

### **62S-7.012 SLIP Study Standards.**

A SLIP study required under Section 161.551, F.S., shall meet the following standards and criteria, and the Department's web-based tool has been designed to meet these standards and criteria:

(1) Show the amount of sea level rise expected over 50 years or the expected life of the structure, whichever is less. When there are multiple project features that function as one combined project, as contemplated by Section 161.551(3), F.S., one SLIP study may be submitted, but the expected life shall be that of the highest Risk Category for all project features contemplated. The amount of sea level rise expected must be calculated using the following criteria:

(a) The sea level rise scenarios used for analysis must, at a minimum, include the NOAA Intermediate-High sea level rise scenario from the National Oceanic and Atmospheric Administration (NOAA) report, "2017 NOAA Technical Report National Ocean Service Center for Operational Oceanographic Products and Services (NOS CO-OPS) 083, Global and Regional Sea Level Rise Scenarios for the United States," hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13153>. Copies of these documents may be obtained by writing to the National Oceanic and Atmospheric Administration, National Ocean Service, Center for Operational Oceanographic Products and Services, Silver Spring, Maryland 20910.

(b) The local sea level rise at the project's location must be interpolated (using the project's distance away from the gauges as the independent variable) between the two closest coastal tide gauges with NOAA sea level rise projections listed below.

1. 8670870 Fort Pulaski, GA
2. 8720030 Fernandina Beach, Florida
3. 8720218 Mayport, Florida
4. 8721604 Trident Pier, Florida
5. 8723214 Virginia Key, Florida
6. 8723970 Vaca Key, Florida
7. 8724580 Key West, Florida
8. 8725110 Naples, Florida
9. 8725520 Fort Myers, Florida
10. 8726520 St. Petersburg, Florida
11. 8726724 Clearwater Beach, Florida
12. 8727520 Cedar Key, Florida
13. 8728690 Apalachicola, Florida
14. 8729108 Panama City, Florida
15. 8729840 Pensacola, Florida
16. 8735180 Dauphin Island, AL

(c) Flood depth must be calculated in North American Vertical Datum of 1988 (NAVD88) over the entirety of the project location out 50 years or the structure's expected life, whichever is less, for the NOAA Intermediate high sea level rise scenario, at a minimum.

(d) The contribution of land subsidence to relative local sea level rise must be included. The land subsidence contribution is calculated by NOAA for each local tide gauge and is included in each of the NOAA sea level projections. This data (labeled VLM for Vertical Land Movement) is presented in the U.S. Army Corps of Engineers (USACE) sea level change calculator (Version 2019.21) found at [https://cwbi-app.sec.usace.army.mil/rccslc/slcc\\_calc.html](https://cwbi-app.sec.usace.army.mil/rccslc/slcc_calc.html), hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13154>.

(2) Show the amount of flooding, inundation, and wave action damage risk expected over 50 years or the expected life of the structure, whichever is less. The amount of flooding and wave damage expected must be calculated using the following criteria:

(a) FEMA storm surge water surface elevation for the 1% annual chance (100 year) flood event must be approximated in NAVD88 for the entire project location. Location-specific water surface elevations can be found within the SLIP tool or at the FEMA Flood Map Service Center <https://msc.fema.gov/portal/home>, hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13156>. Copies of these documents may be obtained by writing to the Office of Resilience and Coastal Protection, Mail Station 235, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Blvd., Tallahassee, Florida 32399-3000.

(b) The FEMA 1% annual chance water surface elevation must be added to the NOAA 2017 Intermediate-High and any other chosen sea level rise scenario, and then compared to the project's critical elevations to assess flood risk. Critical elevations must be

Finished First Floor Elevation (FFE), the Lowest Adjacent Grade (LAG) of the structure, or another critical design element which may be substantially damaged if flooded. Refer to the 2020 Florida Building Code, Section 1603.1.7, Flood Design Data, for assistance in defining the critical elevation at [https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1\\_Ch16\\_Sec1603.1.7](https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1_Ch16_Sec1603.1.7), hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13157>. Copies of these documents may be obtained by writing to the Office of Resilience and Coastal Protection, Mail Station 235, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Blvd., Tallahassee, Florida 32399-3000.

(c) Depth-Damage Curves from the 2015 North Atlantic Coast Comprehensive Study, titled “Resilient Adaptation to Increasing Risk: Physical Depth Damage Function Summary Report”, hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13158>. Copies of these documents may be obtained by writing to the Office of Resilience and Coastal Protection, Mail Station 235, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Blvd., Tallahassee, Florida 32399-3000, must be used to estimate the cost of future flood damage, for vertical construction only, by assessing the approximate flood depth within the structure, using the comparison of the critical elevations to the previously calculated 1% annual chance water surface elevation added to the NOAA 2017 Intermediate-High and any other chosen local sea level rise scenarios.

(3) The state-financed constructor must show the risk to public safety and environmental impacts expected over 50 years or the expected life of the structure, whichever is less using the following criteria.

(a) Each structure must be assigned a Risk Category using the 2020 Florida Building Code Table 1604.5, Risk Category of Buildings and Other Structures. The table can be found at [https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1\\_Ch16\\_Sec1604.5](https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1_Ch16_Sec1604.5), hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13159>. Copies of these documents may be obtained by writing to the Office of Resilience and Coastal Protection, Mail Station 235, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Blvd., Tallahassee, Florida 32399-3000.

(b) The ultimate design windspeed for the project location must be provided to define the risk of flying debris. This windspeed varies based on the Risk Category of the building and can be found in Figures 1609.3(1), 1609.3(2), 1609.3(3), and 1609.3(4) in the 2020 Florida Building Code at: [https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1\\_Ch16\\_Sec1609.3](https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1_Ch16_Sec1609.3), hereby incorporated by reference <http://www.flrules.org/Gateway/reference.asp?No=Ref-13160>. Copies of these documents may be obtained by writing to the Office of Resilience and Coastal Protection, Mail Station 235, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Blvd., Tallahassee, Florida 32399-3000.

(4) Alternatives must be provided for the project’s design and siting and the SLIP study must state how such alternatives would address public safety and environmental impacts, including but not limited to, leakage of pollutants, electrocution and explosion hazards, and hazards resulting from floating or flying structural debris as well as the risks and costs associated with construction, maintenance and repair of the structure.

(5) If a state-financed constructor chooses to conduct its own SLIP study and not use the Department’s web-based tool, the SLIP study shall be submitted to the Department for publication via secure sign-in on the DEP-provided website. The study report shall be in an Americans with Disabilities Act (ADA) Section 508 compliant portable document format. The report contents shall include, but not be limited to, a description of the approach used in conducting the study, numbered references to the information used in the study, a narrative with graphic illustrations to demonstrate the application of the study approach to the information used, and a discussion of the assessments and alternatives.