA, 2021) is a three dimensional object with unique layout, there has been a need to specify at which location "Top of Dam" and "Lowest portion of General Foundation Area" are to be considered.

In this regard, the following clarifications are proposed:

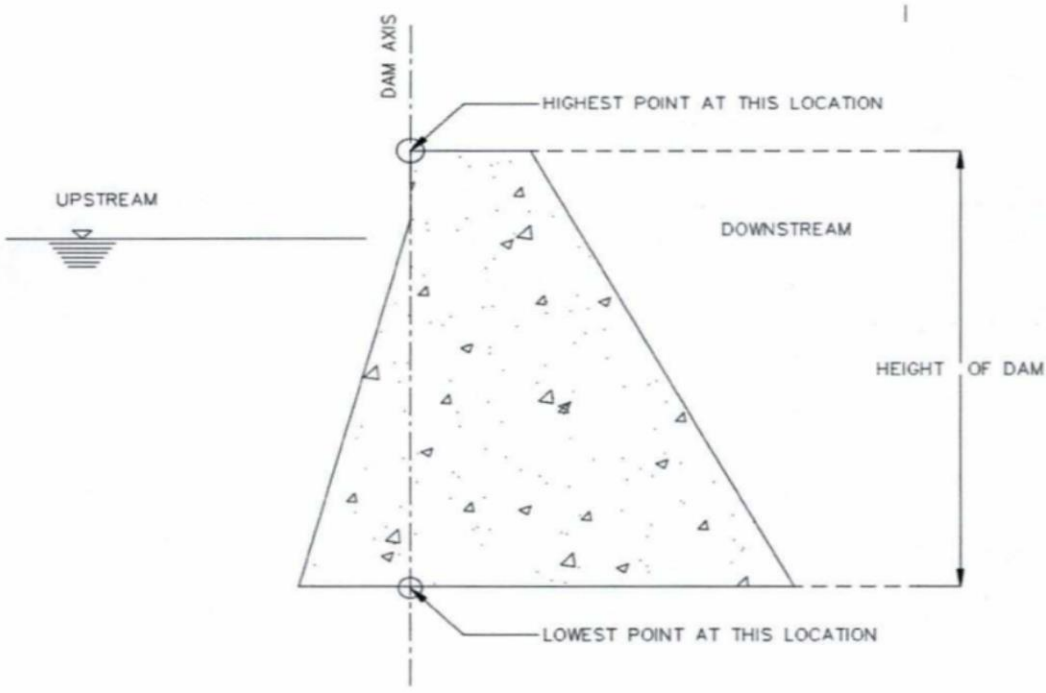
1. Concrete and Embankment Dams

"Top of Dam" and "Lowest portion of General Foundation Area" in case of Dams (Embankment or Solid Gravity including Earthen embankment, Rockfill, Masonry, Concrete, CFRD, RCC etc.) shall be considered at Dam axis (i.e. A vertical plane passing through Upstream edge of Dam crest) (Figure 1 & 2)



EMBANKMENT DAM

Figure 1



CONCRETE GRAVITY DAM

Figure 2

A. Top of Dam (Figure 1 & 2)

i. While determining highest point of Dam, any parapet or railing shall be neglected.

ii. Highest point of Dam shall not be lower than FRL + corresponding Freeboard or MWL + corresponding freeboard.

B. Lowest portion of general foundation area of Dam:

a) For concrete dams (Figure 2):

The lowest foundation level at which Dam axis (as defined above) meets the foundation level. However, any local dental excavation for preparing the dam foundation as well as cut off trench (if any provided) shall be neglected.

b) For Embankment Dams (Figure 1):

The lowest foundation level at which Dam axis (as defined above) meets the river bed level. However, any local dental excavation for preparing the dam foundation as well as cut off trench (if any provided) shall be neglected.

2. Barrages

In case of Barrages, the top level shall be taken as a level higher of the following:

i) Pond Level+ Provided Freeboard limited to 2.0 m

ii) High Flood Level+ Provided Freeboard limited to 1.50 m

For determining lowest portion of General foundation area, a vertical plane passing through upstream edge of Service Gate Seal shall be considered. (Figure 3)

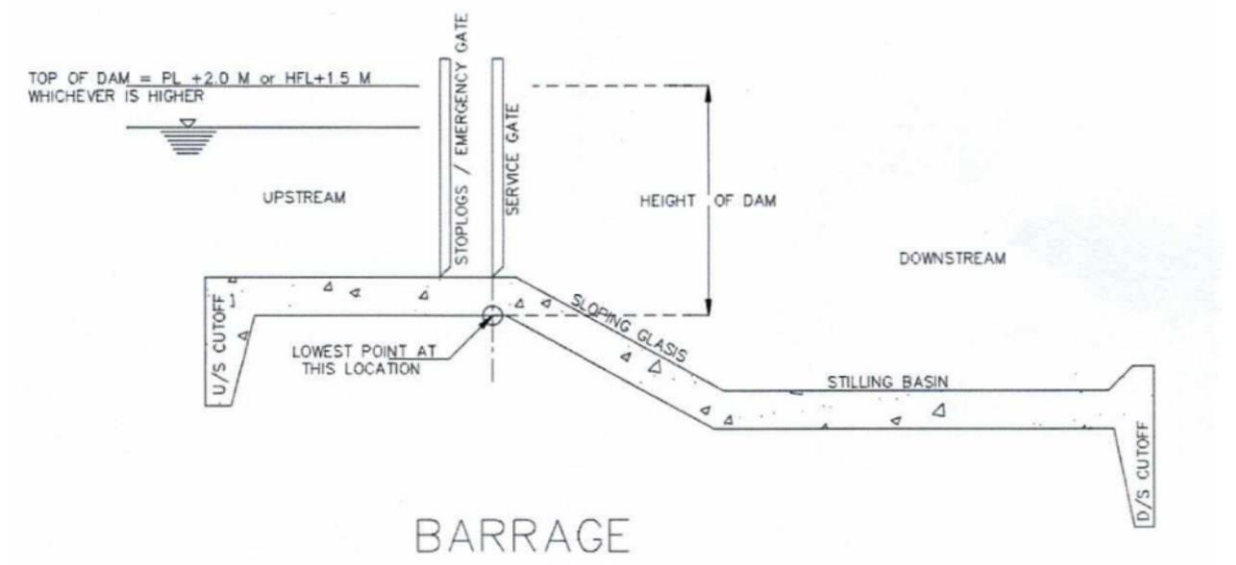


Figure 3