

Draft CVPDC Hazard Mitigation Plan 2020 Update Regional Goals, Objectives & Strategies

The following present the Draft goals, objectives, and strategies, or actions, that have been identified to lessen the vulnerability and impact of natural hazards to individuals and property in the region. These regional actions represent a menu of actions that area localities may execute, along with specific locality mitigation strategy list.

Draft Public Information & Outreach: 4 Objectives; 22 Strategies

Public Information and Outreach – Activities to inform residents, property and business owners, organizations about strategies to evaluate and actions to lessen vulnerability of individuals and property from natural hazard impacts (e.g. education campaigns, websites, demonstration events).

Public Information & Outreach (I) Goal: Increase hazard awareness and preparedness activity participation by area individuals, property, and businesses.

- I Obj 1: Develop diverse and regionally-consistent hazard preparedness information and actions for public, businesses and organizations to educate, lessen impact and increase safety during and after natural hazards.
1. Provide information and encourage installation of hazard preparation kit/materials (NWS Storm Ready) at critical facilities (e.g. schools, residential facilities), homes, organizations and businesses.
 2. Provide information to businesses on tools to develop emergency action plans.
 3. Develop a preparedness and mitigation action campaign, including social media, radio, written and other outreach formats to be distributed throughout the region. Ensure campaign includes development of materials to serve persons with special needs (e.g. sensory), language barriers, or other barriers are included.
 4. Provide information on and promote safe sheltering in place practices.
 5. Support preparedness training and readiness evaluations to organizations that serve special needs. Include coordination with agencies (e.g. Center for Independent Living) to encourage persons with special needs to register with local emergency management and assist in disaster preparedness materials to meet sensory or communication needs.
- I Obj 2: Provide property evaluation and maintenance best practices to minimize impact from drought, high temperatures, wind, storms.
6. Develop a property review and maintenance evaluation tool. Include information on septic system maintenance, property clean up strategies and recommended practices, tree trimming and removal recommendations, low/wet area evaluation, flammable material/chemical storage, and where to learn more.
 7. In partnership with Virginia Cooperative Extension, Soil & Water Conservation Districts, provide information on water conservation practices, shade tree tips, and draught tolerant and native plants.
 8. Provide information, especially to residents and businesses in forested areas, on actions to minimize property loss and vulnerability from forest fires.
 9. Provide property evaluation and implementation practices, such as tree removal and trimming recommendations, to lessen property damage during high winds.
 10. Make available information on well, springs, and other water resource preservation practices, funding and technical assistance programs.
- I Obj 3: Provide information to lessen impact and support timely recovery from flood and stormwater hazard impacts.
11. Utilize existing FEMA, VDEM, National Weather Service (NWS) and National Flood Insurance Program (NFIP) materials to increase awareness of and participation in flood insurance.
 12. Partner with area insurance companies, realtors, lenders, and homeowner's associations to share NFIP insurance information to citizens, property owners.
 13. Hold property owner workshops to provide stormwater best management practices (e.g. raingardens, French drains, rain barrels) information.
 14. Establish or update local flood studies or maps that provide easily identifiable and understandable property identification for the public to evaluate area vulnerable properties and areas.
 15. Establish or update a method for the public to report on areas with regular stormwater, flooding or standing water problems.
 16. Provide regular notices to property owners of structures in floodplain or stormwater impacted areas on insurance and property protection information.
 17. Install high water marks, high water crossing roadway signage or messaging campaigns.

18. Expand education on best practices to protect wells from heavy rain (e.g. sediment, turbidity) and information on public testing and assistance programs.

I Obj 4: Develop or provide tools to lessen *fire hazard impacts*.

19. Provide information, through workshops or education campaign, , actions (e.g. Fire Wise program) to minimize property loss and vulnerability from forest fires; target forested and isolated residents, organizations, businesses, and public spaces (e.g. campgrounds).
20. Provide information to residents and businesses on best practices to secure flammable materials and chemicals.
21. Provide education to property owners on essential devices (e.g. Smoke detectors) to have in every home and how to properly maintain and use devices.
22. Evaluate or develop evacuation plans, and where necessary provide necessary improvements, to ensure safe evacuation of isolated communities.

Draft Prevention Capacity: 6 Objectives; 30 Strategies

Prevention Capacity (C) – Actions to reduce a community’s current and future vulnerability to hazard impacts through planning, data evaluation, organization coordination, regulatory programs, voluntary incentives, sustained oversight, and maintenance programs.

E.g. - Stormwater Plans, Zoning Regulations, Drainage Maintenance, Development regulations

Prevention Capacity (C) Goal: Through governmental operations, planning, voluntary and regulatory programs (e.g. code enforcement), and maintenance practices lessen hazard impacts.

C Obj 1: Encourage agency and department coordination and participation in national programs to advance mitigation measure implementation.

1. Introduce existing rating and certification programs (e.g. Community Rating System/CRS) and encourage locality participation.
2. Encourage participation in national rating, insurance (e.g. NFIP), or certification programs (e.g. Community Rating System) by area localities.
3. Establish and maintain mitigation activity review and evaluation schedule with locality and organizational stakeholders. Add additional strategies as necessary and initiate annual workshop on mitigation funding and program practices
4. Provide training for and, where necessary, purchase tools for Building Officials, planning, public works, water resources staff that support mitigation program capacity.

C Obj 2: Reduce hazard vulnerability to residents, property, and natural resources through planning, zoning, ordinances, data development, land use regulations and other programmatic activities.

5. Encourage coordination and incorporation of hazard mitigation practices within local (e.g. Comprehensive Plans) and regional planning documents & initiatives.
6. Utilize existing or expand data capacity to assist in mitigation program analysis and project implementation.
7. Evaluate development standards and encourage practices that minimize stormwater impacts.
8. Encourage water supply and ground water protection through zoning tools to inform development standards.
9. Support practices (e.g. tax incentives, easement program) that preserve land in environmentally sensitive areas.
10. Encourage development of local or regional Resiliency Plans.
11. Continue to update identification and mapping of critical facilities to support response and access services during and after disasters.
12. Develop, where appropriate, Emergency Action Plans, including preparedness and evacuation routes, for sensitive residential facilities (e.g. assisted living facilities), industrial parks and isolated communities.
13. Evaluate and seek opportunity to execute regional partnerships to facilitate efficient emergency communication and response capabilities between the region’s emergency response departments.

C Obj 3: Support and execute programs and projects to lessen impact from *flood and stormwater hazards*.

14. Initiate hydrologic and hydraulic studies, site evaluations, area stormwater management plans to reduce or eliminate flooding problems.
15. Develop routine stormwater system evaluation and maintenance schedule and funding program.
16. Utilize or establish programs (e.g. relocation, buyout, elevation) to minimize the impact of chronic flooding or habitual standing water.

17. Support, partner, or execute programs that educate or incentivize private property owners to employ stormwater best management practices (e.g. impervious pavement) on their property.
 18. Use land use and zoning practices within flood-zone areas to limit development and provide location for public open spaces.
 19. Coordinate with public works, transportation, planning, water resources, building departments to review and incorporate practices that minimize stormwater impacts (e.g. improved ditching, install larger culverts, increase drainage piping, grassed waterways).
- C Obj 4: Support and execute programs and projects to lessen impact from fire hazards.
20. Encourage planning and implementation projects that evaluate properties and provides fire protection and suppression recommendations.
 21. Encourage building codes and zoning that support wildfire mitigation and fire wise practices with woodland and rural areas.
 22. Encourage building codes and maintenance regulations that support fire property protection within urban and suburban areas.
 23. Encourage preplanning and site visits based on Tier II reporting information.
 24. Support initiatives that allow for access to and integration of technology tools in mitigation and emergency response activities.
- C Obj 5: Support and execute programs and projects to lessen impact from extreme temperatures, drought hazards.
25. Encourage planning initiatives or implementation projects that improve water source data, identifies or provides increased storage capacity.
 26. Establish and execute water conservation practices to protect water resources.
- C Obj 6: Support and execute programs and projects to lessen impact from severe weather and high wind hazards.
27. Support street tree evaluation, trim, or replacement as integral to public works, street, and infrastructure projects to reduce power outages and access delays.
 28. In partnership with public works, VDOT, and emergency services, execute route evaluation, maintenance and clearing practices that support access to critical facilities.
 29. Support and encourage projects that provide for underground utilities.
 30. Develop and enhance locality debris management plans.

DRAFT Property Protection: 5 Objectives; 24 Strategies

Property Protection (P) – Measures to fortify structures to better withstand hazards, or practices that reduce or eliminate impacts through property or infrastructure relocation, removal, or refits.
E.g. - Acquisition, Building Retrofits, Relocation

Property Protection Goal: Support property and infrastructure fortification programs and projects to lessen hazard impacts to lives, property, and infrastructure.

- P Obj 1: Support fortification measures that increase hazard resiliency of property, public infrastructure, critical facilities, and public spaces.
1. Evaluate or execute retrofit measures necessary to reduce service disruption and facility damage.
 2. Evaluate the need for, and where necessary, purchase, backup or secondary generators, or other devices (e.g. Quick Connect) to support continued critical facility use.
 3. Develop vulnerability analysis, security plans, and protection measures to harden public utilities, critical facilities, public spaces, essential facility data, and other essential resources to reduce vulnerability from natural, cyber, other technological hazards.
- P Obj 2: Support fortification measures to lessen impact to residents, property, and infrastructure from flooding (riverine, flash floods) hazards.
4. Initiate studies or execute elevation, relocation, or acquisition measures, especially in area of repetitive flooding, to reduce or eliminate flooding hazard to lives, property and financial impacts to families and communities.
 5. Utilize property retrofitting measures to protect structures from flood damage (e.g. installing sewer backflow valves, berms, wet-proofing, sump pumps, energy system elevation).
 6. Support or offer incentives (e.g. tax or program rebates) to property owners that install flood-proofing retrofits, structure elevation or relocation.
 7. Install flood elevation markers in recurring flood-prone areas in the region to remind and encourage property and business owners to purchase flood insurance.

8. Conduct routine cleaning and maintenance of stormwater infrastructure.
 9. Coordinate with transportation and site improvement projects to incorporate practices that minimize stormwater impacts (e.g. improved ditching, install larger culverts, increase drainage piping).
 10. Support the assessment, purchase and use of stormwater performance equipment to guide stormwater/flooding evaluation and implementation activities.
 11. Evaluate and implement stormwater control practices (e.g. stabilization, channelization) practices to divert/control stormwater impacts.
- P Obj 3: Support fortification measures to lessen impact to residents, property, and infrastructure from high wind hazards.
12. Establish a regular street tree evaluation, trim and replacement schedule along powerlines and primary commuter routes to reduce power outages, reduce access delays, and provide community cooling.
 13. Where appropriate, encourage or execute co-location or burial of electrical, phone and cable lines.
- P Obj 4: Support fortification measures to lessen impact to residents, property and infrastructure from fire, high temperatures, and extreme drought hazards.
14. Increase awareness and support utilization of fire-resistant building materials and development practices.
 15. Seek funding and technical assistance programs to assist in establishing sustainable property evaluation and protection actions.
 16. Encourage collaboration with agency partners for prescribed burning in vegetative and high-risk areas.
 17. Evaluate the need for dry hydrant location opportunities; where needed install.
 18. Initiate water supply studies, execute water facility improvements (e.g. looping systems), or install source features , especially in areas not served by public utilities.
 19. Seek opportunities to install primary or secondary water sources at farms, critical facilities, and other facilities to ensure access during drought, fire, or other emergency situations.
 20. Seek opportunities to install primary or secondary cooling devices, water storage, and other readiness measures at critical facilities.
 21. Establish a regular street tree evaluation, trim and replacement schedule to support community cooling.
- P Obj 5: Evaluate and seek opportunities to enhance or install emergency communication systems.
22. Continue to enhance emergency warning systems and encourage residents and businesses to participate in local emergency warning programs.
 23. Evaluate opportunities, and where appropriate, install audible warning systems.
 24. Seek opportunity to execute regional Public Safety Answering Point (PSAP) equipment/generator(s) to support communication and response capabilities between the region's emergency response departments.

Draft Structure Projects: 3 Objectives; 11 Strategies

Structural Projects (S) – Measures that lessen hazard impacts through modification of existing or construction of new structures of a size and range that they generally require design, engineering, permitting, extensive construction, and long-term management and maintenance requirements by a locality, state and/or federal agency, organization or business.

E.g. - Dam stabilization, reservoirs/catchment basins, storm sewer construction

Structural Projects (S) Goal: Execute measures that significantly lessen the impact of natural hazard impact to lives, communities, property, and infrastructure in the region.

- S Obj 1: Study, design and execute measures to *preserve and expand existing structures or construct new features that lessen the impact of flooding* on lives, property, communities, critical facilities and infrastructure.
1. Evaluate, maintain, and execute necessary improvements to public dams.
 2. Evaluate, maintain, and execute necessary stormwater system, water system, or sanitary sewer system protection or upgrades.
 3. Evaluate, design, and execute structural measures that reduce the impact of flooding, riverine and stormwater.
 4. Implement flood protection measures, including green infrastructure practices, in coordination with infrastructure upgrade projects.

- S Obj 2: Advance transportation network connectivity and mode options to support emergency access and evacuation and corridor options to minimize economic impact to communities and businesses.
5. Evaluate, design and repair bridges, culverts, and other roadway features to support safe access and evacuation and reduce flooding impacts to roadway infrastructure.
 6. Evaluate, and where appropriate, install transportation facilities or mode improvements to accommodate emergency access or evacuation options.
- S Obj 3: Study, design and/or construct measures that lessen drought, high temperatures, drought, and fire hazard impacts on residents, property, critical facilities, businesses, working landscapes.
7. Evaluate and execute water distribution, storage, or other facility.
 8. Evaluate the water source storage needs and develop, where needed storage, in isolated woodland and rural areas. .
 9. Incorporate trees and other land use practices that will support cooling measures within infrastructure improvement projects.
 10. Evaluate, and where needed install, dry hydrant locations in the region’s woodland and rural areas.
 11. Seek opportunities for water shuttle or tender operation resource expansion.

Draft Natural System Resiliency: 3 Objectives; 8 Strategies

Natural System Resiliency – Activities that maintain, restore, or preserve the function of natural resources to reduce hazards impact on life, property and infrastructure in the region.

E.g. – Streambank and Slope Stabilization, Fire Resistant Landscapes, Wetland Restoration

Natural System Resiliency (R) Goal: Preserve the function and resiliency of the region’s natural resources and sensitive landscapes.

- R Obj 1: Protect the function of area rivers, riverbanks, water resources, and wetlands.
1. Evaluate and implement streambank stabilization practices to protect public utilities, infrastructure, transportation, property, neighborhoods or sensitive natural resources.
 2. Evaluate, support and establish programs that preserve open space and natural resources.
 3. Seek opportunities to coordinate with existing resource protection programs to target studies or implement protection practices in sensitive resource areas.
 4. Pursue conservation grants and programs that protect natural areas, especially those in and near flood-prone areas.
- R Obj 2: Preserve working landscapes, open spaces, and steep slopes to minimize natural hazard impacts.
5. Support programs (e.g. loan, grants) that assist farmers, organizations, localities maintain open spaces and/or working landscapes.
 6. Minimize development in large open space tracks, sensitive landscapes, or steep slopes.
- R Obj 3: Implement measures to preserve area forest lands.
7. Partner with Forest Service, local officials, and other organizations to execute regular evaluation and necessary mitigation actions (e.g. controlled burning, debris removal) to reduce wildfire impacts to forested areas, property, and businesses.
 8. Evaluate or execute fire zone practices at public parks or other public spaces.