



# State of Maryland Climate Change and *Coast Smart* Construction Infrastructure Siting and Design Guidelines

January 2014



580 Taylor Avenue  
Annapolis, MD 21401  
Toll Free in MD: 1-877-620-8DNR

[dnr.maryland.gov](http://dnr.maryland.gov)

The facilities and services of the Maryland Department of Natural Resources are available to all without regard to race, color, religion, sex, sexual orientation, age, national origin or physical or mental disability.

This document is available in alternative format upon request from a qualified individual with a disability.

DNR 14-1232013-676-1/14

# State of Maryland

- Maryland Commission on Climate Change, Adaptation and Response Group
  - Climate Change & Smart Coast Construction Working Group
  - Predecessor Report:  
*Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change - Phase 1: Sea-level rise and coastal storms*
- Outgrowth of Executive Order



# Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change

Phase II: Building societal, economic, and ecological resilience



REPORT OF THE MARYLAND COMMISSION ON CLIMATE CHANGE  
ADAPTATION AND RESPONSE AND SCIENTIFIC AND TECHNICAL WORKING GROUPS

# State of Maryland Climate Change and *Coast Smart* Construction Infrastructure Siting and Design Guidelines

January 2014



580 Taylor Avenue  
Annapolis, MD 21401  
Toll Free in MD: 1-877-620-8DNR

[dnr.maryland.gov](http://dnr.maryland.gov)

The facilities and services of the Maryland Department of Natural Resources are available to all without regard to race, color, religion, sex, sexual orientation, age, national origin or physical or mental disability.

This document is available in alternative format upon request from a qualified individual with a disability.

DNR 14-1232013-676 4/14

# Overview

- Recommendations for construction in areas vulnerable to coastal flooding
  - Construction practices
  - Siting guideline
  - Design guidelines
- Applicable to new, reconstructed, rehabed state structures and other public infrastructure
  - Roads, bridges, sewer & water systems, drainage systems, public utilities

# Overview

- Recommendations for construction in areas vulnerable to coastal flooding
  - Construction practices
  - Siting guideline
  - Design guidelines
- Applicable to new, reconstructed, rehabed state structures and other public infrastructure
  - Roads, bridges, sewer & water systems, drainage systems, public utilities

# Guidelines Summary

## COAST SMART CONSTRUCTION PRACTICES

**SITING GUIDELINES**

- New State structures, the reconstruction of substantially damaged State structures, and/or other new major infrastructure projects should be avoided within areas likely to be inundated by sea level rise within the next 50-years.
- New State "critical or essential facilities" shall not be located within Special Flood Hazard Areas designated under the NFIP and should be protected from damage and loss of access as a result of a 500-year flood.
- Ecological features that may serve to buffer a project from the impacts of future sea level rise, coastal flooding or storm surge or that support general climate adaptation practices, shall be identified, protected and maintained.

*Exceptions to these guidelines may be considered, provided that it can be demonstrated that projects have been designed to increase resiliency to future impacts.*

**DESIGN GUIDELINES**

- New State structures, the reconstruction of substantially damaged State structures, and/or other new major infrastructure projects shall be designed to avoid or minimize future impacts over the anticipated design life of a project.
- New State structures and the reconstruction or rehabilitation of substantially damaged State structures located in Special Flood Hazard Areas shall be constructed with a minimum of two (2) feet of freeboard above the 100-year base flood elevation, as defined by NFIP.
- State structures serving transportation purposes that are not water dependent or dependent on integral infrastructure shall be constructed with a minimum of two (2) feet of freeboard above the 100-year base flood elevation, as defined by the NFIP.
- Flooding potential should be considered when choosing building materials for all structural projects, including minor improvements or maintenance and repair.
- Structures and infrastructure proposed within a Limit of Moderate Wave Action boundary as mapped under the NFIP, shall be designed in compliance with construction standards applicable for V Zones.

*Exceptions to these guidelines may be warranted based on consideration of certain factors.*

# Other Recommendations

- State agency oversight
- Agency-specific implementation plans
- “Exception” process to siting requirement
- Ties to state loan and grant programs
- Tracking and reporting
- Funding
- Emphasis on maintaining integrity of natural systems