

Section 10 - Flood Elevation Requirements

I. Introduction - Localities in Hampton Roads have adopted flood elevation freeboard design criteria that exceed FEMA flood elevations. The required freeboard affects finished floor elevation in these localities, including those on HRSD projects. To comply with the Locality requirements and to consider Sea Level Rise, this standard will cover the process to determine the climate change protection level for HRSD projects.

II. Definitions

- Freeboard - the calculated difference between the finished floor elevation and the FEMA Base Flood Elevation for the 100-year storm
- BFE - Base Flood Elevation
- EWL (100yr) - Extreme Water Level for the 100-year storm event

Flood Zone definitions can be found on the FEMA website, <https://www.fema.gov> under "Flood Zones"

III. Locality Code Requirements

The freeboard and finished floor elevation requirements should be verified with the locality in question for each project when initiated. Localized drainage conditions should also be considered for each project when setting the elevation for new buildings or structures.

The following example is for freeboard construction requirement in the City of Hampton at the HRSD Bridge St. PS Location. Note that it may not represent the current construction standards for the example Locality.

Hampton Freeboard, Zone AE: FEMA Base Flood + 3'

IV. Asset Protection Requirements

Any new structure shall be constructed in a resilient manner with the ability to add mitigation measures at an appropriate future date. For facilities that need a maximum protection level of 4-feet above the finished floor, building walls can be constructed from reinforced CMU. For structures that require protection levels beyond the 4-feet, building walls should be constructed from reinforced concrete.

V. All new facilities shall build the first floor in accordance with the Locality Freeboard requirements. Additional construction measures shall be in accordance with Section D. of this standard. Please contact Engineering Planning and Analysis Division for additional information on the flood elevations by sending in a request to the **ModelingRequest@hrsd.com** email with a project description and location map.

End of Section