**Meeting Minutes**

**Land Use Working Group-CEST**

**Tuesday, January 19th, 1:30**

**Attendees:**

Lisa Johnson- Interim University Architect, Chair of Land Use Working Group
Danesha Seth Carley- Assistanct Director, SRIPMC
Michael Harwood- Assistant Vice Chancellor, CCDO
Rob Farrell- Finance Director for the Library
Barbara Doll- Water Quality Specialist
James Jeuck- Extension Forestry
Rich Henderson- Executive VP, Audubon Environmental
Yu-Fai Leung- Associate Professor
Brooke Boyle- GIS Coordinator, Transportation
Ellen Buckner- Environmental Specialist, EHS
Bill Beardall- Director for Grounds Management, WRR and Fleet Services

Lindsay Batchelor- Program Coordinator, University Sustainability Office
Tracy Dixon- Director of University Sustainability Office
Jeff Hightower- Director of Utilities Infrastructure
John Carter- Project Manager, Affiliated Engineers, Inc.
Rob McKenna- Energy Strategies
Jeff Burks- Energy Strategies
Nathaniel Grier- Martin/Alexiou/Bryson

**Agenda**

* Welcome and Introductions- Lisa Johnson
* Where We Are/Where We Are Going- Lindsay Batchelor
* GHG Inventory and CAP Overview- Lindsay Batchelor
* Approach and Goals of the CAP Project- John Carter, AEI
* GHG Estimates for Focus Area- John Carter, AEI
* List Development- All
* Next Steps- Lindsay

**5-Year Strategies**

General

Update the Physical Master Plan to strengthen policy regarding issues that address land use including site selection, preservation of existing site features, minimization of grading and earthwork, and low impact development principles.

Use of Space

1. **Space**: Better utilize space – impacts the building size and land area needed. Re-evaluate the UNC-GA space standards. Develop a space management plan to assist with improving space utilization.
2. Plan **mixed-use** campus neighborhoods – reduces the distance between necessary services
3. **Housing**: Increase the number of students living on campus (about 33% of undergrad population now living on campus) so that fewer students are driving to and from campus on a daily basis.
4. **Parking**:
* Evaluate the parking plans/policies to only provide building parking that is needed on Centennial Campus. This will involve coordination with the city. Currently there is more parking on Centennial Campus than is needed. 5-year goal to reduce parking requirement by \_\_\_\_% (determined by Transportation).
* Reduce the percentage of student parking spaces to decrease parking need.
* Explore alternative transportation options that reduce the need for parking.
* Develop strategies that reduce cars driving between North Campus and Centennial Campus (examples: bus priority corridor, bike paths, people mover, pedestrian paths that encourage walking. Complete planning for these items in the next 5 years with a phased implementation plan to follow.
1. **Shared open space**: Evaluate types of open spaces and maximize efficiency for those opportunities.

Restoration & Preservation

1. Evaluate preservation opportunities (includes land, vegetation and water features). See natural systems piece of Master Plan.
2. Continue to enhance and repair natural areas already impacted on campus.
3. Identify and protect environmentally sensitive areas on campus above and beyond those already under regulatory protection.

Conservation

1. Evaluate site plans/site assessments for buildings and infrastructure to include site selection, grading, erosion control, utilizing existing topography. See low impact development principles
2. Implement master plan wording about siting of buildings – building orientation, minimize building footprints, use existing topography, etc.
3. Protect and enhance corridors for native habitats and wildlife (develop a management plan for Lake Raleigh Woods, complete Centennial tree conservation plan).
4. Develop and urban forestry plan. (Is this in line with the Tree Heritage Planning?)

Grounds Management

1. Specify native/indigenous and adaptive plant species. Aligning the use of the plant with the intent of the areas (natural areas, grasses, etc.). Formal landscape areas should have adaptive plant species. Natural areas should be native species. Eliminate and avoid invasive plant species.
2. Establish more low maintenance landscapes that require less mowing, less watering and less fertilizing.
3. Continue yard waste mulching, composting and reuse on campus and look for ways to improve and expand.
4. Integrated Pest Management: Bill Beardall provided a hand out on integrated pest management (IPM) ([www.epa.gov.pesticides/food/ipm.htm](http://www.epa.gov.pesticides/food/ipm.htm)). Establish a measurable target for IPM based on percentage of reduction or expenditure reduction. Grounds management to further develop existing strategies – reduce volume of chemicals and use less toxic chemicals. Partner with NSF Center for IPM to develop strategies for enhancing NCSU’s IPM program.
5. Is there a strategy needed to address the animal waste? Ask Curtis Powell with the College of Agriculture and Life Sciences.

Storm Water Management

1. Create a storm water master plan for campus in conjunction with the NC State Storm Water Program and identify staff to manage the master plan.
2. Create a design and construction guideline for storm water management which specifies best management practices most suitable and successful on campus, and that requires improvement projects and development projects to improve the quality of storm water close to the point of origin.
* Require more progressive BMP’s. Don’t allow dry ponds.
* Capture storm water and use for irrigation.
* Develop a plan/guideline to divert storm water from existing roof drains. Where roof drains are connected to storm water systems, disconnect existing roof drains so that at least 20 % of the storm water is diverted to best management practices that promote water reuse, water quality improvement, and enhancement of natural systems such as habitat and ground water supply.
1. Create a design and construction guideline for earthwork that stresses/calls for minimal impact to existing natural features, and attention to topsoil preservation and placement that enhance survivability of plant material and reduce the likelihood of erosive soils.
2. Increase the use pervious pavement.
3. Make storm water features an obvious and prominent part of the landscape. They should be educational and aesthetic (include descriptive signage).
4. There was discussion regarding having a designated expert review all storm water and erosion control plans for campus. It was noted that these reviews are being done by a third party with expertise in these areas.

Campus engagement

* Integrate teaching, extension, and faculty expertise with facilities projects. Facilities should be part of academic experience (example using storm water site). Tie to our land grant mission. These concepts should be a part of an overall education and awareness strategic section in the larger plan. Engage faculty and students in campus projects.
* Better communication is needed between facilities educational needs and extension specialists.
* Consider grant funding as a source for sustainable projects.

Vision Statement

The university will create and implement policy, practice and culture regarding land use that optimize the use of space, preserve natural systems and sensitive areas, conserve natural resources, and manage grounds and storm water to use resources more efficiently. The university will promote responsible, innovative, and practical site design and site management strategies that are sensitive to plants, wildlife, air and water quality, that respect existing features of the site, preserve natural ecosystem functions, enhance the health of the surround community, and that support the commitment to human-scaled neighborhoods and paths, mixed-use activities, and the campus as part of the greater city context. (or, to all of the Guiding Principles?)

**Discussion/Ideas**

Use of Space

* Better develop pedestrian corridors
	+ Analyze walking routes
	+ Reduce vehicles on campus
* Initiate culture change to modify UNC system space standards
	+ Space management of research/lab space
	+ Space sharing
* Establish monitoring to provide additional metrics of building energy performance
* Encourage mixed use development combining:
	+ Residential
	+ Dining
	+ Library
	+ Light retail
	+ Bookstore
	+ Bike-sharing program (already in place)

Conservation

* Manage green spaces to qualify as carbon sinks
	+ Research ongoing into turf grass as a sink?

Grounds Management

* Composting is currently limited by land space available
	+ Dining and vet school compost is currently taken off-site
* Select fertilizer based on GHG impact and other environmental considerations
* Integrated pest management program
* Establish low-maintenance landscapes
	+ Plant perennials instead of annuals
	+ Natural areas instead of managed landscapes