
(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Design standards and public art (#1)

Description:

The University will develop design standards for Carolina North that support the mission of a mixed-use campus and includes opportunities for public art.

Key University Considerations:

1. Design Standards are approved by the University Board of Trustees; final building design is approved through University boards and trustees.
2. Design will be responsive to other goals (sustainability, program, site)
3. Design standards should include opportunities for public art.

Key Town Considerations:

1. Design standards should support other policy goals in the zone and development agreement
 2. Design standards should include opportunities for public art.
-

Technical information to support policy decisions:

- Design guidelines can be broad, such as those approved by the University Board of Trustees, or detailed, such as those included in the Town's LUMO.
- The ordinance and Development Agreement should contain appropriate levels of standards for Carolina North; some staff guidelines for key topics can be developed to guide individual building reviews

Recommended strategies:

- The University will provide the Town with information about most recent design standards for Carolina North as part of development agreement applications and phase applications for informational purposes and to demonstrate the inclusion of opportunities for public art.
- The staffs will prepare and use guidelines for key topics
- Intended street ownership should be identified at the phase level
- Develop a table of street designs for each type of street and identify street classifications on a map (e.g. Meadowmont and Southern Village)
- Establish clear reviewing responsibilities for exemplary standards (every cause needs a champion)

Phase-level topics to consider at review:

- Traffic calming in adjacent neighborhoods
- Construction management plan, two way traffic maintained on major roads during construction
- Pedestrian management plan, plan for median refuge islands and/or mid-block pedestrian signals

Note: staff assistance identifying potential standards, requirements, mitigation measures, triggers for action, etc. will be offered for discussion to the Council-Trustees. More than one approach may be identified for consideration. These suggestions will inform the policy decisions to be made by the Council-Trustees; conflicting information does not need to be negotiated or resolved by staff working groups.

- Designation of bicycle lanes
- Provision of public art overlay with funding sources (such as % for art), opportunities for temporary art, and inclusion of artists on the design team
- Loading and service zone plan; service access for the phase so building service and traffic don't conflict

Access-related topics to consider:

- Building loading dock should not be next to high-volume (people or traffic) areas
- Appropriate setbacks for emergency vehicles; keep normal traffic separated from buildings but allow emergency and fire vehicle access
- Public gathering areas should not have vehicle access; emergency access should be provided
- Fire lanes can be combined with pedestrian access (multi-purpose use)
- Heliport location

Possible Guideline topics to be developed as a building-checklist for staff review (TOCH):

- Do HVAC and other mechanical units meet sound/noise requirements
- Bus/transit standards for pull-offs, stops, facilities, internal/external levels of service
- Coordinated service/pedestrian/emergency/delivery access
- Fire department ladder truck access to multi-story buildings
- Staging areas for emergency vehicles
- Maintain street and access route widths to accommodate fire trucks and ambulances including turning radius
- Pedestrian gathering places protected from vehicles
- Appropriate lighting for safety and security (different from current LUMO standards)
- Flexible standards to address changing technology (lighting)
- Type and number of traffic calming devices on vehicle roadways
- Landscape standards: metrics for tree canopy coverage on developed portions; landscaping and good sight lines should be coordinated for safety

Possible Guideline topics to be developed as a building checklist for design process (UNC):

- Mechanical platforms, guard rails, access and fall-protection
- Combine handicap and emergency access space markings (minimum distance to entries) with FDC access markings since both must remain open and unlocked
- Equal access plan ramps and curb cuts to correspond to FFIs
- Two access routes to any elevated public viewing sites atop buildings
- Hydrants and water supply in place prior to construction

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- Special design standards for research facilities that maintain security
- On street parking should be coordinated with fire access
- Use universal design rather than accessibility design

Public note card/sticky note written comments from 1-29-09

- High-efficiency and sustainability in design – integrated pedestrian/bike (complete streets)
- I would prefer to see more pedestrian/bike paths to commute to CN rather than bike lanes. Separation is safer and I think a more efficient use of road capacity and better for urban form/design overall.
- Performance guidelines needed for design of the physical setting – expression thus far seems 2-D focusing on roads-blocks, not growth and visual and spatial linkages
- Hope art funding will be used for large structures that uniquely define public space rather than for small sculpture
- Design should include elements that exemplify usage of natural, green, locally sourced materials, design and labor as learning lab for both town and university
- Use of locally sourced timber from CN
- Let's make CN an international destination for scholars, business people, and policy makers on how a town and university achieved at least its 60% carbon reduction commitment and better yet the IPCC goal of 80% ghg reduction by 2050. This also happens to be President Obama and Governor Perdue's ghg reduction goal.
- This sounds like design integrity is delegated to UNC, neighbors may have good input to design features
- Use the AIA 2030 challenge to set the design standards for all construction and the energy infrastructure
- Use non-carbon emitting people movers on campus to reduce automotive traffic
- Grocery store – essential, reasonable prices though small, not another high-end
- Technology is adored by many Chapel Hill residents so many must realize that great changes will happen repeatedly in cars, fuels, water reclamation, etc; unpredictable!
- World population is rapidly growing. Chapel Hill will have its share of new population; we must expect this in a realistic way.
- Height pollution a concern
- Support special lighting/keeping skies dark
- Pedestrian dangers crossing MLK
- Support building need to be linked architecturally

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- If public has no review, what will happen when the next Board of Trustees has no design sense? Design review has been delegated to UNC only.
- Support suggestion to make it a requirement to AIA 2030 standards
- Support architectural infrastructure integrity of new buildings

Public comment received on 2-19-09:

- Robust fallback zone for permitted and unanticipated uses
- Signature buildings – no East 54
- Limit height to six stories interior, 2-4 on the borders
- Living art – people, gardens, water
- Point sources for noise in the interior
- Gardens – for food and beauty without chemicals
- Consider percentage of public art by local artists
- Bike road and pedestrian facilities – improvements triggered by square footage percentage levels
- Buffer between MLK Jr. and Carolina North
- Commitment to spend on local artist
- Public access to art

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Police/Fire/EMS facilities and services (#2)

Description:

The plan for Carolina North will address the needs of appropriate service providers.

Key University Considerations:

1. Roadway access and networks will support provision of services
2. University and town providers should collaborate on identifying mutually satisfactory sites to combine service with other program needs at Carolina North
3. The plan for Carolina North will identify locations for service providers

Key Town Considerations:

1. Roadway access and networks will support provision of services
 2. The town service providers will participate in the Town Manager's review and approval of individual building sites
-

Technical information to support policy decisions:

Assumptions:

- The town and university service providers can continue working under the present arrangements for jurisdiction and operations.
- The growth at Carolina North will require additional facilities
- Those facilities should be co-located to maximize response capabilities, to share facilities as appropriate and to coordinate with other uses at Carolina North such as housing (for internship programs as appropriate) and exercise facilities.
- The joint facility could be part of a larger building with other uses
- Provision of parking, vehicle storage and haz-mat response and storage facilities should be coordinated with the University's EHS department.

The service providers have identified the following program triggers for facilities at Carolina North:

- Phase 1 (3-5 years): 3600 SF joint facilities concurrent with first development at CN
 - Phase 2 (7-10 years): 17,100 SF joint facilities (1.5M SF to 4M SF of CN construction)
 - Phase 3 (15-18 years): 33,000 SF joint facilities (4M SF to 8M SF of CN construction)
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Public note card/sticky note written comments from 1-29-09

- This is a good way to get input but I would rather comment on Group I issues

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- UNC should pay for this (at least 90%)
- At what point will CN need its own EMS/Fire/Public Safety
- Fiscal equity – establish mechanism so taxpayers do not bear entire cost burden

Public comment received on 2-19-09:

- UNC Police substation and police bike patrols at night
-

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: School Site (#3)

Description:

A school site will be provided as part of the Carolina North development.

Key University Considerations:

1. School board members will participate in identifying sites that respond to school needs as well as University policy on sustainability and campus program needs
2. The school site should be well integrated into the overall plan for Carolina North

Key Town Considerations:

1. School provision should be related to the adequate facilities ordinance
-

Technical information to support policy decisions:

Some considerations during the site selection and design review process that don't need to be included in the zone or Development Agreement between the Town and University:

- The site should have appropriate access for school functioning/program
- The site should be near residential development
- The school should have space for associated recreation/play facilities
- The percent of students in walk zone is a possible metric for choosing a site
- Adequate drop off and pick up area for the school should be provided
- Pedestrian and bicycle access should be provided to the school from adjacent neighborhoods

Metrics for the zone or Development Agreement:

- The University and School system should define the time period for site availability and communicate with the town
- The location and size of the school should relate to the adequate facilities ordinance
- The school should be included in the TIA report (or equivalent) for Carolina North when a site is designed

Public note card/sticky note written comments from 1-29-09

- Agree that more housing will support schools
- We need more housing density at CN; will help support school population plus easy commute to UNC
- Elementary schools don't need 10 acres as now required in NC – go compact

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- I suggest the new school be held within the initial 250 acre phase otherwise the development footprint will expand; this is unacceptable.
- Agree!
- Should be model environmental center – environmental magnet – no child left inside!

Public comment received on 2-19-09:

- Plan carefully so you don't have to redistrict like crazy
- Environmental education center
- School should relate to the Orange County School Construction Standards as well as Department of Public Instruction requirements

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Recreation facilities (#4)

Description:

Carolina North will include recreation facilities appropriate to the mixed-use campus including fields, trails, and greenways.

Key University Considerations:

1. Recreation facilities should fulfill program needs of the university, including athletic (cross country), sports-medicine (exercise) and academic/housing (play)

Key Town Considerations:

1. The Town's interests are served by having adequate indoor/outdoor facilities available at Carolina North

Technical information to support policy decisions:

Potential standards:

ADA guidelines for accessible public right-of-way
ADA accessibility guidelines for outdoor developed areas
ADA guidelines for outdoor developed areas (trails, etc)
ADA accessibility guidelines for recreation facilities
ADA accessibility guidelines for play areas (playgrounds)
AASHTO standards for trails

Potential review guidelines:

- Minimize disturbance and ensure good material and maintenance choices of recreation fields, trails and greenways
- Identify and avoid regulatory floodplains and stream buffers when locating facilities
- Consider co-location of trails, greenways, pedestrian paths and other access needs in the more developed areas of campus
- Co-locate trails, utilities and roads in the less developed areas of the property

Potential policy items:

- Consider shared-use recreation facilities with pay-for-use policy, public access where practical
- Continued public access to current system of trails
- Create a permanently preserved natural park of at least 100 acres, similar to Battle Park. This park should have trails and picnic facilities. This park could be used to preserve a significant natural area as well as to provide an area for relaxation once the entire Carolina North site is built out.

Potential types of facilities:

- Soccer/athletic fields

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- Outdoor basketball courts
- Building containing gymnasium/courts/dance/exercise/climbing wall/etc.
- Children's play area
- Mix of trail types including paved greenway trails, single track paths, and wider walking paths.
- A natural surface trail system that supports the following activities:
 - Walking/running
 - Mountain biking
 - Bird watching
 - Dog walking
 - Orienteering/geocaching
 - Running and biking races
 - Kite, RC, and model rocketry flights
- Athletic fields
- Competition gardens
- Farmer's Market
- Maintenance facilities
 - Clearly defined maintenance routines and responsibilities
- Parking
- Bathrooms/toilets
- Picnic shelters
- Maps

Potential users:

- University students, faculty, staff
- Families
- Local and regional user groups
- Local communities, including transient population

Public note card/sticky note written comments from 1-29-09

- Think Universal Design Standards-facility that accommodates individuals of all stages of disabilities
- Connect greenways to adjacent neighborhoods
- Promote bike races there
- The historic spirit of community in the Horace Williams Tract expands far beyond 100 acres. Battle Park should not be the model for greenspace preservation at Carolina North "100 acres" out of 1000 is not significant preservation
- Keep up the good work on the trails at Carolina North

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- Preserve the trails!
- Promote the trails!
it's good to see the development will be dense and leave maximum green space
- Foresters are doing a great job
- Would like to see a recreation space as a learning opportunity – sort of a ‘public lab’ to study environmental impacts of development

Public comment received on 2-19-09:

- Environmental education – school kids, UNC students – monitor creek health, forest, air quality
- Community Garden to provide local, organic food and build community
- Provide state of art gym facility like wellness center in Meadowmont
- Include quads like main campus

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Greenways, connections (#5)

Description:

Pedestrian and bike connectivity with neighborhoods and the community will be a key component of Carolina North.

Key University Considerations:

1. Greenways should be well integrated into the long-term development plan for the property
2. Greenways should support the programs and transportation goals at Carolina North

Key Town Considerations:

1. Greenways should connect to the community-wide system and be coordinated with the Town's Greenways master plan

Technical information to support policy decisions:

- **Potential standards:**
ADA guidelines for accessible public right-of-way
- ADA accessibility guidelines for outdoor developed areas
- ADA guidelines for outdoor developed areas (trails, etc)
- Geometric Design STDS

Potential review guidelines:

- Maintenance consideration for pavement and access
- Minimize disturbance and ensure good material and maintenance choices of recreation fields, trails and greenways
- Identify and avoid regulatory floodplains and stream buffers when locating facilities
- Consider co-location of trails, greenways, pedestrian paths and other access needs in the more developed areas of campus
- Co-locate trails, utilities and roads in the less developed areas of the property
- Greenway trails should be a minimum of 10 feet in width throughout most of the site. In the campus area the path should be 12 feet wide.
- Connections should be 'thoughtfully linear' as well as topographically and environmentally sustainable and should not degrade the natural environment.
- Maintenance routines and responsibilities should be unified and clearly defined.
- Greenways and natural surface trails are not the same.
- Natural surface trails should be accessible from greenway.
- There should be a limited number of designated access points to the natural trail system
- Unauthorized connections should be discouraged.
- Connections should be hierarchical based on type or volume of connection.
- Site fixtures and amenities should be required at designated trail heads, including but not limited to:

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- Informational kiosk
 - Map/locator/wayfinding device
 - Gated access – prohibit motorized access
 - Trash cans
 - Water fountain/spigot
 - Bathroom
 - Recreational parking
 - Bicycle racks
- UNC Facilities Services/Forest Management should be allowed to provide input to and approve proposed trail re-alignments, closures, and designated access points.

Potential policy:

- Early installation (even rough) of greenways and paths for pedestrians and cyclists
 - Build a temporary non-paved central trail to Homestead Road once the airport runway is closed and deactivated. This would eventually be replaced by the paved trail.
 - Utility corridors could also have early access
- Thoughtful connections from all directions for cyclists and pedestrians
- Negotiate ped/bike easements with surrounding cul-de-sac neighborhoods
- Consider a “Battle Park” model at Carolina North
- Consider “Biological Preserve” in association with a “Battle Park” element, all related to riparian buffers
- Tie construction of the greenway trail system to certain benchmarks related to construction of buildings. For example, build a certain amount of greenway trail for each 500,000 sf of floor area of buildings.

Potential improvements:

- Build a paved greenway trail from Estes Drive Extension through the site to Homestead Road. This trail would eventually connect with the Town’s extension of the Bolin Creek Trail from the south and the Town’s Horace Williams Trail to the north
- Build a paved greenway trail through the center of the first phase campus in an east/west direction to eventually connect with Carrboro/Chapel Hill extension of the Bolin Creek Trail.
- Provide method of crossing Estes Drive extension via underpass or pedestrian refuge.
- Continue greenway trail through the campus area as a separate facility with as few road intersections as possible. The trail should not disappear in the campus area by merging into bike lanes.

Public note card/sticky note written comments from 1-29-09

- A visible, accessible center on campus which provides covered bike storage, lockers and facilities for showering would send a strong message that alternative transit is encouraged (not just an option)

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- I suggest that CN development be halted at 250 acres. The public will support this. Students with an eye and heart for the future will also support this. Preserve the open space.
- Biological Preserve, environmental education – great ideas.
- Connecting these greenways is crucial for ensuring their use. Right now Bolin trail just dies out to the west. If connected well to CN, it will be able to flourish.
- Bike/ped connectivity from the start, not only with MLK, but with Estes drive toward Carrboro will recognize the number of university staff and students who commute to UNC from Carrboro
- Don't pave every greenway, especially near creeks

Public comment received on 2-19-09:

- Establish bike trail from CN to Carrboro and main campus alternative to MLK (for student use)
- Will there also be light rail?
- Seek to connect not only to neighborhoods to CN but downtown Carrboro and Chapel Hill (acknowledging that Carrboro is beyond jurisdiction but partnerships could be sought)
- Don't forget private adjacent neighborhoods and making pedestrian connections
- UNC Students would rather take a longer, flatter bike path rather than MLK which is dangerous
- Provide maps to CN trails and existing greenways at bike hub/transit station
- Bikeability and active transport that are pleasant and innovative
- Make sure greenway routes (at least some of them) serve as transportation corridors or useful ways to get point to point
- Take all feasible steps to provide interconnected, walkable, and bikeable pathways that will allow students and UNC North Employees to leave the car at home
- Yes! With public input!

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Historic, cultural features (6)

Description:

Important historic and cultural features on the site will be appropriately identified and protected

Key University Considerations:

1. The Ecological Assessment identified key historic sites
2. An Archeological survey will be done for each phase of Carolina North
3. Archaeological survey should be coordinated with Army Corps permit and Environmental Assessment permitting
4. Archaeological survey should be coordinated with trail planning/maintenance

Key Town Considerations:

1. Sites should be identified and protected as appropriate
-

Technical information to support policy decisions:

Guiding legislation/law regulating archeological resources:

- NC Archaeological Resources protection Act
- NC Statutes on Historic Cemeteries
- National Historic Preservation Act/National register of Historic Places

Management of Archaeological Sites (potential UNC guidelines):

- Identify sites (with signage)
- Assess sites
- Provide interpretation where appropriate
- Make information available on-line, through the web
- No degradation of natural processes or water quality
- Land managers should be aware of progress and communicate to public

Public note card/sticky note written comments from 1-29-09

- The archeological standards are pretty much identical to existing state/fed standards. How does the development agreement add to what's already on the books?

Public comment received on 2-19-09:

- Include historical facts and guide to local wildlife and bike trails at transit or bike hub station
- Respect for animals and wildlife – this is their heritage too – thanks!

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- Archeological requirements should include a requirement for not just survey but complete mitigation of any historic or prehistoric sites prior to breaking ground

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(Includes public comments from 2.19.09 public input session)

Topic: Stormwater management on site (#7)

Description:

Carolina North will employ a variety of best management practices for stormwater management control in order to achieve appropriate reduction and quality goals.

Key University Considerations:

1. Stormwater management should be integrated into the site, building and landscape design
2. Stormwater management strategies should be broadly coordinated and applied across Carolina North

Key Town Considerations:

1. Application of integrated stormwater strategies across Carolina North

Technical information to support policy decisions:

- Performance criteria in Development Agreement start with OI-4 requirements
- Compliance with town and UNC NPDES permits
- University will comply with Jordan Lake Rules
- Proposed Jordan Lake rules will set specific pollutant load targets
 - Jordan Lake guidelines push the limits of technology for pollutant removal
 - Design criteria in the development agreement
 - Submittal procedures outside development agreement and can be revised at staff level
 - Town and UNC staff will agree on required submittals for stormwater
 - Peak discharge and rate controls for specific design storms based on per-v.s post- development runoff
- Town would prefer stormwater quality facilities not located in street right-of-way maintained by the town (stormwater should be coordinated with street ownership)

Public comment received on 2-19-09:

- This tract offers great opportunities for environmental education – demo projects – rain gardens – school kids.
- UNC should be part of Town stormwater utility – need joint planning
- Agree (unclear reference)

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(Includes public comments from 2.19.09 public input session)

Topic: Water use and reclamation (#8)

Description:

Carolina North development will include water conservation and reclamation measures

Key University Considerations:

1. Buildings at Carolina North will meet state-required water conservation standards
2. A whole-water approach at Carolina North will include water reclamation strategies
3. Buildings will include water-reclamation and water-reuse designs

Key Town Considerations:

- 1.
-

Technical information to support policy decisions:

- UNC could benchmark peers and establish overall % reduction goals
- UNC will work with OWASA and comply with appropriate OWASA policies and standards for water and sewer service
- Rainwater harvesting will be a significant method used by UNC to meet proposed Jordan Lake Rules
- If buildings are more efficient, less water is used for chilled water
- Use campus-wide metrics to preclude unattainable building-level goals

Possible metrics:

- Focus on overall goals for campus
- Total potable water use should be at least ____% less than what the demand would be under “conventional” guidelines
- State Construction Office reports (“668” and NC G.C. 143) could be submitted to TOCH for information
- Meet NC Plumbing code
- Meet SCO Manual requirements for reducing potable consumption per “NCGS 143 Article 86” a.k.a. Senate Bill 668

Public comment received on 2-19-09:

- Utilize storm water reclamation for on campus landscape usage
- Reclaimed water should be restricted to closed-loop systems and not for irrigation – see the research on hormone disruptors
- Don’t agree reclaimed water good for irrigation

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(Includes public comments from 2.19.09 public input session)

Topic: Energy conservation, carbon credits (#9)

Description:

Buildings at Carolina North will include overall energy conservation or carbon reduction goals

Key University Considerations:

1. Buildings at Carolina North will be built according to state-required energy efficiency standards
2. The energy efficiency and carbon reduction strategies at Carolina North will be implemented across the campus as a whole.
3. The University is committed to meeting the standards in the American College and University Presidents Climate Commitment (ACUPCC) **(these standards supersede the earlier CRED goals)**
4. The University has prepared a carbon inventory (<http://acupcc.aashe.org/ghg-report.php?id=372>)
5. The University will strive to develop Carolina North in a manner that supports the ACUPCC goals.

Key Town Considerations:

1. Carolina North should use energy efficiently and support town sustainability goals
-

Technical information to support policy decisions:

- Show how each building addresses issues of energy/climate/stormwater etc. in the individual design, and demonstrate how it relates to the ACUPCC goal of “climate neutrality”
- Consider that energy efficiency goals may not be best measured by comparison to ASHRAE 90.1 for all facility types (e.g., chiller plant); identify appropriate metrics for these facilities
- Consider energy efficiency goals within the sliding metrics of current standards of ASHRAE 90.1
- Define the role of hospital and private developers relative to these standards (cost/profit/jurisdiction)
 - Identify council standard as a minimum for buildings outside of university control

Possible metrics and reporting:

- State Construction Office reports (“668” and NC G.C. 143) could be submitted to TOCH for information
- ASHRAE 90.1-2004 (30% below), 2007 (25% below), ASHRAE 189 (0% below) – in concert with code equivalents and reduction measures associated with the AIA 2030 Challenge
- State code
- Greenhouse gas (GHG) report is required on a regular basis to ACUPCC – could be provided to Council.
- Reduction strategies and progress will be published – could be provided to Council.

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Public comment received on 2-19-09:

- How come just state standards? What happened to the HWCC Report recommendation to do LEED?
 - The Town should make the same commitment to energy efficiency and carbon reduction
 - Too often energy efficiency is value engineered out of the university's construction plans. A commitment should be made to sacrifice aesthetics over energy efficiency measures
 - What about LEED standards
-

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Solid waste management (#10)

Description:

Solid waste will be managed by the University with appropriate reduction and recycling goals for construction and occupancy. The basic method (someone puts it out, someone picks it up) doesn't change but policies should allow for changes in technology, methods, and providers over time.

Key University Considerations:

1. There should be clear direction on who will service each building and that each building be designed accordingly
2. Service should be provided efficiently, safely and economically by the designated provider

Key Town Considerations:

3. Trash and recycling should be coordinated in review and delivery of services
 4. The current system for coordinating Orange County and Municipal services with UNC services works well; emulate the positive aspects
-

Technical information to support policy decisions:

Assumptions:

- There will be recycling at Carolina North
- Clear direction should be provided for each building on who will provide service
- Collection and Hauling:
 - Who and How should be defined for each project. Who may depend on occupancy, ownership or use. The method for commercial collection (front load, roll-off 15 CY or less) and residential collection (semi automated) should be identified at building review.

Possible Strategy:

- Joint solid waste plan review (town, county, UNC) at two stages: conceptual (Phase plan) and building specific (staff permit review)

Possible Guideline topics to be developed as a building-checklist for staff review (TOCH):

- Status of regulated recyclable material permitting
- Ability to apply 3-R fee assessment s to Carolina North facilities served by Orange County
- Potential for requiring waste collected by non-UNC/Town to be delivered to county disposal facilities
- Determine County/town application (if any) of landfill recycling material bans/mandatory recycling requirements

- Focus on methods for waste avoidance and minimization

Note: staff assistance identifying potential standards, requirements, mitigation measures, triggers for action, etc. will be offered for discussion to the Council-Trustees. More than one approach may be identified for consideration. These suggestions will inform the policy decisions to be made by the Council-Trustees; conflicting information does not need to be negotiated or resolved by staff working groups.

- Treat remaining waste as a resource
- Waste management of construction and demolition process should be addressed
- Waste management for completed and occupied building should be addressed
- Recycling collection programs shall be required at and for all buildings—regardless of whether UNC provides waste and recycling collection services or the tenants provide them.
- It is likely that there will be retail, commercial and residential space that will be rented or maintained by non-University individuals and organizations (such as is currently done with single family residences, commercial space on Franklin Street, and non-UNC groups such as EPA, Carolina Inn, etc.). We expect that each business, building, office, home, etc. will have recycling collection services available as a standard service.
- Service drives are a must. (No landlocked buildings) Must have outdoor service area for each building or a central, well accessible (vehicular and pedestrian) access.

Possible Guideline topics to be developed as a building checklist for design process (UNC):

- Design for waste minimization (to reduce waste during construction)
- Aesthetics should not trump sustainability (and recycling). Mandate recycling in entryways. (Many times recycling is not allowed in the entrance of buildings where it is needed most...)
- Use horizontal compactors vs. dumpsters whenever possible. Consolidate outdoor waste service areas whenever this can be done AND it does not put an undue burden on housekeepers.
- Design for flexibility – to reconfigure as programming needs change
- Need design standards for any gated service areas (gates)
- Make sure each service area (or building) has an adequate (screened) holding area for recyclable materials—in case we do the “building flush” method of collection (Sarah to explain)
- Use existing OWRR guidelines for recycling in finished building (design) and C/D waste management guidelines... www.fac.unc.edu/OWRRGuidelines
- Design for deconstruction and recycling (mechanical vs. chemical fasteners—bolts vs. glue, recyclable materials)
- Use recycled materials whenever possible (taking above list into consideration)
- SWMP should be REQUIRED for each construction and demo project with the FP&C (emphasis on construction) personnel holding contractors accountable. BEFORE construction starts, during/MONTHLY, and AFTER. (looking for accountability)
- Computerized web-based data entry for contractors to submit monthly stats (C/D). This should be part of the project report/data/info that’s on the web... so folks can look up the project and see the data as it is reported (may need massaging by staff...)
- Set aside space for source separation during construction. Require this method of waste management and recycling (vs. commingled/material processing facilities).
- Waste management plan required for post-occupancy (trash, recycling)

Public note card/sticky note written comments from 1-29-09

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- Strive for innovative and flexible approach to waste generation and disposal
- Net-zero waste?
- Compost all green and food waste at Carolina North and VSC there
- Reduce, Minimize (monitor and mitigate)
- More than recycling (which should be a given) we need waste reduction strategies before the point of throw-away.
 - How will paper be minimized?
 - Use high quality materials that won't need frequent replacement

Public comment received on 2-19-09:

- CD Waste management – please do explain
- Include compost as a waste stream to be captured throughout the campus
- Provide numerous bottle/newspaper recycling containers beside trash cans

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(Includes public comments from 1.29.09 and 2.19.09 public input sessions)

Topic: Remediation of landfill (#11)

Description:

Development of certain areas of Carolina North may require landfill remediation consistent with the planned use.

Key University Considerations:

1. The University will develop a remediation strategy consistent with current standards, requirements and future land use plans.

Key Town Considerations:

1. The landfill area will be remediated in a manner that is consistent with safeguarding the public health, safety and welfare.

Technical information to support policy decisions:

Suggested statements:

- University should communicate with Orange County and the Town of Chapel Hill during landfill mitigation planning and development of the mitigation strategy
- Consider utilizing DENR old landfill program funding to the extent possible
- Explore opportunities to develop joint mitigation or funding strategies

Mitigation measure:

- DENR standard for landfill remediation

Public note card/sticky note written comments from 1-29-09

- Conduct public education session to track
- Make this a major research opportunity especially for bio-tech super bugs.

Public comment received on 2-19-09:

- Regular reports to town from UNC on remediation of groundwater

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(Includes public comments from 2.19.09 public input session)

Topic: Stream Buffers (#12)

Description:

Streams will be appropriately buffered at Carolina North

Key University Considerations:

1. The Ecological Assessment identified streams and regulatory buffers at Carolina North
2. Resource Conservation District regulations will apply to Carolina North
3. Other agencies (such as the Army Corps) will have additional regulatory requirements

Key Town Considerations:

1. Resource Conservation District regulations will apply to Carolina North
-

Technical information to support policy decisions:

- Town RCD requirements will apply; identify any activities currently in place that should be 'grandfathered' in.
- Stream buffer impacts: avoid, minimize, mitigate
- Jordan Lake TMDL regulations will increase buffer regulations over RCD
- State has jurisdiction of isolated upland wetlands (outside 404/401)
- Consider restoration/enhancement of riparian buffers
- Permanently protect significant wildlife corridors (~300' wide) along streams (while allowing essential utility lines, trails, etc.)
- Stream access should be available for educational purposes (i.e. water quality testing)
- Coordinate with forest management for plans, notice, and activities with potential impacts
- Could have greenway trail in the RCD buffer but Jordan Lake rules apply to area closest to streams (~30 feet)

Public comment received on 2-19-09:

During construction, UNC works with trained volunteers to inspect sedimentation and OC soil erosion.
Council of state has no capacity

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(Includes public comments from 2.19.09 public input session)

Topic: Trees, landscaping (#13)

Description:

Carolina North will include significant street, landscape and natural plantings and landscaped areas and tree protection measures.

Key University Considerations:

1. Tree and landscape areas may also have a stormwater management function at Carolina North, including in roadways
2. Appropriate native and non-invasive species will be used at Carolina North
3. Landscape areas will be designed to support the Carolina North design guidelines

Key Town Considerations:

- 1.

Technical information to support policy decisions:

- Will potable water be used for recreation fields (as back-up)?
- Goals: Low maintenance, low fertilizer use
- Use the list of 'best suited' plant materials for Carolina North campus (already in use for main campus)
- Establish existing and proposed tree canopy mix
- Establish hierarchy of tree planting goals (working landscapes: young age, street trees: mid-age, permanent landscapes: mature age)
- Establish landscape irrigation hierarchies
 - Plant establishment requires irrigation
 - Critical landscapes require irrigation (define critical)
 - Priorities for irrigation are: rainwater, reclaimed water and potable water (as last resort)

Public comment received on 2-19-09:

- East/West spine should have wide path for walking/biking and benches
- Edible landscaping
- No native plants is better. Campus landscaping is boring and water intensive
- Great idea! Rain gardens!
trees are a critical and beautiful resource and should be honored and respected – as with all wildlife – deer, fox, birds, we're not the only residents of Chapel Hill

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(Includes public comments from 2.19.09 public input session)

Topic: Sedimentation (#14)

Description: Construction at Carolina North will be subject to appropriate soil and erosion control measures and State oversight.

Key University Considerations:

1. Projects will be subject to standard oversight measures
2. The University will develop additional construction-related soil erosion control measures for building projects at Carolina North

Key Town Considerations:

1. Regular distribution and review of Erosion and Sedimentation plans
-

Technical information to support policy decisions:

- E&S measures should be applied for all land disturbance projects
- Orange County could receive courtesy review of E&S plans at individual project review
- E&S plan (not permit) should be provided for projects between 20,000 SF and 1 acre of disturbance
- Follow up inspections and checklist following NPDES construction permit requirements could be requested for projects under 1 acre of disturbance

Public comment received on 2-19-09:

- Metrics and consequences for sedimentation/erosion violations
- Let's see daily turbidity monitoring reports starting NOW so we can start forming an expectation of reasonable metrics
- Emphasize the use of innovative and provide erosion control measures that may not be required per NCDENR or Orange County (dewatering skimmers, flocculants, etc.)

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(Includes public comments from 2.19.09 public input session)

Topic: Neighboring lands, compatibility, buffers (#15)

Description:

Development at Carolina North will be compatible with existing adjacent development and appropriately buffered.

Key University Considerations:

1. Development near existing neighborhoods should respect buffers, height limits, lighting and noise impacts

Key Town Considerations:

1. New uses should protect or enhance existing uses

Technical information to support policy decisions:

- Identify Perimeter Transition Area (PTA) projects in phase plan
 - Use PTA process from OI-4 to meet with neighbors in advance of individual project review
 - Add drainage to PTA topics (already includes specific noise, lighting, visual impacts)
- Town should identify neighborhood protection districts around/beyond Carolina North for the comprehensive plan

Public comment received on 2-19-09:

- Special cautions on riparian buffers – gently, please
- Consider and mitigate effects of overflow on adjacent neighborhoods (e.g. people from Carolina North parking in neighborhoods to avoid having to use transit)

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(Includes public comments from 2.19.09 public input session)

Topic: Noise (#16)

Description:

The Chapel Hill noise ordinance will be in effect at Carolina North

Key University Considerations:

1. Noise from construction will be subject to the applicable noise ordinance
2. Applications for new construction will demonstrate compliance with the ordinance

Key Town Considerations:

1. Town noise ordinance applies during construction and occupancy
-

Technical information to support policy decisions:

- Refer to town noise ordinance for
 - Construction
 - Occupancy
- Complaints should be handled by Chapel Hill Police/Chapel Hill Engineering through UNC construction management to insure procedures are in place to remediate or address legitimate complaints

Public comment received on 2-19-09:

- Identify point sources for noise limit to interior
- Noise limits based on time of day
- Transit noise part of overall noise limits
- Who will enforce? DA needs teeth

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(Includes public comments from 2.19.09 public input session)

Topic: Lighting (#17)

Description:

Lighting should not have a negative effect on adjacent users, neighborhoods or other uses at Carolina North

Key University Considerations:

1. Lighting should be energy efficient
2. Lighting should be appropriate for the program requirements and times of use

Key Town Considerations:

1. Lighting should not negatively affect surrounding neighborhoods or the community

Technical information to support policy decisions:

The Chapel Hill lighting standards will be in effect at Carolina North
(e.g. no increase in lighting foot-candle levels at the adjacent property line)

Lighting for Carolina North should be designed with a three-point basic strategy:

- A 'dark skies' approach should be applied to the campus as a whole
- Streets should be lit to Town or DOT standards
- Building code requirements should be met for new buildings
 - Recommendations for lighting levels for certain activities are covered in building code e.g. exiting and safety

Public comment received on 2-19-09:

- Lighting at the edge less than 0.01 Foot Candle
- Use dark skies model ordinance or sunset valley Idaho or Hawaii/Arizona State
- No fixtures with % spread above one story
- Maximum permissible sky glow as per LEED
- Dark skies are KEY, a huge part of our heritage – let's be innovative! Let's be respectful!
- LED lighting should be adopted as a standard for interior and exterior lighting
- Save our stars – minimize light trespass
- How will it be enforced? Who will enforce it?
- Model lighting ordinance – good guide for lighting darkskeys.org

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