

# Long-Term Recovery Plan

Virginia Commonwealth University

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Professional Plan Spring 2014

Masters of Urban and Regional Planning Program  
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Virginia Commonwealth University



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Prepared For:  
Virginia Commonwealth University Office of Emergency Preparedness

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## Introduction

### **VCU's Office of Emergency Preparedness**

Virginia Commonwealth University's (VCU) Office of Emergency Preparedness coordinates the emergency management program at the university, including all planning, preparedness, exercises and training to ensure the VCU community is prepared to respond to and recover from disasters or other threats. This office is primarily responsible for implementation of the Long-Term Recovery Plan. Adam Crowe, office director, is ultimately responsible for the implementation timeline. The Long-Term Recovery Plan will become part of VCU's Emergency Management Strategy and will be specifically placed under VCU's Emergency Management Framework alongside Emergency Operations, Hazard Mitigation and Continuity Plans.

VCU has committed a responsibility to its faculty, staff and students to be prepared for the future, including preparedness for potentially catastrophic events. The Office of Emergency Preparedness at VCU has prepared a Hazard Mitigation Plan and a Continuity Plan within the Emergency Management Framework. The Hazard Mitigation Plan is the first plan in a series of proactive steps to reduce the impact of disasters and avoid future losses and disruptions. The purpose of VCU's Continuity Plan is to provide a framework to continue or rapidly restore mission essential functions in the event of an emergency that effects operations. The Continuity Plan recuperates essential functions in the thirty days immediately following a destructive event. In order for VCU to have a complete and comprehensive emergency management strategy, the last piece of planning is development of this Long-Term Recovery Plan to address recovery issues and strategies after the scope of VCU's Continuity Plan.

## **History of Disasters**

Recent history has proven the need for long-term recovery planning for both natural and human-caused disasters. In 2005 Hurricane Katrina decimated New Orleans and its surrounding area, leaving billions of dollars of damage in cities and towns. Due to the unprecedented scope of the hurricane, the administration and Board of Trustees at Tulane University, New Orleans' premier urban university, were faced immediately with securing the survival and recovery of the institution. Instead of allowing disaster destroy Tulane's 172 year legacy, the institution decided to redefine and renew itself for the future with a post disaster renewal plan. Natural disasters such as an earthquake in Haiti that affected 3 million people and, most recently in 2013, Typhon Haiyan devastating much of the Philippines, are more examples of the destructive power and unpredictability of Mother Nature.

Human caused disasters are a contributing factor to the need for long-term recovery planning as well. An example of a human caused disaster is 2007's Virginia Polytechnic Institute and State University (Virginia Tech) campus shooting. The shooter devastated Virginia Tech by killing 32 people and injuring others. The destruction caused by this disaster didn't affect the physical infrastructure of the campus but it destroyed the reputation and emotional health of Virginia Tech's community base. Another human caused disaster is the 2014 Elk River chemical spill in Charleston, West Virginia. Not only is the spill an ecological disaster, the contaminated Elk River has connections to the Kanawha County water supply and left hundreds of thousands without drinking water and temporary closing down dozens of businesses.

The examples above demonstrate a very real need for long-term recovery planning. The goal for VCU is to have a post-disaster long-term recovery plan prepared to provide over-arching recovery strategies in the event of a man made or natural disaster, facilitating redevelopment of the university's social, emotional, administrative and infrastructural framework.



## **Purpose of Plan**

The main idea behind long-term recovery is not to simply return to pre-disaster conditions, but to use the disaster as an opportunity to transform the VCU campus. These transformations are outlined by VCU's commitments to diversity, the environment, to excellence in education, and to actualize its quest for distinction. The intention of the Long-Term Recovery Plan is to provide VCU with a framework for long-term recovery to aid the advancement of its campuses. The plan will restore and embolden systems that have propelled VCU along its path for its Quest for Distinction in the event of a catastrophic disaster. The Long-Term Recovery Plan establishes a post-disaster vision with overarching recovery strategies for VCU, identifies projects best suited to achieve that vision, employs mechanisms and facilitates connections for implementation.

Long-term recovery is inherently something beyond immediate issues such as removing debris and power restoration. "Long-term" refers to the need to re-establish a healthy, functioning university community that will sustain VCU's commitment to its Quest for Distinction, adhere to its pledge to become a climate neutral campus by 2050 and promote its vision as a premier urban, public research university focused on student success.

## **Frequently Asked Questions**

How is disaster recovery achieved?

Although it is impossible to ever be "fully recovered" from a disaster, it is possible to maximize recovery efforts. To achieve disaster recovery, is important to have an active plan that maximizes opportunities for the VCU community to coordinate interrelated elements of housing, infrastructure, environment and culture to promote design and policy changes for future development.

Who is involved in disaster recovery?

This long-term recovery plan is primarily concerned with the VCU campus and will address recovery issues within its community. However, the nature of VCU as an urban campus will have an effect on the community of Richmond as well. After all, a disaster at VCU is also a disaster in downtown Richmond. It is important to recognize this partnership in order to fully integrate the recovery process. A successful public engagement process gives all residents in a disaster-impacted community, both on the VCU campus and off, a way to interact and provide their input on recovery development. It legitimizes the planning process, empowers residents and gives the community ownership of the process.

What does long-term recovery entail?

Initially the long-term recovery plan provides over-arching strategies that address VCU's key departmental units in the event of a catastrophic man made or natural disaster. Due to the integrated nature of the VCU campus with the City of Richmond and in order to maximize the likelihood of the plan's success, it is important to bolster and enrich current partnerships and networks as to support the campus in such an event. Equally important is seeking out new strategic partnerships and developing effective coordination strategies to aid the recovery of VCU. A broad and connected network of public, private and nonprofit entities may be needed to support recovery. VCU stakeholders will coordinate and leverage resources, capitalize on local knowledge and incorporate needs of the VCU community throughout the recovery process.

## **Road Map to the Document**

The following document provides strategies that will be used to strengthen VCU's academic, financial, cultural and emotional health as well as any infrastructural approaches not already detailed in other current plans of the university. The first section of this document will explain the history and necessity behind a need for a long-term recovery plan with historic examples of disaster and recovery. The second part of this document will answer questions outlined in the introduction with contextual answers, research methods and best practices. The last part will outline strategies VCU will adopt for its Long-Term Recovery Plan in order to promote its effort to become one of the few premier research universities with a complete, comprehensive emergency management framework. These strategies will serve to better the student experience and to provide security, promote the safety of every student, faculty and staff member on campus.

## Case Studies

Long-term recovery planning is a relatively new field and has a short professional history. In order to understand why long-term recovery is important, it is necessary to understand the contextual history of how it has developed by analyzing past plans. Long-term recovery planning has become more and more important as we are increasingly faced with disaster related challenges. Looking at the magnitude of other disasters and the different approaches each locality or organization takes to build their long-term recovery plans is the best way to inform VCU's pre-disaster long-term recovery plan.

CASE STUDIES IN THIS REPORT	
•	<b>Tulane University “A Plan for Renewal” 2005</b>
•	<b>Greensburg and Kiowa County “Long-Term Community Recovery Plan” 2007</b>
•	<b>City of Galveston, Texas “Long-Term Community Recovery Plan” 2008</b>
•	<b>City of Oakland, California “Long-Term Disaster Recovery Plan” 2009</b>
•	<b>Wilmington, Vermont “Long-Term Community Recovery Plan” 2012</b>

Table 1. Case Studies

The next few pages will provide a synopsis of each disaster to provide a contextual understanding of the scope of each plan. The following plans will demonstrate the significance in the development of long-term planning and how this particular plan will inform VCU's pre-disaster long-term recovery plan.



## **TULANE UNIVERSITY “A Plan for Renewal” 2005**

### **The Disaster:**

In August of 2005 one of the most deadly and destructive hurricanes hit the gulf coast of the United States. It was the costliest natural disaster and one of the five deadliest hurricanes in the history of the United States. Hurricane Katrina formed over the Bahamas on August 23, 2005 and crossed southern Florida as a moderate Category 1 hurricane, causing some deaths and flooding before strengthening rapidly in the Gulf of Mexico. The hurricane strengthened to a Category 5 hurricane over the warm Gulf water, but weakened before making its second landfall as a Category 3 hurricane on the morning of Monday, August 29 in southeast Louisiana. It caused severe destruction along the Gulf coast from central Florida to Texas, much of it due to the storm surge. The most significant number of deaths occurred in New Orleans, Louisiana, which flooded as the levee system catastrophically failed, in many cases hours after the storm had moved inland. Eventually 80% of the city and large tracts of neighboring parishes became flooded and the floodwaters lingered for weeks. However, the worst property damage occurred in coastal areas, such as all Mississippi beachfront towns, which flooded over 90% within hours, as boats and casino barges rammed buildings, pushing cars and houses inland, waters reaching 6–12 miles from the beach.

### **Significance to Long-Term Planning:**

Tulane University in urban New Orleans was hit particularly hard during the devastation of Hurricane Katrina. The school was forced to close for the second time in its 172-year history due to institutional and infrastructural damage. To combat losses caused by the storm and in an attempt to recover from the disaster, Tulane University implemented a “Renewal Plan” which was the first of its kind in the county for an urban university.

### **How it Informs VCU’s Long-Term Recovery Plan:**

Tulane’s Renewal Plan is the first recovery type post-disaster plan for an urban university in the United States. It will serve as a resource for informing VCU’s pre-disaster Long-Term Recovery Plan and be used as a template for determining which key



**Figure 1: Tulane University after Hurricane Katrina**

structures, departments and personnel will be instrumental in a successful recovery. The challenge with using this plan is that it was created as a reactionary plan and many of its elements are specific to the type of damage inflicted on the campus. Contextually, Tulane University knew its financial limitations after the disaster and a large part of its renewal plan deals with the restructuring of its academic department, administrative personnel and research facilities. In contrast, VCU has made a commitment to its students, staff and faculty to maintain its prestige as a premier university; one of the main goals for preparing a pre-disaster long-term recovery plan is to have strategies in place to avoid a major restructuring of the university.

## GREENSBURG AND KIOWA COUNTY, KANSAS “Long-Term Community Recovery Plan” 2006

### The Disaster:

On May 4, 2007, an EF-5 tornado estimated to be 1.7 miles wide with 205 mph winds struck the City of Greensburg and Kiowa County, Kansas. Damage to Greensburg was significant, with more than 90% of the structures in the community severely damaged or destroyed completely. Kansas Governor Kathleen Sebelius and President George W. Bush declared Kiowa County an official disaster area.

### Significance to Long -Term Planning:

The tornado leaving little to nothing undamaged meant the community had to rebuild entirely from scratch. The community encouraged its city council to develop a long-term recovery plan requiring all new construction to be built with the LEED platinum standard. This is the first community based and government backed plan to be implemented using the LEED platinum standard in the history of the United States.

### How it informs VCU's Long-Term Recovery Plan

Due to VCU's commitment to becoming a climate neutral campus by 2050, the Greenburg and Kiowa County Plan will be an indispensable tool in informing VCU's Long-Term Recovery plan in implementation techniques, green standards and community collaboration.



Figure 2: Greensburg, Kansas Green Recovery Campaign

## **CITY OF GALVESTON, TEXAS “Long-Term Community Recovery Plan” 2008**

### **The Disaster:**

On September 13, 2008, Hurricane Ike made landfall on Galveston Island, Texas. More than 75 percent of the structures in the community had damage impacts as a result of the storm. The area’s tourism industry was greatly impacted as all the shore’s piers were destroyed along with great impact to the small business district, many neighborhoods and public works.

### **Significance to Long-Term Planning:**

The manner in which Galveston approaches their recovery plan makes its plan a significant one. The guiding principles for their long term recovery plan are to a) build upon and retain things that have made Galveston a good place to live, work, raise a family, visit, retire and own a business, b) develop a Long-Term Community Recovery Plan that leads Galveston to a better place than it was on September 12, and c) address every aspect of life in Galveston. Recovery is not only about rebuilding infrastructure or housing, but must include the breadth of what makes Galveston a livable community. This plan is important in the development of long term recovery planning as it does not just focus on how to recover infrastructure and business but also places an emphasis on the emotional recovery and placemaking aspects of long term recovery, approaching the disaster as an opportunity for long term resiliency planning.

### **How it Informs VCU’s Long-Term Recovery Plan:**

Since VCU is an urban campus, the reconstruction of its buildings and resiliency of its curriculum will not be enough to fully address all recovery aspects. The inherent feeling and perception of safety on campus plays a key role in success of the university. Galveston’s plan will inform VCU’s plan by providing a guideline of how to address the emotional recovery process in order to help reclaim the perception of safety on campus. The Galveston plan addresses the issues of placemaking more than an aesthetic, but also a perceptual process. The plan provides techniques of how to parlay the disaster into a perceived and actual



opportunity for improvement within the community. VCU will utilize customized versions of these techniques in an effort to maximize the effectiveness of its Long-Term Recovery Plan.

### **CITY OF OAKLAND, CALIFORNIA “Long-Term Disaster Recovery Plan” 2009**

#### **Significance to Long-Term Planning:**

This plan is one of the first pre-disaster long-term recovery plans for a locality. It was prepared in reaction to disasters that the United States had suffered in subsequent years. This plan is of particular interest because it provides for the development of an action plan usable by local governments to facilitate financing issues, recovery of facilities, recovery of long-term housing and business.

#### **How it Informs VCU Long-Term Recovery Plan:**

VCU is not a local government but does control many of the same elements a small government would, namely housing, facilities and financing issues. The Oakland plan defines its “action plan” as a series of necessary steps that will need to be taken in order to recover from a catastrophic disaster. VCU will use Oakland plan as a template for its own customized action plan for housing, facilities and financing departments and provide direction for departmental ownership.

## **WILMINGTON, VERMONT**

### **“ Long-Term Community Recovery Plan” 2012**

#### **The Disaster:**

On August 28, 2011, Tropical Storm Irene dropped up to 15 inches of rain in Wilmington, causing the nearby river to rise nearly 27 feet into its downtown area, bringing nearly six feet of water into the main streets. The flood heavily damaged the areas businesses, historic structures dating as far back as 1863 and many popular downtown tourist attractions.



**Figure 3: Wilmington, VT after Hurricane Irene Wipes Out Bridge  
Downtown**

#### **How it will Inform VCU’s Long-Term Recovery Plan:**

The Wilmington plan focuses heavily on recovery of historic resources due to flood damage. VCU is a major landowner in some of Richmond’s most historically significant neighborhoods, thus the Wilmington plan provides adaptable strategies to appropriately recover historically important features. Additionally, the City of Richmond has a history of suffering damages from floods, whether from hurricanes, thunderstorms or inadequate sewer drainage, and the Wilmington plan addresses issues specific to disasters Richmond and VCU have faced and will likely face again.

## **How Disaster Recovery is Achieved for an Institution of Higher Education**

As mentioned in the introduction, it is impossible to ever be “fully recovered” from a disaster, but it is possible to maximize recovery efforts. The first way to begin achieving recovery is for VCU, as an institution of higher learning, to establish an emergency disaster readiness program. The program must identify critical functions, personnel, systems, equipment and resources to promoting public safety as well as maintaining the viability and sustainability of the institution as a robust business and community element. Using the plans in this program to inform VCU’s long-term recovery plan will ensure recovery efforts are adaptable and relevant to a myriad of situations.

### **VCU’s Emergency Management Framework**

In 2014, VCU and its Office of Emergency Preparedness developed an Emergency Management Framework. The framework is defined as a programmatic establishment of how VCU conducts an all-hazards emergency management program. It is built upon scalable, flexible and adaptable coordinating structures to align key roles and responsibilities across the institution. It describes specific authorities and best practices for management before, during and/or after an event that might disrupt the VCU community.

The Framework outlines five phases: Prevention, preparedness, response, recovery and mitigation. Each one of these phases has six parts: Definition, doctrine, core capabilities and analysis of current VCU strategies as well as a projection of future VCU strategies and mission milestones. The recovery phase is separated and defined into two stages: the initial immediate life saving actions defined as short-term recovery and the second stage which shifts efforts to assisting community members, restoring critical infrastructure and helping neighborhood businesses in meeting basic needs and returning to self sufficiency, defined as long-term recovery.

VCU’s Emergency Management Framework also establishes a list of core capabilities that parallel those capabilities established in the U.S. Department of Homeland Security’s Core Capabilities. By establishing a standardized set of roles and responsibilities, VCU emergency management activities can not only be more efficient, but can maintain operational and response interoperability with neighboring and support entities in the Commonwealth of Virginia. This list of core capabilities for VCU’s long-term recovery plan is as follows:

Housing & Residence Life	Natural & Historical Resources	Planning
Infrastructure Systems	On-Scene Security & Protection	Public Information &
Long-Term Vulnerability Reduction	Operational Communications	Warning
	Operational Coordination	Situational Assessment

The doctrine for long-term recovery, as defined in the framework is based on the following three areas:

- *Identify Needs and Resources*

Due to the complexity of a any recovery event, there will be an immediate need to ascertain the needs that exist within the VCU community, what has been impacted by the disaster and an audit of existing resources (internal and/or external), in order to begin to address recovery needs.

- *Inform Residents and Prevent Unrealistic Expectations*

A strong and effective communications strategy is critical during recovery processes to ensure VCU community members impacted by the event have realistic and reasonable expectations during the recovery process.



- *Incorporate Mitigation Measures and Techniques*

Successful short-term and long-term recovery is based on the identification of processes that not only restore the community, but also integrate mitigation and risk reduction concepts to contribute the long-term sustainability of the community.

### **VCU's Other Plans**

VCU has additional plans to help guide the long-term recovery plan in an effort to maintain consistency interdepartmentally:

- VCU maintains a Continuity of Operations Plan that identifies essential functions, critical equipment and acceptable recovery time and data objectives for operations. By Executive Order, this plan is reviewed annually by VCU staff.
- VCU Technology Services maintains a Disaster Recovery Plan with pre-identified recovery process objectives (RPOs) for identified critical technology systems. This plan also coordinates the identification and utilization of secondary data storage systems or record retention processes.
- The Intelligence & Prevention Guide establishes what protocols and systems are utilized to collect, aggregate and combine information and related intelligence that can be utilized for the prevention or reduction of risk to the VCU community.
- VCU maintains a Hazard and Risk Assessment (HIRA) that identifies more than 20 risks to the resources, infrastructure and day-to-day operations of Virginia Commonwealth University. The HIRA is updated every four years and covers all VCU components on the Monroe Park and MCV Campuses.

- VCU currently maintains an Emergency Preparedness Plan (EPP) that establishes the response roles & responsibilities for VCU's response units. This includes the purpose, scope and authority to respond to a disaster event at VCU as well as a concept of organization, concept of operation, emergency support functions and relationship to other response plans at VCU.
- VCU maintains a Hazard Mitigation Plan that details risks to the VCU community in great detail as well as vulnerable areas to those hazards. A mitigation strategy is included to address hazard areas and reduce the risk over time through structural and non-structural mitigation strategies
- VCU maintains a Hazard Identification & Risk Assessment (HIRA) as part of the All-Hazard Mitigation Plan. While it is reviewed annually, it does not necessarily get updated for routine and/or minor changes.



Figure 4: Richmond, VA Panorama

## The Driving Force Behind the Recovery Process

The process for planning must be interactive and inclusive in order to be flexible in the event of varying types of major disasters. FEMA's Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education states that due to the integrated nature of institutions of higher education, the planning process must be integrated as well. Key departments at VCU have been identified and their unit leaders have provided information and/or documentation from their specific unit to facilitate the development of the long-term recovery plan. The following chart details VCU's key departments and their unit's illustrative contribution to the planning process.

**Table 2: Illustrative Contribution to the Planning Process by Department**

DEPARTMENTS	ILLUSTRATIVE CONTRIBUTION TO THE PLANNING PROCESS
Academic Affairs	<ul style="list-style-type: none"><li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li><li>• Documented unit plan detailing department's priority during a disaster</li><li>• Development of virtual learning capabilities to ensure VCU's SACS accreditation in the event of an emergency</li><li>• Identification of research facility and faculty outsourcing</li><li>• Identification of unit plan for alternative academic space if current spaces are compromised</li></ul>
Business Services	<ul style="list-style-type: none"><li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li><li>• Identification of the department's primary objectives in the event of a disaster</li><li>• Identification of locations with capacity to support classes and related supplies</li></ul>

	<ul style="list-style-type: none"> <li>• Documented business strategies to remain a competitive premiere university in a catastrophic event</li> <li>• Identified strategies to make VCU more robust after a catastrophic event</li> </ul>
Finance	<ul style="list-style-type: none"> <li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li> <li>• Identified existing procedures for tracking employee time and issuing checks during disaster operations</li> <li>• Identified redundancy for financial systems including, but not limited to, cost and payment of emergency response and recovery operations</li> <li>• Identified resiliency with maintaining federal, state and research grants, gifts, donations etc.</li> </ul>
Real Estate	<ul style="list-style-type: none"> <li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li> <li>• Identified current, future and potential public and private partnerships for recovery efforts</li> <li>• Defined role for VCU's Real Estate Foundation in the event of an emergency</li> <li>• Developing strategy matrix for real estate partnerships in emergency situations</li> <li>• Identified acquisition opportunities for increased emergency operations redundancy as outlined in VCU's Master Plan 2013</li> </ul>
Risk Management	<ul style="list-style-type: none"> <li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li> <li>• Identified high-level recovery strategies</li> <li>• Documented insurance coverage in the event of an "act of god"</li> </ul>
Student Affairs	<ul style="list-style-type: none"> <li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li> <li>• Identified strategies to make VCU more robust after a catastrophic disaster</li> <li>• Developing health and wellness strategies, including counseling services beyond the scope of the</li> </ul>

	<p>VCUHS during long-term recovery</p> <ul style="list-style-type: none"> <li>• Identified pre-existing collaborative partnerships with other institutions of higher education</li> <li>• Identified pre-existing and potential partnerships with private institutions and businesses</li> <li>• Documented media procedures in the event of a disaster</li> <li>• Identified key personnel integral in reputational recovery after a catastrophic event</li> </ul>
Technology Services	<ul style="list-style-type: none"> <li>• Meeting with long-term recovery planner to discuss unit's role in VCU's long-term recovery plan</li> <li>• Documented recovery plan for IT systems</li> <li>• Documented recovery and redundancy plan for all wired and wireless network systems</li> <li>• Documented emergency personnel organizational structure</li> <li>• Identified strategies to make VCU more robust after a catastrophic disaster</li> </ul>

Another way to maximize the recovery process is to assign ownership for each recovery strategy. In the recommendations section of this plan, each overarching recovery strategy will be accompanied by an “owner” (department(s), unit(s) and or public/private stakeholder(s)) who will be integral in the management of each step of the recovery strategy process.

### **What Does Long-Term Planning Entail?**

Review of precedent plans is an important step for determining best practices and techniques for a long-term recovery plan. Given there is only one instance of a long-term recovery planning effort for an institution of higher education, namely Tulane University in New Orleans, the review of precedent plans was expanded to other geographic areas that have similarities to VCU and the Richmond metropolitan area. The Greensburg and Kiowa County “Long-Term Community Recovery Plan” is relevant to VCU by providing a measure of best practices for green development and redevelopment. The City of Galveston, Texas “Long-Term Community Recovery Plan” provides a strong precedent for an approach to long-term recovery planning involving a

heavy concentration in perception and placemaking. The City of Oakland, California “Long-Term Disaster Recovery Plan” is a pre-disaster plan that will to determine best practices for unspecified emergencies. Lastly, the Wilmington, Vermont “ Long-Term Community Recovery Plan” provides a resource for many of the issues that VCU faces as a major landowner in a historic city prone to flooding.

The actualization of VCU Emergency Management Framework is an important tool to maintain system and intuitional consistency with in the new plan. VCU has made a number of commitments academically and administratively thus it is paramount that the current plans, commitment and policies are reflected in VCU’s long-term recovery plan.

Intense reviews of these plans are leveraged to provide best practices and proliferate the establishment of a long-term recovery plan for VCU.

## **Recommendations**

### **Part I. Finance and Academic Long-Term Planning**

At VCU, recruiting and retaining a diverse and high-achieving student body remains a top priority. While its first commitment must continue to be the provision of an affordable education for Virginia students, VCU also embraces the opportunity to diversify its student profile by recruiting nationally and internationally with the goal of increasing the state's workforce potential, economic vitality and quality of life. In the event of a campus wide disaster, this ideology is of paramount importance in its long-term recovery plan because it outlines the inherent connection between the institution's finance system and its academic commitments. The following section will detail some of VCU's financial structure and how it is directly involved with the university's academic mission in order to provide overarching recovery strategies to help VCU maintain academic excellence in the face of a disaster.

### **Finance**

Financial resources will play an indispensable role in the long-term commitments of VCU in the case of a catastrophic disaster. This plan is a pre-disaster long-term recovery plan, thus it is impossible to determine which systems, utilities, facilities or buildings will be impacted in order to allocate sufficient emergency funds. That said, there are available strategies VCU will use to ensure its financial health in light of a disaster. The following assumptions set a foundation of the current financial practices of VCU and inform recovery strategies.

### Assumptions:

- VCU's Finance and Administration unit already has in place redundant financial and technological systems that will ease access to finance recovery, payroll and vendors in the event of operations disruption.
- VCU currently invests in a diverse market and has a broad funding base as a part of its redundant financial system.
- In the event of a disaster, state-funded research grants will not be discontinued at VCU due to mutual aid agreements with the Commonwealth of Virginia.
- It understood that some or all of strategies listed below are practiced in whole or part by one or more of the university's department units as outlined in each unit's individual Emergency Operations Plan (EOP).
- All finance decisions will be made and/or informed by VCU 's Finance and Administrative unit department director, provost and/or Virginia Commonwealth University's President.

### Academic

VCU has made a commitment in its Quest for Distinction to become a leader among national research universities, providing all students with high quality learning/living experiences focused on inquiry, discover, and innovation in a global environment. A catastrophic disaster can severely disrupt this learning experience and in order to continue providing its diverse student population academic excellence, the number of nationally ranked programs must not be disrupted. The following assumptions help to inform the prioritization process of long-term recovery academically and to help explain the link between academic and financial long-term planning strategies.



### Assumptions:

- In light of a catastrophic disaster, VCU will ensure Southern Association of Colleges and Schools (SACS) Accreditation.
- As outlined in VCU's Continuity Plan, all accommodations for classroom, housing, office space etc., will be handled within the scope of each individual departmental unit's Emergency Operations Plan (EOP).
- Due to the high population of undergraduate students and guided nature of undergraduate learning, semi-permanent (30 days +) and/or permanent housing, learning venues and facilities will take priority in recovery efforts.
- All academic/education decisions will be the ultimate responsibility of VCU's Academic Affairs unit director, provost and/or Virginia Commonwealth University's President.

### Strategies:

The university relies on a diversified funding base to include: educational and general funds derived from student tuition and fees, auxiliary enterprise program funds, facilities and administrative cost recoveries (FACR) from sponsored program funds as well as private funds. The following will outline long-term resiliency strategies identified by VCU departmental unit heads.

A large part of VCU's income derives from undergraduate, graduate and doctoral students. In the event of a disaster, efforts will be made to accommodate all students long-term, with an emphasis on undergraduate students, to facilitate their studies and to maintain SACS accreditation, ensuring VCU can provide excellence in education. These efforts may include, but are not limited to: alternative classroom space, virtual learning, faculty outsourcing where appropriate, learning and venue flexibility for graduating students and accessible online advising centers.

Another major source of funding for VCU come from research grants. In order to preserve grant money for research projects, it is recommended to have a number of off-site potential laboratory spaces where materials can be safely transferred and research can continue without risk of information loss or corruption. Additionally, when developing high-level research laboratories, it is necessary to do a Threat and Hazard Identification and Risk Assessment (THIRA) to prioritize each potential research space in conjunction with the level of funding the project will generate.



Figure 5: VCU Commencement Ceremony

This can be done by the VCUHS Emergency Preparedness Director to ensure the space has the least potential for severe damage and the capabilities of physical space transfer in the event of a campus wide disaster.

The last main source of funding to the university is through private funds. As outlined in VCU's Quest for Distinction 2011-2017 Plan, success depends in large part to the success of University Development and Alumni Relations in galvanizing donors around the primary themes of the plan. The plan outlines steps for raising the bar for philanthropy and will guide VCU's development priorities, proving indispensable in preparation for a catastrophic disaster. A comprehensive campaign must be launched as a mitigation technique before a disaster to assist in the transformation of the university's vision and to develop a solid donor relationship for accessibility after a damaging event.

## PART II. VCU's Green Commitment and Long-Term Recovery Strategies

VCU recognizes the importance of sustainability for its quality of life today and for future generations and protecting the limits of natural systems. In April 2008, VCU's president Emeritus Eugene P. Trani, Ph.D., signed the American College and University Presidents' Climate Commitment (ACUPCC), joining more than 600 college and university presidents in a commitment to neutralize greenhouse gases emitted on their campuses. As a signatory, VCU is working to reduce emissions in all areas of campus life, from educational programs and facilities to dining and residential life, as part of its plan to become climate-neutral by 2050.

VCU has adopted a comprehensive Climate Action Plan (CAP) in May of 2010. VCU intends to achieve net zero GHG emission by, or as soon after 2050 as technology and financial considerations will allow. After a catastrophic event, with massive infrastructural loss, VCU will have an unparalleled opportunity to use the data collected for this plan to rebuild its infrastructure and to avoid any environmentally damaging pit falls already identified in the Climate Action Plan.

It is important to note that long-term recovery is multifaceted and is more than just infrastructural rebuilding. However, VCU must maintain or replace its physical presence in the event of a catastrophic disaster. It is necessary to recognize VCU will need to physically rebuild its campus if any or all of its buildings were to be destroyed. The following assumptions are outlined to help guide the long-term recovery process:



Figure 6: VCU Recycles

#### Assumptions:

- VCU's current construction practices follow its previously made commitment to becoming a climate neutral campus by 2050 and are all within LEED silver certification standards\*.
- The identified strategies below are not currently being implemented and are all economically feasible.
- In the event of a catastrophic disaster, VCU will have already restored essential functions outlined in its Continuity Plan (0-30 days) to provide displaced student, faculty and staff with temporary accommodations.
- VCU will have already determined construction needs based on prioritizing damaged facilities and economic viability.
- All rebuilding/new construction will be in compliance with VCU Master Plan, the City of Richmond's Master Plan and local zoning ordinances.

As a part of ACUPCC requirements, a quantity and source baseline GHG emission study has been done for the university how it exists today. The study indicates GHG emissions by the usage from buildings and facilities used by the university and opportunities for renewable energy uses. Long-term recovery can streamline the current future energy conservation measures into strategies to put them at the forefront of VCU's rebuilding efforts.

The following matrix describes future facility energy conservation measures outlined in the Climate Action plan and converts them into rebuilding strategies for long-term recovery efforts.

Table 3. Conservation Measures and Long-Term Recovery Strategies

Future Energy Conservation Opportunities from CAP	Long-Term Recovery Strategies
<p>Application of Variable Speed Drives to Hydronic Systems: Assessment of multiple buildings have found the opportunity remains to apply variable speed motor drives to chilled water, heating hot water and condenser water systems.</p>	<p>The application of Variable Speed Drives to Hydronic Systems will be installed with all new construction as appropriate.</p>
<p>Reduction of Laboratory Air Change Rates: Research laboratories and or vivarium facilities are often equipped with various ventilated equipment including autoclaves, chemical hoods, etc.. Laboratories should be maintained negative to the surrounding areas to promote unidirectional flow to the lab. Reduction of air change rates saves significant energy by eliminating the volume of conditioned make-up air required to replenish the exhaust.</p>	<p>In the event a laboratory needs to be rebuilt, in a preexisting building or new one, automatic air change rate apparatuses will be installed to recognize the reduced need for air change when the space is unoccupied.</p>
<p>Application of Direct Digital Controls (DDC): VCU has a mixed of buildings including some with fully applied DDC for their building systems, some with DDC applied only to primary equipment (air handlers, chillers, etc.) and some with pneumatic controls (no DDC).</p>	<p>All new construction will be fitted with Direct Digital controls to regulate the use of heating, ventilation and air conditioning. The application of demand based ventilation controls for spaces/facilities subject to large swings in occupancy loads and these spaces will utilize building schedule controls to eliminate ventilation supplied during unoccupied periods for general occupancy-type buildings.</p>
<p>Lighting System Enhancement: Considerations should be given to revising the night lighting circuiting to reduce the lighting levels, modifying operating practices to allow the lighting to be manually shut-off at the completion of nightly building janitorial service, the application of occupancy controls to increase efficiency of lighting application and the consideration of day lighting controls where natural lighting level support.</p>	<p>All new construction will be equipped with sensor lighting and be constructed in a way that promotes the use of natural light whenever possible (i.e. strategic window placement, skylights, etc.).</p>

<p>Economizer Controls: Some older air handling systems were developed without the capacity to apply full air-side economizer operation when conditions allow.</p> <p>Hot Water/Chilled Water Reset: With the greater application of DDC controls, VCU should consider the application of hot and cold water set point reset strategies based on outdoor air temperature.</p>	<p>VCU will incorporate full air -side economizer with enthalpy-based controls for air handling units. The application of waterside economizer systems on the condensing systems to conserve water and grey water systems will be introduced wherever possible.</p>
<p>Boiler System Upgrade: Boiler systems in individual buildings were found to be original installations in some instances. Boilers have long operating lives, but the efficiency of boilers has increased significantly since the 1960s when some of the observed boilers were installed.</p>	<p>Combination boiler systems will be installed in all new construction, where appropriate, to provide heat and hot water to new facilities. Other energy saving alternative methods, such as the use of centralized steam districts will also be utilized wherever possible.</p>
<p>Single Pane Window Replacements: Window replacements are costly programs typically not justifiable on energy savings alone. However, where opportunities for window upgrades arise, VCU should look to replace single pane windows with low-e thermal windows. Further, VCU should refrain from re-installing operable windows in conditioned spaces as the local window operation greatly impacts the ability to control the overall space conditions and energy usage.</p>	<p>With all new construction, appropriately insulated and operable windows will be installed to maximize overall space conditions and energy usage.</p>



Figure 7: VCU Green Merchandise

## Renewable Energy

In the event VCU needs to rebuild either of its campus, the CAP has identified the university is amenable to using renewable energy sources. The long-term recovery strategy for rebuilding within the guidelines of the CAP is to rebuild any appropriate structure with the opportunity to use solar photovoltaic arrays for parking decks, solar thermal for residence halls, geothermal power for classroom buildings and a biomass centralized steam plant.

## Recovery Owner

The *VCU Sustainability Committee* was instituted as part of the university's commitment to the ACUPCC that then-President Eugene Trani signed in April 2008. The Committee is responsible for the VCU Climate Action Plan in accordance with the ACUPCC and will play an integral role in maintaining the climate neutral commitment made by VCU in the event of a campus wide disaster. The VCU Sustainability Committee consists of 47 members representing most constituencies of the university community. Students, faculty and staff serve on the Committee that reports to the President of the University.

The VCU Sustainability Committee has four subcommittees:

- Administration Subcommittee
- Education, Research and Community Engagement Subcommittee
- Climate Action Plan Subcommittee
- Waste, Foodservice and Transportation Subcommittee

\*Appendix A contains a complete list of VCU Sustainability Committee members.

### **Part III. Recovering VCU's Reputation, Sense of Place and Community**

Catastrophic events are extraordinarily stressful, both to survivors and observers. Such disasters can shatter one's sense of security or propagate a sense of helplessness and vulnerability in a dangerous world. Whether or not a person was directly impacted by the traumatic event, it's normal to feel anxious, scared and uncertain about what the future may bring.

When thinking about long-term recovery, it is normal to think about the business and infrastructural rebuilding of a physical location. However, VCU is undeniably much more than just a physical place; it is where many people make long lasting memories and have experiences that will shape their entire lives. It would be incomplete to develop a plan that addresses the physical rebuilding of VCU but not the importance of VCU's reputation and the sense of place, safety, and community it offers for students, faculty and staff.

There are two integral elements in the emotional and reputational rebalancing of VCU after a destructive event: VCU's Commitment to Diversity outlined in its 2020 Vision For Excellence Five-Year Diversity Plan and efforts in Emotional Place Making. Both will be used in an effort to retain and bolster elements that make VCU a great place to work, live and learn.

#### **Emotional Placemaking**

The idea behind emotional place making is that every place is associated with an emotion or a feeling. A dark alley is often associated with fear, a playground with fun and a university campus with learning. What happens when a disaster strikes and destroys the physical space or its sense of safety? It could be rebuilt the same way but will the beholder perceive it in the same fashion? These are the questions that emotional placemaking attempts to answer. Many people have attachments to physical locations, which are entirely dependent on the reciprocal relationship between behavior and experiences. The following



strategies are an effort to help guide the emotional health of the university community based on human caused and natural catastrophic events.

#### Strategies:

Provide one-on-one counseling services to students, faculty and staff to offer stability, comfort and support to those traumatized by an event associated with the university. Counselors can help a person adversely effected by this event to establish a routine, help them connect with other and help challenge their sense of helplessness or fear for the duration of their involvement with VCU.

Hold a series of mitigation classes to inform the VCU community of what kind of development or redevelopment is happening; this helps to prevent unrealistic expectations of how things will be done within the VCU community and informs the masses of how the university is going to rebuild. It also informs those traumatized by the event things are normalizing and university life is holding steadfast without the pressure of individual attention.

In the event of a Mass Casualty Incident (MCI) on campus, redesign elements and repurposing techniques will be utilized to change the appearance or utility of that specific space. These efforts will mitigate any incident related stress incidents in an effort to assuage a potential reoccurrence.

Hold annual VCU community memorialization celebration of the event with an emphasis on incorporating VCU resources (art, music, dance, etc.). It is important that VCU recognize the event and the perseverance of its community to adapt in the face of disaster.

## Recovery Owner

Within the Division of Student Affairs, University Counseling Services offers an array of group, individual and couples therapy services, crisis services and consultation and outreach services to those students experiencing difficulties. These services would have to be expanded to include traumatic event services and employ staff experienced in dealing with posttraumatic stress, depending on the event. The determination for additional need for these services will be made within the Division of Student Affairs in collaboration with VCU Health System and any mutual aid agreements between VCU and the City of Richmond Mental Health Services.

## **VCU's Commitment to Diversity**

Virginia Commonwealth University affirms diversity as a core value, central and indivisible from the pursuit of intellectual and artistic excellence. Diversity, in theory and in substance, is central to the nurturance of intellectual and artistic excellence. The university's ability to provide a fertile and stimulating environment for achieving excellence in learning, teaching, scholarship, research, clinical practice, creative expression and in public service (VCU Strategic Plan 2020) requires support for multiple viewpoints, ideas and experiences. Free and open exchange of ideas requires that all of VCU seeks and recognizes the contributions that arise from diverse individuals and groups. Since diversity is outlined as a core value for VCU, it must also be in the forefront of long-term recovery planning especially when attempting to recover from an event that damages morale and potentially the university's reputation. After a potentially catastrophic event, the university must use the opportunity to fully integrate its long-term diversity mission culturally, socially within its infrastructure.

The following strategies are intended to bolster the university's commitment to diversity, all the while creating an inclusive, safe, comfortable and successful learning, working, and living environment after a catastrophic disaster.

Strategies:

- Gender-neutral bathroom designs will be integrated into all new construction, added to redevelopment construction and integrated wherever possible in adaptive reuse projects.
- VCU will support the development of VCU as the leading institution in Virginia working to solve disparities in the health of its citizens through public health, community outreach and recruitment of minority and disadvantaged students and faculty into the health sciences.
- Create academic and community based scholarships specifically geared toward increasing minority and disadvantaged student attendance at VCU.
- VCU will increase the presence of diverse faculty and staff in all leadership positions, ranks, levels, pay grades and in decision-making roles, ensuring a climate that offers access, opportunity and support for the success of all students, faculty and staff.



Figure 8: Diversity Committee Students

### Recovery Owner

The VCU Equity and Diversity Committee will work in collaboration with all other VCU departmental units to implement the strategies listed above. Determination for change and sensitivity training and any other current institutional practices will be made within the committee and determined in reference to the scope and gravity of the disaster.

\*Appendix B contains a complete list of VCU Equity and Diversity Committee members and their department affiliations.

## Part IV. Long-Term Planning for Historic Resources

The City of Richmond is known for its historic significance in the development of the United States as a unified country and has many important historic amenities. VCU's Monroe Park and MVC campuses are in the center of the city. Additionally, VCU is a major property owner of both new and historic properties and is positioned to become a leader in management and preservation of the country's historic resources in the event of a major disaster.



**Figure 9: VCU Owned Historic Properties**

### Assumptions:

- There are no current Virginia Commonwealth University maintained historic preservation plans, committees or organizations suited specifically for the recovery of VCU owned historic properties.
- In the event that a VCU owned historic property is damaged in a disaster, VCU will attempt to use state and federal funds, grants and tax rebates to restore the property.
- Current maintenance and oversight for VCU owned historic properties is done in collaboration with the regular VCU construction and revitalization personnel.

This Long-Term Recovery Plan is intended to be a pre-disaster plan so specific goals for historic preservation for damaged historic properties cannot be identified. The following strategies are intended to facilitate the preservation and recovery efforts of VCU owned historic properties.

### Strategies:

After a catastrophic event, with massive damage to VCU own historic properties, VCU will develop a Historic Preservation Committee containing members of VCU Real Estate Foundation, construction project managers, staff architects and interior designers from Facilities Management Division, Historic Preservation Faculty, Finance and Administration, graduate and doctoral historic preservation candidates and a member from the Office of Emergency Preparedness to oversee appropriate recovery techniques. This group will be in charge of feasibility analysis of damaged property, determine eligibility for FEMA's section 106 requirements for entrance on the National Register of Historic Places, determine federal and state tax abatement opportunities and determine the effects of the projects in the available resources as well as mitigation for adverse effects regarding possible restoration efforts.

### Recovery Owner

VCU does not have a current foundation, committee or organization with a mission statement specifically suited toward the preservation and conservation of its historic buildings. The VCU Real Estate Foundation is a corporation with a purpose to accept, acquire, lease, hold, develop, operate, manage, sell, dispose of and otherwise deal in real estate for the exclusive benefit of Virginia Commonwealth University and the Virginia Biotechnology Research Park Authority. It is a for-profit entity the university uses to obtain property for its own use. The committee suggested above should be a subsidiary of VCU Real Estate Foundation to incorporate preservation efforts after an emergency event to take advantage of VCU potential position as a leader in long-term recovery in historic restoration efforts.

## Part V. Recommended Action Plan for VCU

The following recommendations for action, if adopted by Virginia Commonwealth University, will ensure the university is better prepared to speed up recovery efforts to its facilities and services. These action recommendations are elements identified as missing in a single planning document or are spread out piece-meal over many different plans. The key is to undertake the necessary planning steps **before** a major disaster in order to streamline recovery efforts long term.

**Table 4. Structural Integrity Analysis and Resource Management by Department**

Department	A. Structural Integrity Analysis of Key University Facilities and Resource Management
Facilities Management	An evaluation of the structural integrity (retrofit solutions) of critical VCU owned facilities, as well as their location relative to areas subject to flooding, earthquakes, and hurricanes etc., are essential key steps to recovery. Once they have been identified and evaluated, critical facilities need to be retrofitted or replaced.
Technology Services Facilities Management Office of Emergency Preparedness (VCU Police)	The vulnerability of building contents also must be addressed. Building contents include: computer equipment, phones, files and other tools used by staff to conduct daily business. With the increased reliance on computers and the Internet, the university needs to ensure computers and servers are properly braced and that their power sources are functional. These non-structural assets are typically not expensive to secure and, if secured, will allow university services to be up and running more quickly.
Department	B. Recovery of Information Technology (IT) Systems
Technology Services Planning Department Facilities Management	Having reliable backups of the University's electronic files will be critical for the recovery effort. In particular, the IT department's GIS division staff will need to work closely with the and the planning department to coordinate and consolidate information on tagging of structures. The GIS department (Geographical Information Systems) captures, stores, analyzes and displays geographically referenced information. Include access to back-ups of key records and other documents from alternate locations.

<b>Department</b>	<b>C. Emergency Relocation Plans</b>
<p>Academic Affairs</p> <p>Facilities Management</p> <p>Finance &amp; Administration</p> <p>VCU Health System</p> <p>Office of Emergency Preparedness (VCU Police)</p>	<p>Plans should be made for the emergency relocation of VCU-owned facilities critical to emergency response, as well as any facilities with known structural deficiencies or in hazardous areas.</p> <p>Use of mutual aid agreements with the City of Richmond’s local government, alternative universities and private sites for relocation of facilities should be explored.</p>
<b>Department</b>	<b>D. Public Outreach and the VCU Community Consolidation</b>
<p>University Relations</p> <p>VCU Police</p> <p>Facilities &amp; Administration</p>	<p>Include public education and outreach communication needs. Students, faculty, staff and the university community, particularly those living within VCU campus boundaries, will need to be informed of emergency situations.</p> <p>Include working with local transit agencies to ensure continued public access to campus buildings for those without transportation.</p>
<b>Department</b>	<b>E. Repair or Rebuild Plan</b>
<p>Facilities Management</p> <p>Finance &amp; Administration</p> <p>Office of Emergency Preparedness</p>	<p>VCU needs to have a plan for prioritizing the repair or rebuilding of VCU owned facilities. This decision-making process will be based largely on the degree that a facility is considered “critical” and the extent of damage suffered by the facility.</p> <p>This plan should be made interdepartmentally and in conjunction with the structural integrity analysis mentioned in part A.</p>



## **Appendix A**

### **VCU Sustainability Committee members**

#### **Co-chair, Senior VP and Chief Operating Officer**

Ms. Donna Thornburgh, Exec Coordinator

#### **Co-chair Provost & Senior VP for Academic Affairs**

Dr. Beverly Warren

Ms. Melody Harris, Exec Assistant

Ms. Cheri Stickels, Exec Assistant

### **VCU Office of the Provost (20)**

#### **College of Humanities and Sciences**

#### **Department of Psychology**

Dr. Jody Davis Social Psychology, Associate Professor

#### **L. Douglas Wilder School of Government and Public Affairs**

Dr. Meghan Gough, Urban Studies & Regional Planning, Assistant Professor

Dr. Jason Levy, Homeland Security/Emergency Preparedness, Associate Prof

Dr. Damian Pitt, Urban & Regional Planning, Assistant Professor

### **School of the Arts**

#### **Office of the Dean**

Dr. Christina Lindholm, Associate Dean for Curriculum & Assessment

#### **Interior Design**

Mr. Camden Whitehead, Interior Design, Associate Professor

### **School of Business**

Dr. Van Wood, Marketing Professor

**School of Education**

Dr. Jacqueline McDonnough, Teaching and Learning, Assistant Professor

**School of Engineering****Chemical & Life Sciences Engineering**

Dr. Stephen Fong, Associate Chair, Associate Prof

**VCU Life Sciences**

Dr. Clifford Fox , Assistant Director of Center for Environmental Studies

**Academic & Faculty Affairs**

Ms. Barbara Judy, Degree Audit & Edit Administrator

**VCU Division of Community Engagement**

Dr. Catherine Howard, Vice-Provost Psychology, Associate Professor

Dr. Lynn Pelco, Director of Service-Learning Program Education, Professor

Dr. Mary Slade Executive Director, VCU ASPIRE

**VCU Libraries**

Ms. Jeanne Hammer, Associate University Librarian for Administration & Policy Development

**Division of Student Affairs****Student Affairs, MCV Campus**

Dr. Napoleon Peoples, Associate Dean of Student Affairs/Dean, Student Affairs MCV

**VCU Recreational Sports**

Mr. Tom Diehl, Director of Recreational Sports

**VCU Residential Life & Housing**

Ms. Allison Patel, Assistant Director of Facilities/Conferences

**The Wellness Resource Center**

Ms. Katie Vatalaro Hill, Assistant Director & Nutrition Services Coordinator

**VCU Health Sciences****Office of the Senior VP for Health Sciences - Research and Academic Affairs**

Ms. Katharine Rosemond, Executive Director of Health Sciences Resources & Planning

Ms. Beth Marcus, Executive Administrative Assistant

**VCU Finance and Administration****VCU Business Services**

Ms. Diane Reynolds, Director of Business Services

**VCU Dining Services**

Ms. Tamara Highsmith, Manager of VCU Dining Sales & Services

**VCU Facilities Management**

Mr. Brian Ohlinger, Associate VP for Facilities Management

Ms. Roxanne Razo, Interim Director of Staff Operations

**Planning and Design**

Ms. Joyce Foster, Interior Design/Project Manager

Mr. Carl Purdin, Assistant Director of Design Services

Mr. Russell Uzzle, University Planner

**Physical Plant****Executive Director**

Mr. Ed Bennett, Executive Director of PPD/Deputy for FM

Ms. Johanna M Braat, Executive Assistant

**Engineering & Utilities**

Mr. Carl Beckelheimer, Energy Manager

**Support Shops & Special Projects**

Mr. Jerry Helton, Director of Support Shop & Special Projects

**Grounds**

Mr. Paul Thrift, Superintendent of Grounds

**Office of Sustainability**

Mr. Jacek Ghosh, Director of Sustainability

Mr. Steven Heinitz, Sustainability Operations Coordinator

Ms. Parker Long, Sustainability Reporting & Outreach Coordinator

Ms. Jordan Starbuck, Sustainability Coordinator

**Parking & Transportation**

Mr. Rob Maroney, Director

Ms. Robin Mack, Assistant Manager

Mr. Brantley Tyndall, Alternative Transportation Coordinator

**VCU Human Resources**

Ms. Cathleen Burke, Chief Human Resource Office

**VCU Police**

Officer Matthew Ruland, Office of Community Policing

**VCU Procurement & Payment**

Mr. Ed Gibbs, Director of Procurement & Payment

Ms. Mary Lou Bulger (Alt), Manager, Contract Administration, Procurement Services

**VCU Staff Senate**

Ms. Pamela Mason, Center for Environmental Studies Program Support Tech

**VCU Technology Services**

Mr. Alexander Henson, Chief Information Officer (CIO)

Ms. Diane Gallagher, Executive Administrator

Mr. Samuel Kennedy (Alt), Assistant Director, User Services

**VCU Research****Office of Finance and Administration**

Mr. Michael Newsome, Assistant VP for Research

**Division of University Relations****VCU Office of Public Affairs**

Ms. Megan Schmidt, Administrative Public Relations Specialist

**Office of University Marketing**

Mr. Tom Klug, Senior Director for Marketing Communications

**Student representatives**

MP Campus Mr. Wyatt Carpenter

MP Campus Ms. Alex Little

MP Campus Ms. Ashley Grupenhoff

Total Committee members: 53

**Campus Sustainability Interns**

Mr. Wyatt Carpenter

Ms. Keeley Laures

**Subcommittees****Education, Research & Engagement Subcommittee**

Co-Chairs: Dr. Catherine Howard & Dr. Napoleon Peoples

Ms. Nicole Anderson Ellis

Dr. Jody Davis

Dr. Stephen Fong

Dr. Clifford Fox

Mr. Jacek Ghosh

Dr. Meghan Gough

Ms. Ashley Grupenhoff **(SR)**

**Dr. Catherine Howard, Co-Chair**

Dr. Jason Levy  
Dr. Christina Lindholm  
Ms. Alex Little (**SR**)  
Dr. Jacqueline McDonnough  
Mr. Michael Newsome  
Dr. Lynn Pelco

**Dr. Napoleon Peoples, Co-Chair**

Dr. Damian Pitt  
Dr. Mary Slade  
Ms. Jordan Starbuck  
Mr. Camden Whitehead  
Dr. Van Wood

**Operations Subcommittee**

Co-Chairs: Mr. Ed Bennett & Ms. Tamara Highsmith

Mr. Carl Beckelheimer

**Mr. Ed Bennett, Co-Chair**

Mr. David Cooper  
Mr. William Curry  
Mr. Tom Diehl  
Ms. Joyce Foster  
Mr. Jacek Ghosh  
Mr. Steve Heinitz  
Mr. Jerry Helton

**Ms. Tamara Highsmith, Co-Chair**

Ms. Margaret Kelland  
Ms. Parker Long  
Ms. Robin Mack  
Mr. Rob Maroney  
Mr. Brian Ohlinger

## **VCU Sustainability Committee**

### ***VCU Climate Action Plan Goals***

- VCU has committed to be carbon neutral (net zero) by 2050 beginning in FY 2008 (baseline year).
- VCU has set an interim goal of reducing its GHG emissions by 30% below business-as-usual (BAU) emissions by 2025.
- Behavior change strategies to mitigate emissions will contribute to half of the 30% reduction below BAU emissions, i.e., a 15% reduction in emissions by 2025.
- Building efficiency, renewable energy and offsets will contribute another 15% reduction below BAU emissions by 2025.
- A 30% reduction below BAU emissions translates into annual reduction of 3,000 to 4,000 MTCDE over a fifteen-year period.

### ***VCU Sustainability Committee Functions***

- Oversee Climate Action Plan (CAP) implementation
- Recommend GHG emissions reduction projects consistent with the CAP goal
- Recommend corrective action as required to keep VCU on track with long-term CAP goals
- Evaluate and communicate project performance to internal and external stakeholders
- Communicate and engage with internal and external stakeholders to further the objectives of the CAP and its success
- Ensure compliance with all ACUPCC and AASHE requirements

### ***Subcommittee Functions***

**Education, Research & Engagement Subcommittee:** co-curricular education; curriculum; research; and public engagement per STARS credit categories.

**Operations Subcommittee:** buildings; climate; dining services; energy; grounds; purchasing; transportation; waste; and water per STARS credit categories.

**Planning & Administration Subcommittee:** coordination & planning; diversity & affordability; human resources; and investment per STARS credit categories.

### ***Affiliated Committee***

**Sustainability Academics:** The mission of the Sustainability Academics Leadership Team, chaired by Dr. Clifford Fox, is to facilitate the development of sustainability as a significant part of the VCU academic program by facilitating collaboration, providing intellectual development in systems-based sustainability, and developing an action plan for expanding the sustainability approach to understanding (research and teaching).

The Sustainability Academics Leadership Team replaces the VCU Sustainability Committee's Academic and Research Subcommittee. Dr. Clifford Fox, a member of the VCU Sustainability Committee, will regularly report on Sustainability Academics at VCU Sustainability Committee meetings.

**Bike Friendly University Committee:** Oversee Bike Friendly University Silver designation awarded to VCU by League of American Bicyclists on 3/14/12 as well as all other VCU bike initiatives.

**Tree Campus USA Committee:** Oversee Tree Campus USA 2012 designation awarded to VCU by Arbor Day Foundation on 5/8/13.

**Revised 7-10-13**



## **Appendix B**

### Equity and Diversity Committee

Holly Alford, Fashion Department  
Kevin Allison, Dean's Office/Humanities & Sciences  
Jan Altman, University Counseling Services  
Cynthia Andrews, Human Resources  
Amy Armstrong, Rehabilitative Counseling  
Frank R. Baskind, Provost's Office  
Sean Bates, Internal Medicine  
Edwin Blanks, Dean's Office/School of Education  
Sylvestine (Pat) Branch, Records and Registration  
Susan Brilliant, Computer Science  
Ebony Brown, Judicial Affairs and Academic Integrity  
Elizabeth Canfield, University College  
Melissa Celik, Obstetrics and Gynecology  
Laura Chessin, Graphic Design  
Martha Clements, School of Dentistry  
Timmerie Cohen, Radiation Services  
Carrie Connolly, Student Affairs/Honors College  
Elizabeth Cramer, School of Social Work  
Sherika Dailey, Judicial Affairs and Academic Integrity  
Carlton Edwards, VCU Police  
Ruth Epps, Accounting  
Sally Fayed, Student  
Dorothy Fillmore, Forensic Science

Millie Flinn, Family and Community Health Nursing  
June Foster, Human Resources  
Leah Fremouw, Graduate Student  
Willie Fuller, VCU Police Department  
Sheryl Garland, MCV Health System  
Arlene Garrison, Radiation Sciences  
Patty Gray, School of Nursing  
Carol Hampton, School of Medicine  
Angelica Hart, Forensic Science  
Cathy Howard, Division of Community Engagement  
Catherine Ingrassia, Humanities and Sciences  
Donna Jackson, School of Medicine  
Njeri Jackson, Special Assistant to the Provost for Promoting Diversity  
Velma Jackson-Williams, EEO/AA Services  
Regina Jefferson, Life Sciences  
Alison Jones, Health Sciences  
Edward Kardos, School of Dentistry  
Charles Klink, Student Affairs and Enrollment Services  
Rachel Maddux, Residential Life and Housing  
Miriam Mayhew, Clinical Laboratory Services  
Anita Nadal, School of World Studies  
Kawana Pace-Harding, Human Resources  
Dianne Pawluk, Biomedical Engineering  
Napoleon Peoples, Student Affairs and Enrollment Services  
Natolyn Quash, VCU Police  
Cristina Ramirez, VCU Libraries  
Amanda Reidinger, Student Government Association  
Henry Rhone, Student Affairs and Enrollment Services  
Carol Shakeshaft, Educational Leadership/School of Education  
J. Smith-Mason, Honors College  
Annie Stith-Willis, Management/School of Business  
Clarence Thomas, Mass Communications  
Virginia Totaro, University College

John Ulmschneider, VCU Libraries  
Jessica Voqui, Student  
Patricia Wallace, Human Resources  
Keia Watkins, Student Government Association  
LaForest Williams, Health Sciences  
Blue Wooldridge, Wilder School of Government  
Susanna Wu-Pong, Pharmaceuticals  
Geoffrey Young, Student Affairs and Enrollment Services

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