## Central Grounds Update November 11, 2010

Grounds Plan Precinct Planning Capital Projects Infrastructure Transportation Demand Management Sustainability



Long-range plan: 2015, 2025

Directs projected growth into specific redevelopment zones

Focused on sustainability

- Preservation
- Context
- Multi-Disciplinary Learning
- Connectivity
- Environment

Defines the three precincts



Central Grounds West Grounds North Grounds

The Grounds Precincts with Redevelopment Zones





Precinct planning documents all existing conditions (natural systems, green space, circulation) and provides the framework for proposed conditions in the redevelopment zones designated by the Grounds Plan

#### Use of Form Based Zoning



#### **CENTRAL GROUNDS**

Develop, extend and enhance circulation improvements to improve connectivity across Grounds for pedestrians, bicycles, transit and vehicles, while emphasizing campus gateways



#### **CENTRAL GROUNDS**

Develop opportunities to enhance, extend, create and preserve campus green space (plazas, greens, natural areas, recreation)

Use green spaces to form connections for pedestrians and bicycle corridors connecting the precincts

Expand tree canopy in natural areas



Proposed Development Volumes

#### WEST GROUNDS

Establish development volumes for future building heights, setbacks, while acknowledging historic buildings

Redevelopment of housing for higher density

Allow for expansion of the academic facilities in the three precincts



#### Selected Completed Projects













Major Projects in Central Grounds since 2006

#### Selected Current Projects







2011



2011



Major Projects in Central Grounds since 2006











#### Landscape Projects in Central Grounds – South Lawn and Foster Site









Landscape Projects in Central Grounds – Selected Projects













#### Landscape Projects in Central Grounds – Selected GIF Funded Projects

- Infrastructure consists of central energy generation and distribution systems such as the heating and chiller plants and electrical substations as well as utilities such as water, sewer and storm systems.
- The **Main Heat Plant** serves Central Grounds, **electricity** for Central Grounds is provided from the Cavalier Substation and **cooling** is provided by several large chiller plants in the precinct, as well as window units, heat pumps and stand alone chillers for buildings not served by the cooling loop system.
- Major infrastructure projects proposed for the precinct through 2022 include:
  - South Chiller Plant Addition Chiller #3 & Emergency Power Generation
  - East Chiller Plant and Lee Street Realignment
  - Newcomb Road Chiller Plant: Alderman and Clemons Chillers and Newcomb Chiller #1 Replacements
  - Cavalier Substation Upgrade
  - Steam Tunnel Repairs (2012-14 and 2016-18)
  - Health System Steam Pipe Upgrade
  - Main Heat Plant Biomass
  - Combined Heat and Power
  - Health System Chiller Plant Replacement/Expansion
  - Bryan Hall Chiller
- Proposed projects address growth and deferred maintenance needs and reliability and sustainability goals.

		TDM Scenario					
TD	M Measure	Very Aggressive	Aggressive	Moderate	Least Aggressive	Baseline	
1.	No Parking Expansion	٠					
2.	Parking Price Increase	> 100 %	50 to 100 %	50 %	20 – 33 %	Minor	
3.	Parking Permit Buyback	٠	•				
4.	Student Parking Reduction <sup>1</sup>	•	•				
5.	Vanpool/Carpool Parking Location	Premium	Premium	Reserved	Reserved		
6.	Vanpool/Carpool Financial Incentive	Free & Bonus	Free & Bonus	Discount			
7.	Housing Incentives/Sponsorship	٠	٠				
8.	Bicycling Improvements	Lanes/Paths	Lanes/Paths	Racks, etc.			
9.	Pedestrian Improvements	•	•				
10.	Free-Ride Transit <sup>2</sup>	٠	•	•	•	٠	
11.	Commuter Membership Program	٠	٠				
12.	Member Spot-Rewards	٠	٠				
13.	Transportation Events	•	•				
14.	Transit Advocacy/Coordination	٠	•	٠	٠	٠	
15.	Park & Ride Implementation	٠	٠	٠			
16.	Pre-Tax Payment for Alternatives	•	•	•			
17,	RideShare Marketing	•	•	•			
18.	Ride Matching Assistance	٠	٠				
19.	Car-Sharing	٠	٠	•	٠		
20.	Flexible Work Arrangements	٠					
21.	Occasional Parking	٠	٠	٠	٠	٠	
22.	TDM Coordinator	٠	٠	٠	٠	٠	
23.	Program Marketing	٠	٠	•	٠		
24,	Website Enhancements	•	•	٠	•		

 Student changes are not modeled in the results discussed later, however an aggressive program would include changes to student parking policies and other measures to reduce automobile use by students.

2. UVA recently implemented a "Free-Ride" transit program, however, its effects are not included in the baseline.

Program element included. Where appropriate, a level of program implementation is identified.

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9.	Pedestrian Improvements	*	٠				
10.	Free-Ride Transit <sup>®</sup>	*	٠	٠	٠	٠	
11.	Commuter Membership Program	٠	•				
12.	Member Spot-Rewards	٠	•				
13.	Transportation Events	•	•				
14.	Transit Advocacy/Coordination	٠	٠	•	٠	٠	
15.	Park & Ride Implementation	•	٠	٠			
16.	Pre-Tax Payment for Alternatives	٠	٠	٠			
17.	RideShare Marketing	\$	\$	\$			
18.	Ride Matching Assistance	4					
19.	Car-Sharing	\$	٠	٠	٠		
20.	Flexible Work Arrangements	•					
21.	Occasional Parking	٠	٠	٠	٠	٠	
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#### **TDM Phase 1 Implementation**

**Surplus Buffer** allows for UVa's flexibility to manage parking capacity on Grounds in support of event parking, parking availability, and operations.

**North Grounds:** 1000 Space Buffer at JPJ/U-Hall, provides buffer for event parking and avoids additional transit costs associated with increased use.

**Central Grounds:** 5%, typical operational buffer to allow patrons to find available spaces. (276 spaces)

**West Grounds:** 5%, typical operational buffer to allow patrons to find available spaces. (121 spaces)

**Mode-split Allocation** provides the basis for the various TDM modes to be allocated based on percentages of the overall TDM program

No TDM 78.1% Drive Alone 10.0% Carpool 11.9% Other

10-Year TDM In 2015 70.4% Drive Alone 17.7% Carpool 11.9% Other

In 2020 64% Drive Alone 24.1% Carpool 11.9% Other

-1.3% Drive Alone per Year through 2020 +1.3% Carpool per Year through 2020

Assumption: Mode-split Allocation



#### 2020 - 10-year TDM vs. No Additional TDM Implementation

Parking Availability Projections

#### Annual Expenditures – 10-Year TDM vs. No Additional TDM



#### Land Availability

Carbon Emissions -1623 Metric Tons eCO<sub>2</sub>

=



5.5 acres of PV Panels

Land Use and Carbon Reduction Impacts

#### **Key Points**

TDM implementation plan is a 5-year process, results are a 10-year process.

TDM extends the availability of parking and reduces the severity of inventory shortfalls

Although we're presenting a 5-year implementation plan, we should be prepared to commit to an additional 5-year plan in 2015.

#### 2008 2009 **2010** 2011 2012 2013 2014 2015 2016

**UTS-CTS Fare Reciprocity Program Occasional Parking Program Guaranteed Ride Home Carpool Preferred Parking** ZipCar Carsharing Full-Time UVa Transportation Coordinator Carpool Get-Togethers Flexible Work Schedule Policy **Commuter Survey** Marketing Budget Parking Permit Price Increase 50% Carpool Subsidy In-House Carpool Matching

**CTS Service Improvements** 

Strategy Recommendations: Phase 2 Implementation Timeline



#### **Sustainability Timeline**

...shall advise the President and Executive Vice President and Chief Operating Officer...on all matters related to the overall quality, diligence, and progress of the University's commitment to...and their relationship to the future of the University.



Presidential Committee on Sustainability

University of Virginia Environmental Footprint Reduction Plan Phase 1 - Greenhouse Gas

University of Virginia Environmental Footprint Reduction Plan Phase 2 - Materials

University of Virginia Environmental Footprint Reduction Plan Phase 3 - Water Draft Complete

Draft in Review

In Development

University of Virginia Environmental Footprint Reduction Plan Phase 4 - Nitrogen

In Development

**Environmental Footprint Reduction Plan** 



**Emissions Scopes** 



#### **EFRP** Strategies



28
Projects Registered
2
Silver Certified
12
Silver Anticipated
10
Gold Anticipated





# Garrett Hall | Frank Batten School of Leadership and Public Policy



- Complete renovation of Garrett Hall to provide faculty offices, staff offices, and lounge and meeting space for the Frank Batten School of Leadership and Public Policy
- 2. Significant renovation of the adjacent annex to provide the Batten School with administrative and student services offices, as well as additional lounge and meeting space

Summary of Proposed Changes



**Proposed Building Site** 



Proposed Building Site



### **Building History**


**Building History** 



**Building History** 



**Building History** 



#### **Primary Entrance**



**Conceptual Site Plan** 



**Conceptual Site Plan** 



Interior Plan: Main Floor



#### **Interior Plan: Main Floor**



Interior Plan: Second Floor



**Interior Plan: Basement** 



**Interior Plan: Annex** 

- 1. Land Use:
  - Renovation of existing building on Central Grounds
  - No change to previous land use
- 2. Built Environment:
  - Green roof and reduced heat-island effect
    with landscaping
  - Low-VOC building materials
  - Visibly sustainable elements, including cork and bamboo products

- 3. Transportation:
  - Located on university and city bus loops
  - No new parking; limited visitor parking
  - Bike racks and shower facilities
- 4. Dining:
  - Adjacent to dining in Hotel E (Garden Room, West Range Café)
  - Within <sup>1</sup>/<sub>4</sub> mile of dining in Newcomb Hall
  - Within ½ mile of 10+ restaurants on the Corner

- 5. Energy:
  - Adoption of LEED enhanced commissioning procedures
  - Improving energy performance by 14%
  - Use of central plant utilities
  - Use of awnings to reduce heat gain
- 6. Water:
  - Seeking exemplary reduction (40%) in water use
  - Use of non-potable cistern water for irrigating green roof



#### 7. Recycling:

- Reuse of exterior building elements windows, grills
- Reuse of interior materials lighting, wood paneling, railings
- Construction waste management (90%+)
- Recycled content of new material (20%)
- Centralized recycling
- 8. Bottom line: Excellent prospects for achieving LEED gold certification

# Arts & Sciences Central Grounds Redevelopment & Renewal Priorities



## Arts & Sciences

Background -

Update on A&S Core Mission and Growth Projections

Proposed Order of Work and Future Program Assignments:

- 1. Renew Randall Hall
- 2. Renew Levering Hall / Hotel F
- 3. Renew New Cabell Hall
- 4. Renew Wilson Hall
- 5. Construct New Music Building
- 6. Renew Old Cabell Hall
- 7. Renew Brooks Hall

Renew Gilmer Hall

A REPART A LAN

Renew Physics Building

Renew Chemistry Building

AscCormick Ro

A&S Science Research Building

> Future Additional A&S Science Research Facility

#### Project Goals

- House Language departments and the Dean of Arts and Sciences
- Improve public spaces
- Provide opportunities for community and place making
- Improve the quality of finishes to be more consistent with rest of the campus
- Activate the courtyard with landscape improvements
- Update Mechanical systems
- Sustainable design and LEED certification







September 9, 2009 NEW CABELL HALL RENOVATION . UNIVERSITY OF VIRGINIA GOODY





### Arts Grounds Landscape Master Plan: 2005

### **Rationale for 2010 Plan Update**

- Enhanced spirit of collaboration among the Arts
- Revised series of facility projects
  - o Rehearsal Hall
  - o Thrust Theatre
  - o Museum Expansion
  - Library Expansion
  - o Drama Addition
  - Music Building
- Potential for expanded Arts outdoor activities

#### Office of the EVP and Provost Convening:

Beth Turner, Vice Provost for the Arts Richard Minturn, Senior Academic Facilities Planner

# Arts and Sciences, including Art Department, Drama Department, Music Department:

Richard Myers, Senior Associate Dean for Administration and Finance Bruce Holsinger, Associate Dean for the Arts and Humanities Larry Goedde, Chair, McIntire Department of Art

#### **School of Architecture:**

Kim Tanzer, Dean

#### Library:

Diane Walker, Associate University Librarian

#### **University Art Museum:**

Bruce Boucher, Director

#### Office of the Architect:

Mary Hughes, Landscape Architect for the University David Neuman, Architect for the University

## **Program Committee**



## **Future Development**



#### **Program Components: Performance**



#### **Program Components: Commencement**



### **Program Components: Entertainment**



## **Current Development: Rehearsal Hall**



## **Current Development: Rehearsal Hall**



#### **Current Development: Thrust Theatre Site**



**Current Development: Thrust Theatre and Arts Commons** 



## **Current Development: Thrust Theatre**



### **Current Development:** Thrust Theatre



## **Future Development**


#### **Casteen Arts Grounds - 2010**





#### Proposed Building Site(s)





#### **Artist Rendering**



#### **Actual Front Entrance**



Artist Rendering: Learning Studio



**Actual Learning Studio** 



# University of Virginia School of Nursing

# McLeod Hall Renovation Project



### **McLeod Hall Renovation**



## Overview of McLeod Hall Renovation Project

\$14.8 million Board of Visitors authorization\$7.5 million funding in hand

Phase 1

- \$6.8 million total cost
- 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup> floors
- Commenced August 2009
- 1<sup>st</sup> floor completed August 2010
- 4<sup>th</sup> floor in progress, completion date January 2011
- 5<sup>th</sup> floor completion date August 2011

Phase 2

- \$8.0 million total cost
- 2<sup>nd</sup>, 3<sup>rd</sup> floors
- Commencement date dependent on funding



## McLeod Hall – 1<sup>st</sup> Floor Renovations Complete



## McLeod Hall – 4<sup>th</sup> Floor Renovations in Progress







McLeod Hall – 5<sup>th</sup> Floor



## School of Nursing Grounds Improvement Project





## School of Nursing and School of Medicine Grounds Improvement Project



Rear Exterior of McLeod Hall GIF funding \$35,000 Enhancements to improve space utilization, upgrade furnishings and plantings,



## McLeod Hall Sustainability Initiatives

- 1. Pursuing LEED-CI certification
- 2. Low VOC (Volatile Organic Compound) materials used throughout the project
- 3. Recycled content for flooring, wood panels, sheet rock, metal, steel
- 4. Recycled demolition debris on materials from project
- 5. Motion sensor lights throughout for energy conservation
- 6. Natural light throughout the building to reduce use of artificial lights
- 7. Automatic water sensors for restroom sinks
- 8. Waterless urinals in men's restrooms





#### Representation

– Levels of Activity ✓

On average, how often do you pursue indoor recreational sports and fitness activities?



#### **Overview of Research Findings**

#### • Survey: Peak Demand (Self-directed)





## **Summary of Demand and Gaps**

- Weight & Fitness: Unmet demand for weight & fitness proximate to reliable parking
- Aquatics: Confirmed conflict of demand for aquatics during intercollegiate swimming & diving time slot
- **Multi-Purpose:** Demand for multipurpose rooms within large, full service centers
- **Gym:** Demand for gymnasia driven by intramurals and club sport teams programming and scheduling
- **Racquetball:** Racquetball demand aligns with current courts
- **Squash:** Squash demand hindered by existing dimensions

## **Selected Option**

- North Grounds Recreation Center add new aquatic facility, multipurpose room and squash courts, renovate existing racquetball courts, 2 tennis courts
- Slaughter Recreation Center add new 2 court multipurpose athletic court space, increase fitness space, renovate existing racquetball and squash court space and relocate outdoor recreation programs to this location
- Memorial Gymnasium repurpose existing gymnasium into a new fitness, strength and conditioning space
- Aquatics and Fitness Center no changes
- University Hospital Facility create new facility

#### **Overall Grounds Plan**



## **Memorial Gym Floor Plans**



#### **Memorial Gym Floor Plans**



## **Repurposing Gymnasium Space into Fitness Area**







## **Memorial Gym Floor Plans**



## **Medical Facility Floor Plans**



#### **Medical Facility Sections**





## **Proposed Timeline**

Planning and Design

Construction

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Diagning Study										
Planning Study										
North Grounds Renov/Add										
Medical Center										
Slaughter Renov/Add										
Memorial Gym Renov										

## Business Operations Capital Projects Newcomb Hall Renovation and Expansion



#### Current:

- •Last renovated 1998
- •Board dining 900 seats
- Retail space 300 seats
- Convenience store
- •Catering

#### Expansion & Renovation:

Completion in fall 2012
Board dining – 1200 seats
Retail restaurant – 30 seats plus outdoor seating
Retail space – 450 seats
Convenience store
Catering



## **Newcomb Hall Renovation and Expansion**



## Newcomb Hall Renovation and Expansion Board Dining, 2<sup>nd</sup> Floor







## Newcomb Hall Renovation and Expansion PAV XI Dining, 1st Floor



## Business Operations Capital Projects Bookstore Expansion



**Progress of Construction** 

Estimated completion Fall 2011

Adds 16,200 sq. ft.

Total of 59,200 sq. ft. after completion


## **Bookstore Expansion**



#### Bookstore Expansion Floor Plan





#### HSAP Redevelopment Opportunities





Size: 30,000 gsf – 2 floors above with partial basement Program: Multi-purpose education space, pharmacy, 150-seat auditorium, pre-function space, green roof garden and basement for mechanical and shell, potential outpatient imaging Construction Cost: Approx. \$19m

#### **Educational Resources Center**





Option 3 Phase 1 – One level ED 55 Total beds

- 30 New Adult rooms
- 4 New Trauma rooms
- 21 beds remaining in existing ED space

60,000 of visits





Option 3 Phase 2 – One level ED 60 Total beds

- 30 New Adult rooms
- 4 New Trauma rooms
- 10 Adult/Swing & Peds rooms in renovated ED Space
- 16 Obs/CDU in renovated ED

#### Space

• 65,000 of visits









# **University Library**

1. Alderman Library Systems, Life Safety, and Accessibility Renewal and Upgrades

 Fiske Kimball Fine Arts Library Systems, Life Safety, and Accessibility Renewal and High-Density Shelving Addition

Summary of Proposed Changes











#### **Conceptual Site Plan**

The Need:

- 1. 1938 WPA building hosting > 2,000 students daily violates fire, safety, egress, and accessibility codes
- 2. No comprehensive overhaul ever done—dated systems are inefficient, unsafe, and difficult to distribute, service and control

The Project:

- 1. Renew all systems and remove original stacks that are fire hazards and cannot be brought up to code
- 2. Replace 10 "old stack" floors with a compact shelving system plus two floors of student and faculty study spaces and staff offices
- 3. No change in exterior footprint

**Project Program** 









The Need:

- 1969 building serving > 80,000 visitors per year fails to meet accessibility, safety, and energy efficiency standards, and has inadequate study and collections space
- 2. Print materials in high demand—collections grow at the expense of study space—shelves completely full in 2004

The Project:

- 1. Replace major systems (e.g., plumbing, HVAC, electrical) and asbestos remediation
- 2. Build below-ground addition under "green side" of building, with compact shelving and appropriate egress; refurbish current space to increase seating capacity
- 3. No visible exterior change in footprint