

Council Members Present (via Zoom):

Carlo Colella — Vice President & Chief Administrative Officer (Chair)
Scott Lupin — Assoc. Director, Environmental Safety, Sustainability & Risk; Director, Office of Sustainability
Kelley Bishop — Assistant Vice President, Division of Student Affairs
Maureen Kotlas — Executive Director, Environmental Safety, Sustainability & Risk
Susan Corry — Director, Engineering & Energy
Bryan Quinn — Director of Technical Operation, Department of Electrical & Computer Engineering
Eric Wachsman — Director, MD Energy Innovation Institute; Professor, Materials Science & Engineering
Giovanni Baiocchi — Associate Professor, Geographical Sciences
Jennifer Hadden — Associate Professor, Government & Politics
Nina Jeffries — Undergraduate Student Representative

Guest Attendees:

Mark Stewart — Climate Change Program Manager, Maryland Department for the Environment (MDE)
Frank Coale — Acting Assistant Dean, College of Agriculture & Natural Resources; Professor
Xavier Suchar — Undergraduate Student, Sustainability Fund Review Committee
Sabrina Labold — Undergraduate Student, Sustainability Fund Review Committee

Meeting start time: 10:30am

Meeting Highlights

Welcome

Carlo Colella welcomes all Council members and guest speakers to the meeting.

Update on Maryland Climate Policy – M. Stewart

This presentation by Mark Stewart provides an update on recent climate change legislation from the State of Maryland, including the Climate Solutions Now Act of 2022. Other major 2022 climate legislation includes: a Building Energy Transition Implementation Plan; the Climate Transition and Clean Energy Hub, EmPOWER Maryland, Chesapeake Conservation Corps, the Climate Catalytic Capital Fund, Healthy Soils, the Maryland Commission on Climate Change, the Commission on Environmental Justice and Sustainable Communities, and many others.

In his role, Mark helps manage the State's Greenhouse Gas Reduction Act (GGRA) which is significantly impacted by the new legislation. The Climate Solutions Now Act requires the GGRA to outline a 60% reduction from 2006 levels by 2031, use 20-year Global Warming Potentials (GWPs) rather than more traditional 100- and 25-year GWPs, and outlines what can and cannot be included in reduction strategies. Future policies required by the 2022 legislative session, including Building Energy Performance Standards (BEPS) regulations, will impact UMD.

The AgroEcology Corridor – F. Coale

Frank Coale presented to the Council on the AgroEcology Corridor, a campus-wide initiative to create synergy around education and campus green spaces. The proposal explores how UMD researchers, students, and staff can use green space on campus between built environment to address hunger and sustainability. Inverting the traditional ideology, this concept envisions the university within existing green space. Ideally, the project hopes to investigate how campus can serve as a microcosm of the state as a learning laboratory to explore sustainability, food production, food security, and natural resource preservation.

Sustainability Fund Projects – N. Jeffries

Nina Jeffries led the Sustainability Council in a final round discussion of the *MaryPIRG Sustainability Advocates Program* proposal. The remaining issues focus on a lack of staff funding to support the paid student positions and the lack of affiliation with the university. The Council **unanimously denied funding** to this proposal.

Proposed Revisions to the Sustainability Fund Bylaws – N. Jeffries

Nina Jeffries led the Council through a discussion of proposed revisions to the Sustainability Fund Bylaws. The council approved the first by-law change: “At least one student member is preferred to be an active member of either the undergraduate Student Government Association (SGA) or the Residence Hall Association (RHA).” The remaining by-law changes were tabled until the next term.

Open Forum –

Carlo Colella and Scott Lupin thanked out-going council members including Nina Jeffries, Laura McBride, Giovanni Baiocchi, and Jennifer Hadden. The Council appreciates their exemplary work and thoughtful contributions throughout the term of their position on the council.

The Office of Sustainability announced that the University received Gold ranking on their recent submission to the AASHE Sustainability Tracking, Assessment, and Rating System.

Adjourn 12:30 pm

Appendices:

Appendix A: Maryland’s Climate Policy and 2022 Climate Legislation Summary

Appendix B: The AgroEcology Corridor



Maryland
Department of
the Environment

Maryland's Climate Policy and a 2022 Climate Legislation Summary

Presentation to the UMD Sustainability Council
May 3, 2022

Mark Stewart
Climate Change Program Manager, MDE



MD Dept. of the Environment (MDE)

Purpose

- MDE protects and preserves the state's air, water, and land resources and safeguards the environmental health of Maryland's citizens.
- MDE's also enforces environmental laws and regulations, conducts long-term planning and research, and provides technical assistance to Maryland industry and communities.

Mission

- To protect and restore the environment for the health and well-being of all Marylanders.



MD's Climate Policy as of 2021

Greenhouse Gas Reduction Act (GGRA) Plan

- Reduce GHG emissions 50% (from 2006 levels) by 2030 while creating net economic and job benefits for MD
 - Transportation: Transition to zero emissions vehicles (ZEVs) and implement various programs to reduce vehicle miles traveled
 - Electricity: 50% renewable by 2030, 100% carbon-free by 2040
 - Buildings: Improve energy efficiency and replace fossil fuel heating systems with electric heat pumps
- The GGRA Plan also helps MD adapt and become more resilient to a changing climate while improving environmental justice and equity across the state.



A Historic Year for Climate Legislation

A Subset of Bills Related to Climate Change

Climate	SB0528: Climate Solutions Now Act of 2022
Climate	SB0348 / HB0653: Conservation Finance Act
Transportation	HB1391: Clean Cars Act of 2022
Transportation	SB0146 / HB0157: Vehicle Laws-Plug-In Electric Drive Vehicles-Reserved Parking Spaces
Transportation	SB0061 / HB0010: Maryland Transit Administration-Conversion to Zero-Emission Buses



A Historic Year for Climate Legislation

A Subset of Bills Related to Climate Change

Transportation	SB0210: Tax Credits - Employer-Provided Commuter Benefits - Expansion and Administration
Energy	SB0215: Income Tax- Energy Storage Tax Credit -Alterations and Extension
Energy	SB0860 / HB1039: Property Tax-Community Solar Energy Generating Systems-Agrivoltaics
Energy	SB0526 / HB0622: RPS and Renewable Energy Credits - Offshore Wind
Buildings	SB0524 / HB0108: Public Utilities-Energy Efficiency and Conservation Programs- Energy Performance Targets and Low-Income Housing



A Historic Year for Climate Legislation

A Subset of Bills Related to Climate Change

Energy	HB0031 / SB0256: Maryland Energy Administration Resiliency Hub Grant Program and Fund
Energy	HB0772 / SB0494: Energy and Water Efficiency Standards - Alterations
Energy	SB0215: Energy Storage Systems - Income Tax Credit and Grant Program
Finance	SB0566 / HB0740: State Retirement and Pension System Investment Climate Risk Fiduciary Duties
Resiliency	SB0630 / HB0706: Maryland Department of Emergency Management - Office of Resilience



SB0528: Climate Solutions Now Act of 2022

GHG Reduction Targets

- 60% reduction from 2006 levels by 2031
 - Most ambitious near-term target of any U.S. state
 - Exceeds the U.S. Nationally Determined Contribution (NDC) for the Paris Climate Agreement
 - Requires a doubling of Maryland's historic emission reduction rate from now through 2031
- Net-zero emissions by 2045
 - Target was recommended by the Maryland Commission on Climate Change
 - Matches the long-term targets set by California and Virginia



SB0528: Climate Solutions Now Act of 2022

60% by 2031 Plan

- Draft plan due June 2023
- Final plan due December 2023
- May not include highway widening or additional road construction as GHG reduction measures
- Shall use the 20-year global warming potential for methane
- Shall include policy recommendations for the continued operations of MD's existing zero carbon electric generators
- Shall produce net economic benefits and net increase in jobs
- Etc.



SB0528: Climate Solutions Now Act of 2022

Buildings (all building types)

- Intent of the General Assembly that the State move to broader electrification of both existing and new buildings
- The MD Building Code Administration shall report in 2023 on:
 - Recommendations for an all-electric building code
 - The fastest and most cost-efficient methods of decarbonizing buildings
 - Availability of equipment needed for all-electric buildings
 - Projected annual peak summer and winter gas and electric load impacts of electrification
 - Etc.



SB0528: Climate Solutions Now Act of 2022

New and Existing Large Buildings

- MDE shall adopt Building Energy Performance Standards (BEPS) regulations
- Buildings larger than 35,000 square feet shall:
 - Report energy use data annually beginning in 2025
 - Achieve a 20% reduction in net direct emissions by 2030 compared with average buildings of similar construction
 - Achieve net-zero direct emissions by 2040
- Exemptions for agricultural, historic, and manufacturing buildings along with schools and commercial kitchens



SB0528: Climate Solutions Now Act of 2022

Building Energy Transition Implementation Task Force

- MDE shall create a Task Force that will, by December 2023, recommend programs, policies, and incentives aimed at:
 - Helping owners of large buildings meet the Building Energy Performance Standards
 - Support the broader electrification of the building sector
- Recommendations may include:
 - Tax credits or direct subsidy payments for projects
 - Holistic retrofit targets for low-income households
 - On-bill, low-interest financing
 - Etc.



SB0528: Climate Solutions Now Act of 2022

Climate Transition and Clean Energy Hub

- MEA shall create a Hub to provide technical assistance and information to public and private entities to achieve GHG reductions from the building sector

EmPOWER Maryland

- Starting in 2025, the core objective of EmPOWER shall be based on a portfolio of mutually reinforcing goals including:
 - GHG reduction
 - Energy savings
 - Net customer benefits
 - Reaching underserved customers



SB0528: Climate Solutions Now Act of 2022

State Procurement

- At least 75% of the electricity supply procured for use in State facilities shall be derived from no- or low-carbon energy sources by 2030
- Intent of the General Assembly that 100% of passenger cars in the State fleet be zero-emissions vehicles (ZEV) by 2031; all other light-duty vehicles to be ZEV by 2036
- Identify options for preferencing low-carbon concrete in State-funded construction projects



SB0528: Climate Solutions Now Act of 2022

Chesapeake Conservation Corps

- \$1.5M annually in the State budget to employ youth and young adults to deploy clean energy technology and mitigate and prevent the impacts of climate change in communities disproportionately affected by climate impacts

Climate Catalytic Capital Fund

- \$5M in the State budget in FY24-26
- The Maryland Clean Energy Center (MCEC) shall leverage funding from a variety of sources to provide financing for GHG reduction projects
- At least 40% of funding shall be used for projects in communities with low- to moderate-income households



SB0528: Climate Solutions Now Act of 2022

Electric School Bus Pilot Program

- Electric utilities may implement programs to help local school systems purchase electric school buses that would serve as grid-scale battery storage using vehicle-to-grid technology

Healthy Soils

- \$500,000 in FY24-28 to increase biological activity and carbon sequestration in agricultural soils



SB0528: Climate Solutions Now Act of 2022

Tax Exemption for Community Solar Projects

- Exemption from paying county/municipal property tax for new community solar projects that:
 - Provide at least 50% of a project's electrical output to low- or moderate-income customers at rates that are at least 20% lower than the rates charged by the local electric utility company
 - Are located on a rooftop, parking facility canopy, or brownfield



SB0528: Climate Solutions Now Act of 2022

Electric Distribution System Planning

- PSC shall report annually beginning in 2024 on the state of electric distribution system planning to reduce GHGs, improve energy efficiency, incorporate energy storage, increase use of distributed energy resources including electric vehicles, etc.

Agency Planning, Policy, and Regulations Development

- Each State agency shall, when conducting long-term planning, developing policy, and drafting regulations, shall take into consideration the likely impact of the agency's decisions relative to Maryland's GHG reduction goals and the likely impact on disproportionately affected communities



SB0528: Climate Solutions Now Act of 2022

Commission on Environmental Justice and Sustainable Communities

- Adopt a methodology to identify communities disproportionately affected by climate impacts
- Develop strategies to address geographic impact concerns and reducing GHG emissions and co-pollutants
- Build climate equity and resilience within disproportionately affected communities
- Establish goals for the percentage of State funding for GHG reduction measures that should be used for the benefit of disproportionately affected communities



SB0528: Climate Solutions Now Act of 2022

Maryland Commission on Climate Change

- MDE shall include in the MCCC Annual Report an accounting of State money spent on measures to reduce GHGs and co-pollutants and the percentage of funding that benefited disproportionately affected communities
- Create four new MCCC working groups:
 - Just Transition Employment and Retraining WG
 - Energy Industry and Revitalization WG
 - Energy Resilience and Efficiency WG
 - Solar Photovoltaic Systems Recovery, Reuse, and Recycling WG



Contact

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Transforming Campus-Wide Education: The UMD AgroEcology Corridor



COLLEGE OF
AGRICULTURE &
NATURAL RESOURCES

We must connect the dots between food security and environmental sustainability in the face of grand challenges:

- World hunger
- Food safety and security
- Climate change
- Natural resource preservation
- Human health
- Community wellness

**MY FEARLESS IDEA
REDUCES FOOD WASTE**

< DO GOOD >



**EVAN LUTZ '14 / ENTREPRENEURSHIP
CEO AND CO-FOUNDER / HUNGRY HARVEST / WINNER / ABC'S "SHARK TANK"**

Terp Farm, 2020

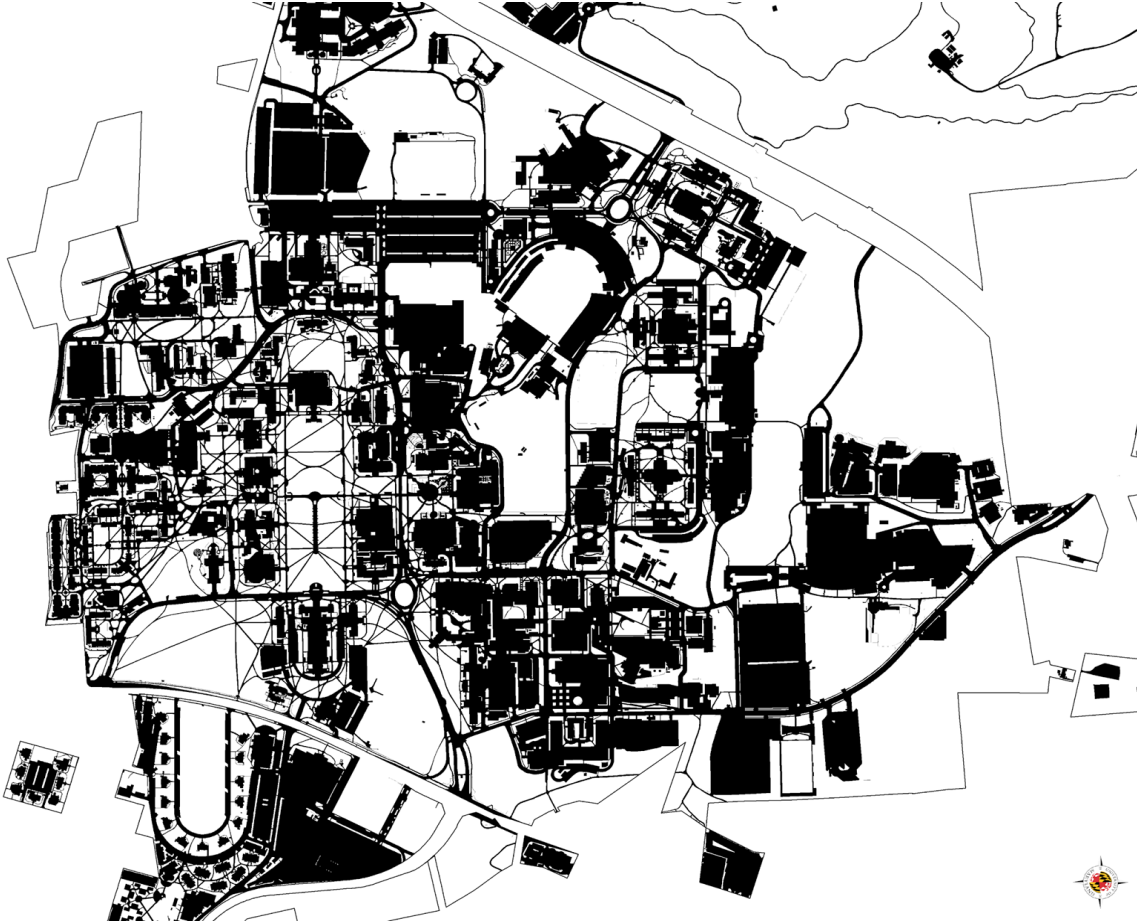


An untapped resource:

Our campus is a microcosm of our state that can be used as a learning laboratory to explore sustainability of food production, food security, and natural resource preservation

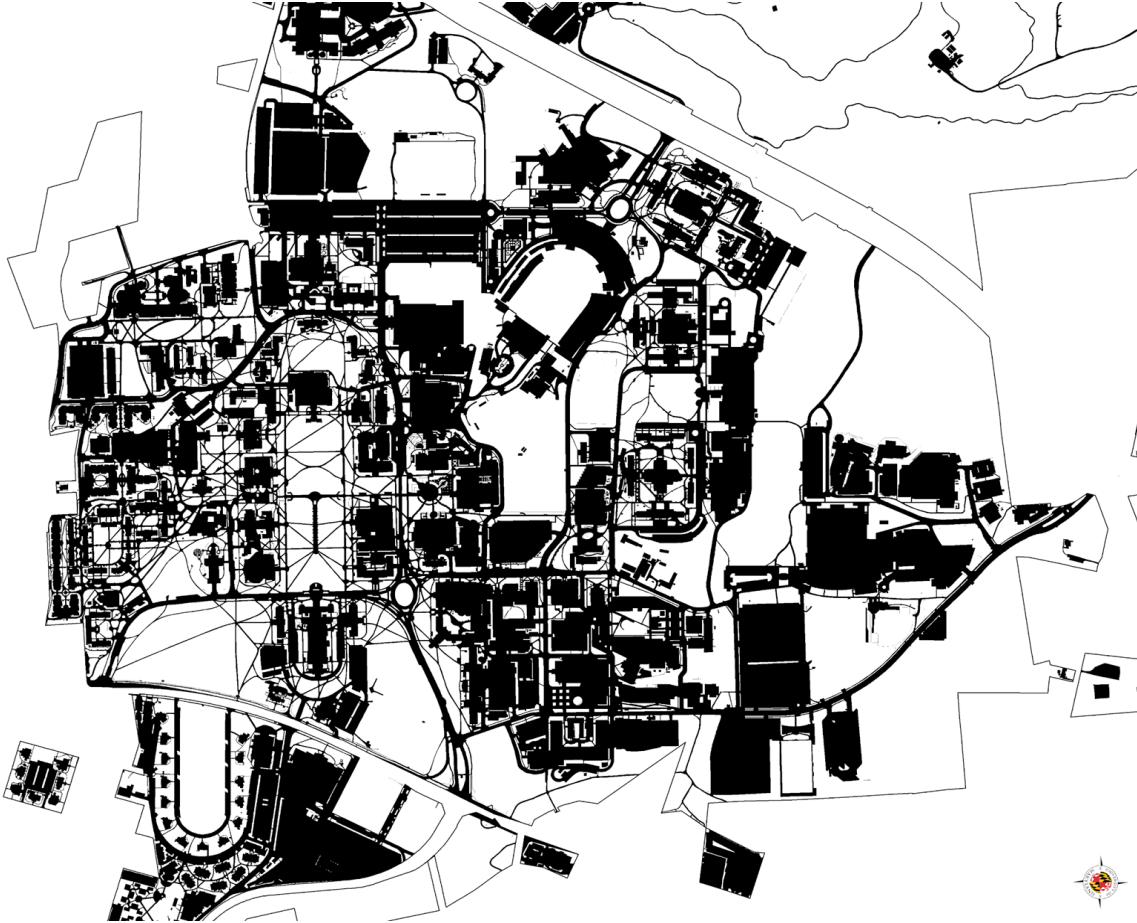


Our campus: balance between built and natural



Built Systems

Our campus: balance between built and natural



Built Systems

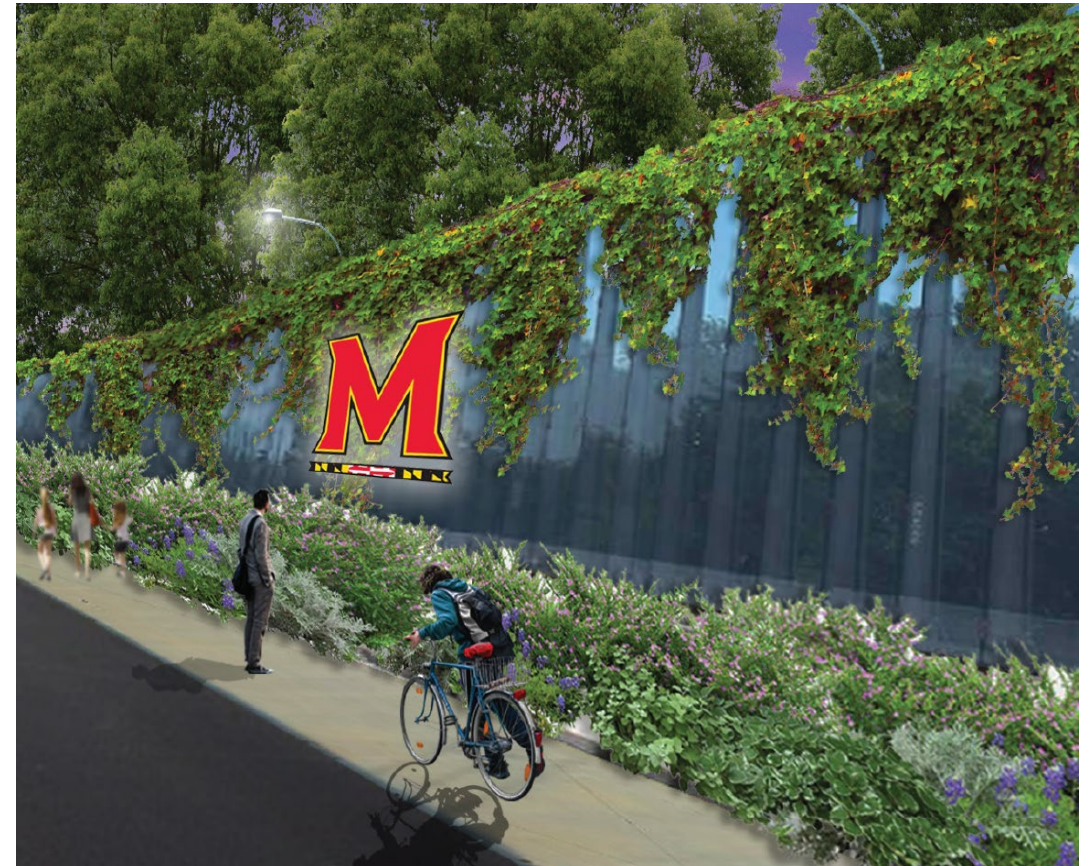


Natural Systems

- **A unique concept:** a university within a green space rather than green spaces within a university
- **A stimulus for important conversations:** food security, food justice, natural resource protection, sustainable built environments, community wellness
- **A nexus for all disciplines:** natural sciences, social sciences, agriculture, economics, engineering, behavioral sciences, architecture, public policy, education, public health, arts & culture...



GOAL: Create an AgroEcology Corridor that provides experiential learning and research opportunities for all students at the University of Maryland and an immersive educational experience for visitors to our campus.

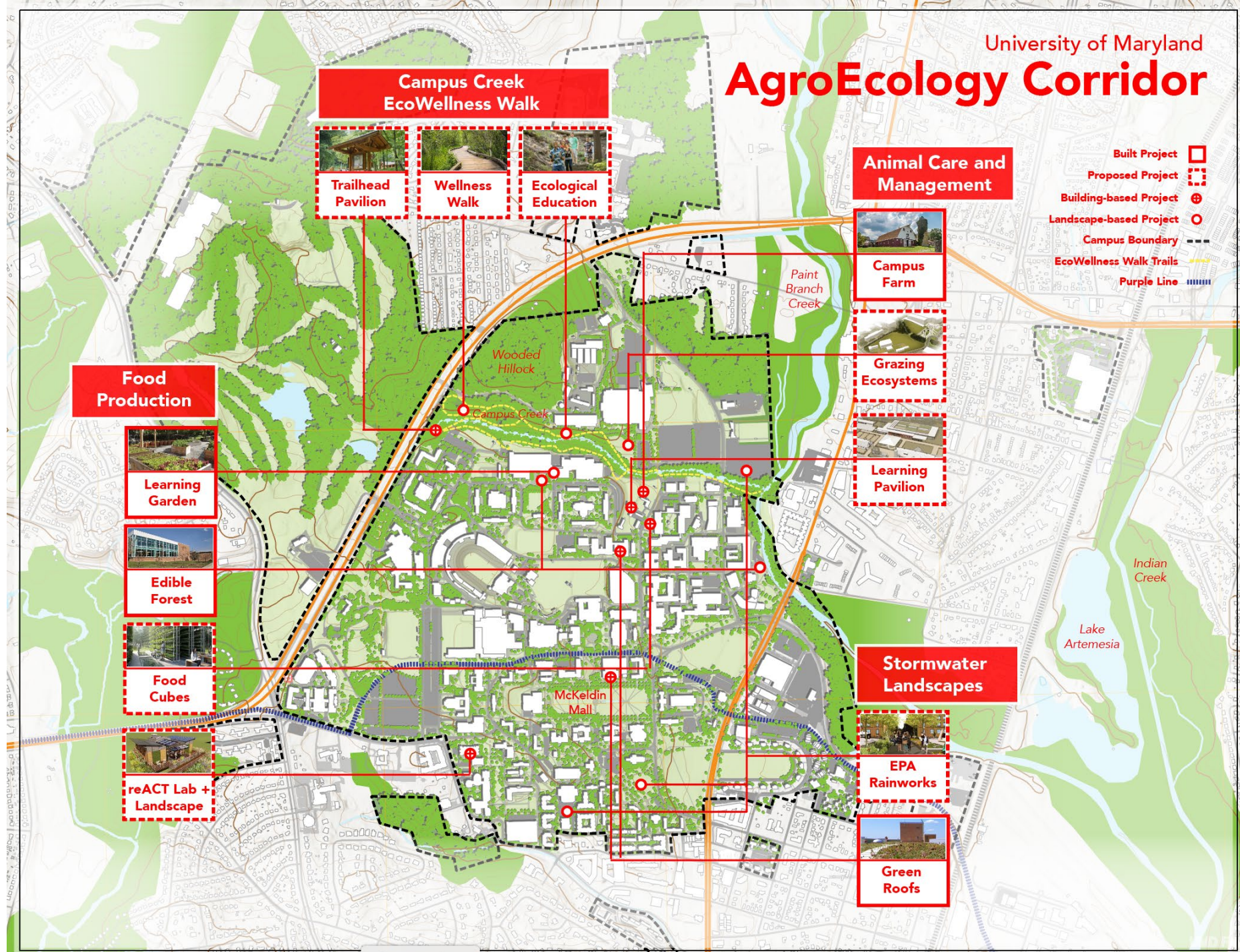


AgroEcology Corridor: Campus Partners

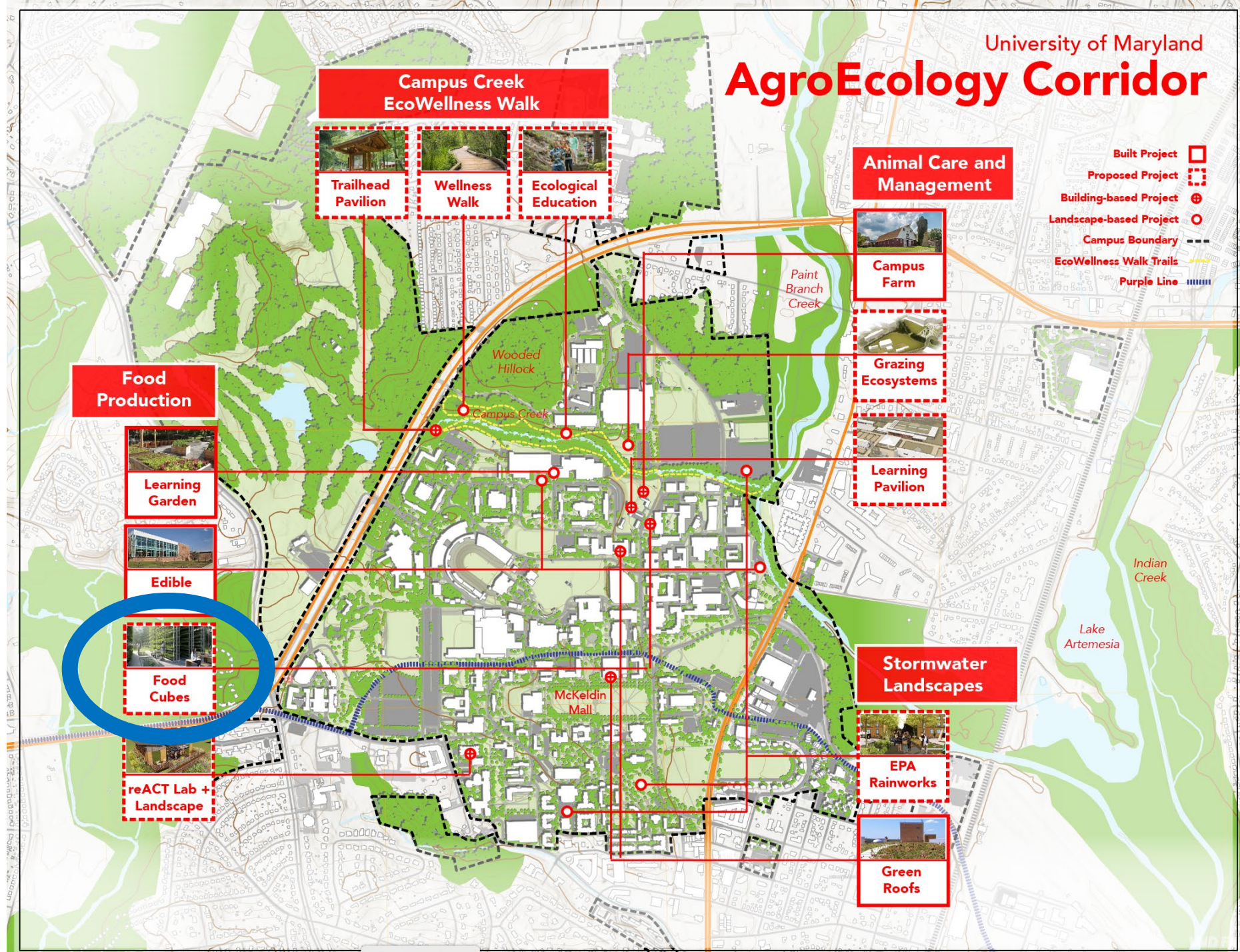
- Academic Colleges
 - AGNR, ARCH, SPHL, INFO
- Facilities Management
 - Planning & Construction
 - Arboretum & Botanical Garden
- Student Affairs
 - Dining Services
 - Stamp Student Union
- Office of Sustainability
 - Sustainability Fund
- Campus Community Connection
- Student teams
 - Environmental Science & Technology
 - Landscape Architecture
 - Architecture
 - Information Studies
 - SCOOP – UMD Sustainability Co-op



University of Maryland AgroEcology Corridor



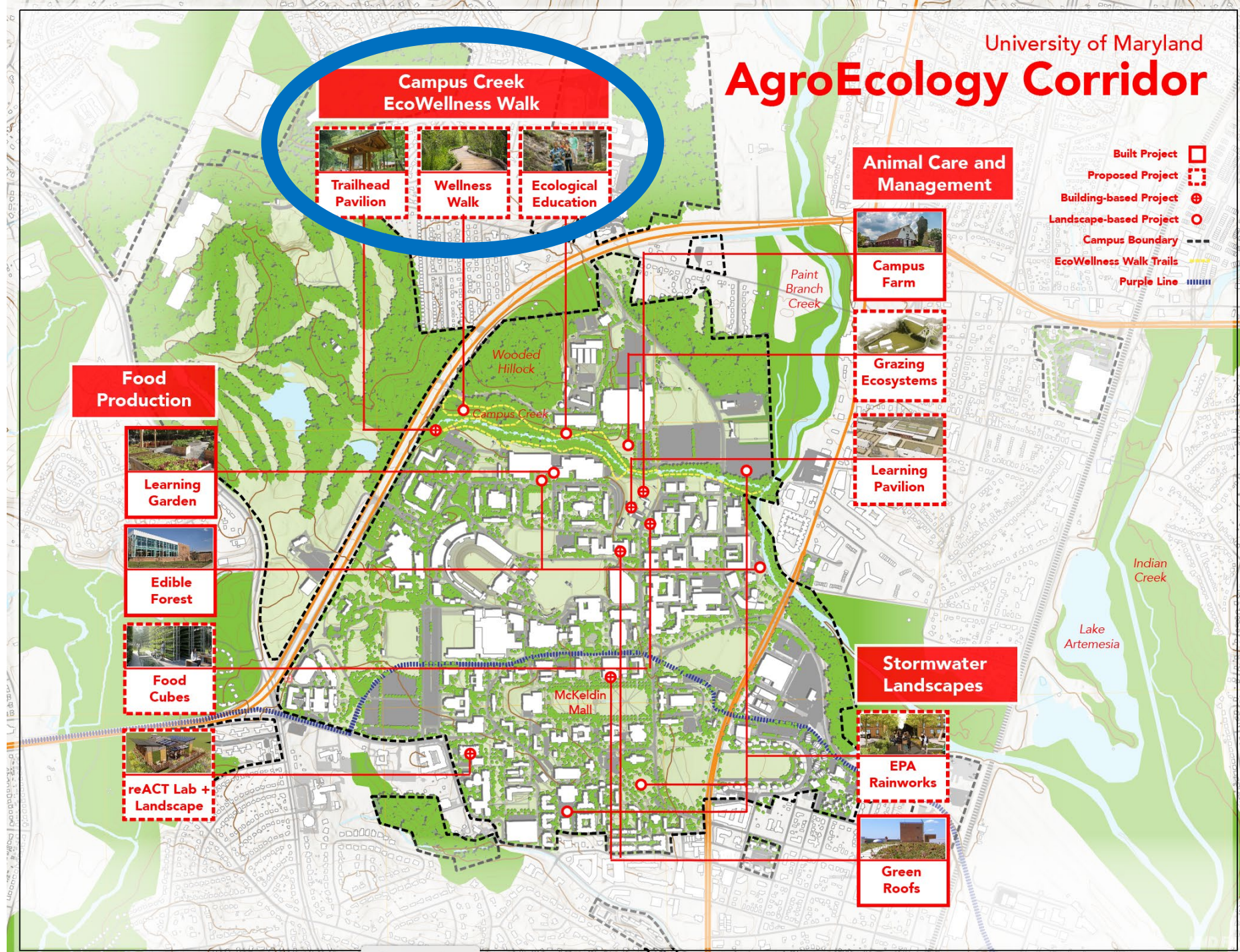
University of Maryland AgroEcology Corridor



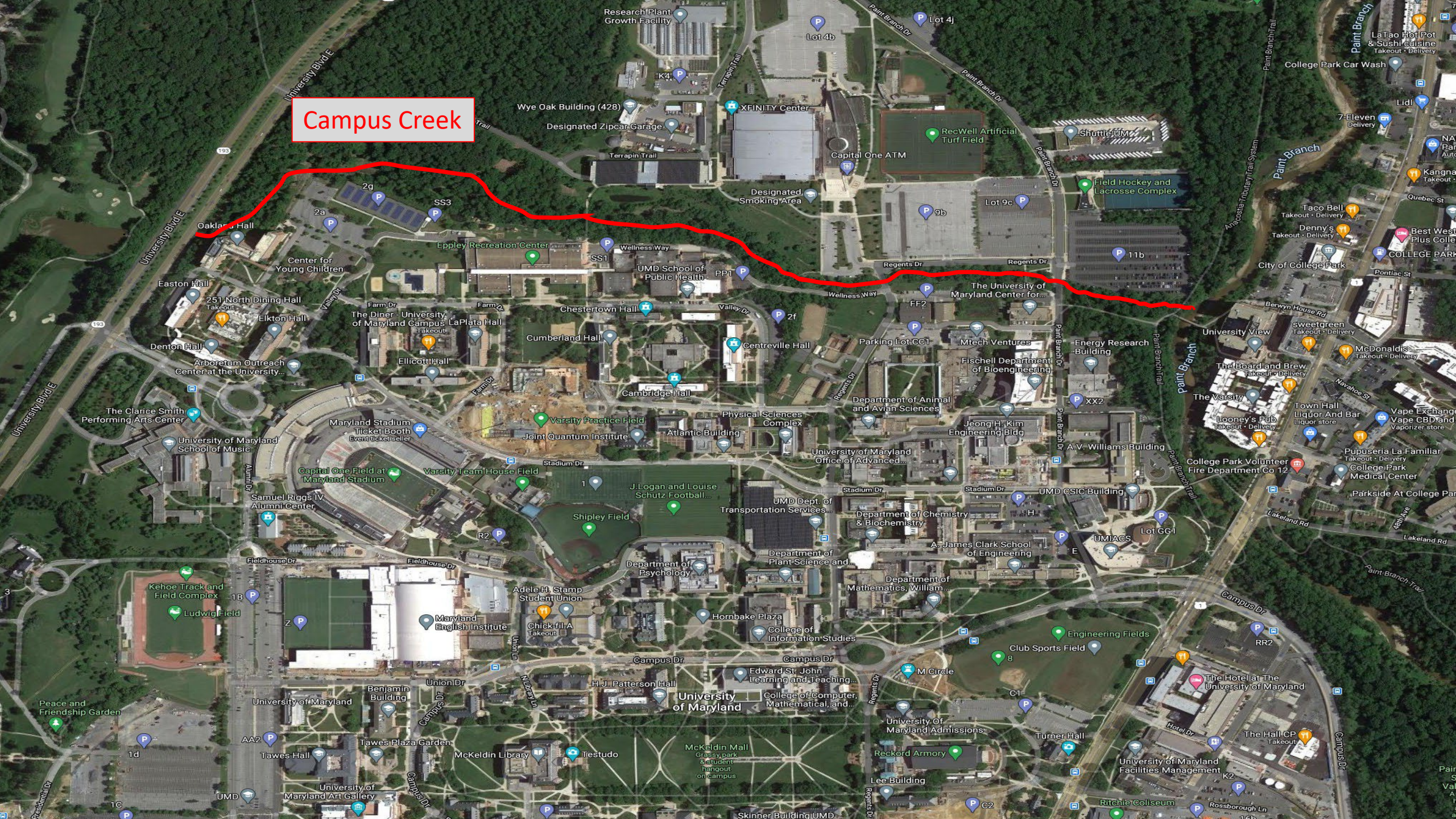
FOOD CUBES



AgroEcology Corridor



Campus Creek



Campus Creek EcoWellness Walk

A mile of immersion, education & rejuvenation



NatureRx @ UMD

A campus movement celebrating nature's role
in our health and well-being

Transforming Campus-Wide Education: The UMD AgroEcology Corridor



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