## SUSTAINABILITY



# October 17, 2024

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## Agenda



≻Welcome

- >Introductions
- Energy and Sustainability Overview
- Draft Plan Recommendations
- ≻Next Steps



## Introductions

> Project Team: Woolpert, a global architectural/engineering/geospatial company



Leah Stender Project Manager



Brandon Knight Program Director



Angie Perkins Haslam Grants SME



Denis Blanc Architect Sustainability SME



Mitchell Lloyd Lead Planner



Taylor Collins

Planner



## Energy & Sustainability Strategic Plan Overview





## Energy & Sustainability Strategic Plan Overview



Waste Management

Greenhouse Gas Emissions and Carbon Tracking

## **Culture and Organization**

#### Equity and Social Justice

- Social Sustainability
- Student Affairs
- Sustainability Tracking, Assessment & Rating System (AASHE)
- Recommendations

#### Campus Resiliency

- Baseline Assessment
- Campus-Community Task Force
- Climate Resilience Strategies





## Social Sustainability



## Equity and Social Justice



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## Sustainability Tracking, Assessment & Rating System v3



- Exemplary practice
- Innovation



Online

reporting

tool

## Sustainability Tracking, Assessment & Rating System

#### STARS Reporting Process

- EN2: Co-Curricular Activities
- Student sustainability organizations, sustainability-focused, co-curricular activities, and student engagement percentage



## Equity and Social Justice



#### Recommendations

- Explicitly establish goals and a vision for sustainability culture at NSU
- Sustainability clubs and learning communities for students
- Establish data collection program to measure the required by AASHE Planning and Admin credits



## Campus Resiliency

#### Baseline Assessment

- Urban Adaptation Assessment (UAA)
- Federal Emergency Management Agency (FEMA)
- Norfolk Coastal Storm Risk Management Feasibility Study, U.S. Army Corps of Engineers
- Second Nature



#### **CITY OF NORFOLK, VIRGINIA**

Coastal Storm Risk Management Feasibility Study North Atlantic Coast Comprehensive Study Focus Area

Inundation of Roadways and Critical Infrastructure



## Campus Resiliency

### Campus-Community Task Force

- Norfolk Office of Resiliency (potential community partner)
- Norfolk Department of Emergency Preparedness
- Elizabeth River Project Ryan Resilience Lab





## Campus Resiliency

## Climate Resilience Strategies

- Disaster planning
- Emergency management
- Campus energy management + SMART technology
- Fuel cells back-up power
- Renovation of existing buildings with efficient technologies/materials
- Stormwater/ flood management



CONNECT TO

EXISTING STORM

CONNECT TO

EXISTING STORI

6'X6' UNDERGROUND

STORMWATER STORAGE TANKS

#### >NSU Course Offerings

- NSU General Curriculum
- United Nations Sustainable Development Goals (SDGs)
- Peer Institution: Virginia Tech
- Applied Learning and Living Lab







#### Case Study: Virginia Tech



Experiential learning & Living Lab Courses and research programs

Partnerships and outreach



#### Applied Learning and Living Lab



Solar PV carport and EV charging project

Energy audits and retro-commissioning projects

Urban farming and green infrastructure



Energy Efficiency/Energy Management

Water Conservation

Recycling/Waste Management

Greenhouse Gas Emissions and Carbon Tracking

Fleet Electrification





#### Energy Efficiency/SMART Energy Management

**CAMPUS-WIDE** 





#### Energy Efficiency /SMART Energy Management

- SMART building/campus technology platform
- High-efficiency mechanical equipment
- Energy-efficient LED lighting
- 7-month energy savings measured equals \$1+ million



NORFOLK STATE UNIVERSITY

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## Energy Efficiency/SMART Energy Management

- Demand/response program
- Buildings controls/sensors/ analytics
- Lighting and HVAC real-time demand controls



Electricity demand exceeds current power supply



Load control is used to avoid uneconomical energy purchases and to reduce strain on the broader energy system



**DEMAND-RESPONSE PROGRAM** 

#### Water Conservation



Building-level water meters at each campus facility

Sub-meters for different water systems

High-efficiency plumbing fixtures and appliances Green Building rating requirements (LEED)



#### > Recycling/Waste Management





Develop supplier code of conduct

Develop sustainable purchasing policies



Reroute surplus food organic waste



National Wildlife Federation Campus Race to Zero Waste Competition



Collaborate with stakeholders and local organizations







#### Recycling/Waste Management Cafeteria and Food Waste Management

• AASHE/STARS - Food Recovery Program: track food and organic materials management efforts.



 Tools: food waste audits, Campus Race to Zero Waste (Food Organics category), Green Dining certification programs.

#### **Recycling/Composting**

 NSU installed 20 "Bigbelly Bins" across campus and provided Recycling/Trash containers inside Wilson Hall, Nursing Building, and Library.





#### Greenhouse Gas Emissions and Carbon Tracking



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## Greenhouse Gas Emissions and Carbon Tracking

• NSU prevented emission of 7,261 metric tons of carbon dioxide equivalent from energy savings realized from January to July 2024.

 Additional emissions reductions anticipated from NSU vehicle fleet electrification.



#### **Next Steps**



- Community Input
  Visioning Activity
  - ➢Infographic Boards
  - ≻Survey
- ≻Draft Plan
  - Moving toward final
- ➤Implementation



## Thank You



NSU Energy and Sustainability Strategic Plan: Introductory Survey

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