DEVELOPMENT AGREEMENT
BY AND BETWEEN
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
AND
THE TOWN OF CHAPEL HILL, NORTH CAROLINA
Effective Date: July 1, 2009

Orange County Parcel Identifier Numbers: 9779-88-6375
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STATE OF NORTH CAROLINA  
COUNTY OF ORANGE

DEVELOPMENT AGREEMENT

This Development Agreement (hereinafter the "Agreement") is made and entered into as of the 1st day of July 2009 by and between The University of North Carolina at Chapel Hill (hereinafter the "University"), a public entity authorized to conduct business in the State of North Carolina, and the Town of Chapel Hill, North Carolina (hereinafter the "Town"), a municipal corporation of the State of North Carolina.

ARTICLE 1. STATUTORY FRAMEWORK

1.1. North Carolina General Statutes (hereinafter "G.S.") 160A-400.20(a)(1) provides that "large-scale development projects often occur in multiple phases extending over a period of years, requiring a long-term commitment of both public and private resources."

1.2. G.S. 160A-400.20(a)(3) provides that "because of their scale and duration, such large-scale projects often require careful integration between public capital facilities planning, financing, and construction schedules and the phasing of the private development."

1.3. G.S. 160A-400.20(a)(4) provides that "because of their scale and duration, such large-scale projects involve substantial commitments of private capital by developers, which developers are usually unwilling to risk without sufficient assurances that development standards will remain stable through the extended period of development."

1.4. G.S. 160A-400.20(a)(5) provides that "because of their size and duration, such developments often permit communities and developers to experiment with different or nontraditional types of development concepts and standards, while still managing impacts on the surrounding areas."

1.5. G.S. 160A-400.20(a)(6) provides that "to better structure and manage development approvals for such large-scale developments and ensure their proper integration into local capital facilities programs, local governments need the flexibility in negotiating such developments."

1.6. In view of the foregoing, G.S. 160A-400.20(b) and 160A-400.22 expressly authorize local governments and agencies to enter into development agreements with developers pursuant to the procedures and requirements of G.S. 160A-400.20 through 160A-400.32, which procedures and requirements include approval of the development agreement by the governing body of the local government by ordinance after a duly noticed public hearing.

1.7. G.S. 160A-400.23 restricts the use of a development agreement to "property that contains 25 acres or more of developable property (exclusive of wetlands, mandatory buffers, unbuildable slopes, and other portions of the property which may be precluded from development at the time of the application)." G.S. 160A-400.23 further provides that "development agreements shall be of a term specified in the agreement, provided they may not be for a term exceeding 20 years."

ARTICLE 2. DEFINITIONS

In the construction of this Agreement and its incorporated Exhibits, the following definitions and rules of construction shall be observed, unless inconsistent with the manifest intent of the parties or the context clearly requires otherwise. Except as otherwise provided in this Agreement, terms used in the relevant portions of the North Carolina General Statutes or the Town of Chapel Hill Land Use Management Ordinance shall have the same meanings as employed in those statutes and ordinances.
ARTICLE 3. RECITALS

3.1. The University is the owner of an approximately 947 acres of land located on the north side of Estes Road Extension and the west side of Martin Luther King, Jr. Boulevard (hereinafter referred to as the "Carolina North Tract"). Approximately 643 acres of this land is located within the corporate and regulatory limits of the Town, which portion of that land is more particularly depicted on Exhibit A attached hereto and incorporated herein by reference. Approximately 228 acres of this portion of the tract within the Town's planning and regulatory jurisdiction are included within the University's long-range development plan for academic, research, medical, cultural, and related functions with supporting housing, retail, office, recreation, and open space uses (hereinafter referred to as the "Carolina North Project"), which area of land is more particularly depicted on Exhibit B attached hereto and incorporated herein by reference. Within the Carolina North Project, the University has developed more detailed plans for the development of a phase
of the project that is covered by this Agreement, which area of land is approximately 133 acres
and is more particularly depicted on Exhibit C attached hereto and incorporated herein by
reference.

3.2. The core portion of the Carolina North Tract was acquired by the University in 1940 as a bequest
from Professor Horace Williams. In the ensuing years the University acquired adjoining lands.
Portions of the site have been used as an airport, landfill, Town operations center, animal shelter,
and open space.

3.3. In the mid-1990s the University commissioned several studies and reports on the future use of
the site, culminating in the September, 1996 report, Outlying Parcels Land Use Plans: Summary
Report. In 2001 the University, in consultation with University faculty, administrators, and
members of the community, revised and updated the land use plans for this site, culminating in a
February, 2001 land use plan for the Carolina North Tract.

3.4. The Town formed the Horace Williams Citizens Committee in 2003 to provide advice and
recommendations regarding Town review of development proposals for this parcel and the Town
Council adopted the March, 2004 final report of this Citizens Committee as Town policy.


3.6. In early 2006 the University formed a Leadership Advisory Committee with representation from
the University, Town, other local governments, community groups, and the State of North
Carolina to work towards consensus principles to guide planning for the Carolina North Project. A
final report of that Committee’s work was issued on January 19, 2007.

3.7. As part of the process of then updating its plans for the Carolina North Tract, the University in
2006-07 conducted extensive studies of ecological conditions on site, utility and infrastructure
needs, and sustainable design options. Four public and peer review sessions of the ecological
analysis were held in November and December, 2006. The work led to the production of the

3.8. In 2007 the University conducted a series of seven public workshops on plan alternatives for the
Carolina North Tract. The University adopted an updated Carolina North Plan in September,
2007.

3.9. The Town Council and representatives of the University Board of Trustees held a work session
on January 13, 2008 and agreed to work cooperatively towards design of a new Town
development review process for the Carolina North Project. Senior staff from the Town and
University subsequently formed a Joint Staff Work Group (JSWG) that met regularly throughout
2008 and 2009 to address the Carolina North development review process.

3.10. In June, 2008 the Town Council authorized the Town staff to develop a proposal for a new zoning
district and a development agreement as the framework for the Town's review of Carolina North
development proposals.

3.11. On September 25, 2008 the Town Council and representatives of the University Board of
Trustees began a series of monthly work sessions to discuss the Carolina North Project and the
Town’s development review process for the project. Joint work sessions between the Council and
Board of Trustee members were conducted on October 22, 2008, November 18, 2008, December
and June 16, 2009. All ten of these joint work sessions were duly advertised public meetings and
included public comment periods. All of these sessions were broadcast on local cable television
and were posted for later viewing on the Town website.

3.12. On October 15, 2008 the Town Council authorized staff to proceed with preparation of a new
zoning district and potential development agreement for this project.

3.13. On October 31, 2008 the University submitted to the Town a request for a new zoning district for
the portion of the Carolina North Tract within the Town jurisdiction, proposed use of a
development agreement, and provided plans and background studies relative to use of the
property. This submission included a Carolina North 50-year plan, planning overlays for the site,
schematics and draft programs for early and mid stage development of the project, the Ecological Assessment Report: Carolina North (October, 2007), and draft Carolina North Design Guidelines (October 30, 2008).


3.15. The Town conducted duly advertised public information sessions to seek public input on the proposed process and Carolina North Project on November 19, 2008, January 29, 2009, February 19, 2009, March 4, 2009, April 1, 2009, April 16, 2009, May 7, 2009, and June 11, 2009. All eight of these sessions were broadcast on local cable television and were posted for later viewing on the Town website.

3.16. On January 29, 2009 the Town Council conducted a work session to discuss long-range transportation planning and the Carolina North Project. Additional Town Council work sessions to discuss the Carolina North Project were held on April 8, 2009, April 15, 2009, and June 8, 2009. All of these sessions were broadcast on local cable television and were posted for later viewing on the Town website.

3.17. On January 26, 2009 the Town approved a special use permit for the UNC Innovation Center, a project located within the boundary of the development area of the Carolina North Project (as that area is defined by Section 5.5.3 of this Agreement and is set forth in Exhibit C of this Agreement).

3.18. In February, 2009, the initial draft of a potential Land Use Management Ordinance (hereinafter “LUMO”) text amendment that would create a new U-1 zoning district and a draft development agreement for the Carolina North Project were presented to the Town Council and public for review and discussion.

3.19. On March 3, 2009 a fiscal impact analysis of the Carolina North Project was submitted to the Town and University by the TichlerBise consulting firm (Fiscal Impact Analysis: Phase I of Carolina North). The report was posted on March 3, 2009 on the Town and University web sites. The consultants presented this fiscal impact analysis report to the Town Council, University staff, and representatives from other affected local governments in a duly advertised public information session on March 31, 2009. The consultants met with the Town Council on April 1, 2009 to further discuss the contents of the report and its analytic foundation and methodology. The April 1 meeting was broadcast on local cable television and posted for later viewing on the Town website.

3.20. On March 31, 2009 an updated proposed LUMO text amendment creating a new U-1 zoning district, a zoning atlas amendment for the Carolina North Tract, and a draft development agreement for the Carolina North Project were presented to the Town for review and discussion and were posted on the Town web site for public review and comment.

3.21. In April and May, 2009 Town advisory boards reviewed and prepared comments on the proposed LUMO amendments and development agreement. These meetings and discussions were held by the Active Living by Design Committee (May 14), the Bicycle and Pedestrian Advisory Board (April 28, May 19), the Community Design Commission (April 22, May 20), the Greenways Commission (April 22, June 8, June 10), the Historic District Commission (May 5), the Parks and Recreation Commission (April 22, May 5), the Planning Board (April 21, May 5, May 12, June 2, and June 9), the Public Arts Commission (April 23), the Stormwater Management Utility Advisory Board (April 28, May 26), the Sustainability Commission (May 5), and the Transportation Board (April 23, May 7, May 28).

3.22. On April 22, 2009, at the conclusion of a joint work session with the representatives of the University Board of Trustees, the Town Council agreed to proceed with formal public hearings on the proposed LUMO text amendment, a zoning atlas amendment to be submitted by the University, and a proposed development agreement for the Carolina North Project and directed staff to proceed with advertisement of a public hearing on these matters and the initiation of the amendment process mandated by Section 4.4 of the LUMO.

3.23. On April 26, 2009 the initial notice of a public hearing to be held on May 11, 2009 on the LUMO
text amendment, zoning atlas amendment, and proposed development agreement for the Carolina North Project was published pursuant to G.S. 160A-364. The second notice of this public hearing was published on May 3, 2009. Notices of the hearing were also mailed to adjacent owners pursuant to G.S. 160A-384(a) on April 30, 2009. Nine signs providing notice of the hearing were posted on the site pursuant to G.S. 160A-384(c) on April 28, 2009. The location, type, and intensity of the proposed development were not changed after these initial notices of public hearing.

3.24. On April 29, 2009 a zoning atlas amendment and proposed development agreement for the Carolina North Project were submitted to the Town by the University and a LUMO text amendment creating the U-1 zoning district was submitted by the Town staff. The University also submitted additional supporting materials related to the proposed rezoning and development agreement. These supporting materials included: an existing conditions map and chart for the portion of the Carolina North Tract within the Town’s regulatory jurisdiction; Design Guidelines for Carolina North 2008 (November 19, 2008) that had been approved by the University Board of Trustees; an updated long-range development plan for the entire Carolina North Project (April 2009); the Carolina North Plan (September 26, 2007) that had been approved by the University Board of Trustees; overlay diagrams for Carolina North depicting transportation, connections, open space, and utilities; and, the Ecological Assessment Report; Carolina North (October 2007). The University’s application for a zoning map amendment was accompanied by a complete application form, an area map, a list of all property owners within 1,000 feet of the property proposed for rezoning, and an application fee of $35,786.00. The proposed text amendment, development agreement, zoning map amendment, and all supporting materials were posted on the Town and University web sites on May 6, 2009.

3.25. On May 1, 2009 the Draft Executive Summary of Transportation Impact Analysis and the Draft Transportation Impact Analysis for the Carolina North Project were submitted by the Vannese Hangen Brustlin, Inc. consulting firm. These documents were posted on the Town website on May 5, 2009 and were distributed to the Town Council on May 6, 2009. A summary of these reports was presented by Town staff and the consultants at a public information meeting on May 7, 2009 and at the Town Council’s public hearing on May 11, 2009.

3.26. On May 11, 2009 the Town Council conducted a public hearing on the proposed LUMO amendments, zoning atlas amendment, and development agreement for the Carolina North Project. At the conclusion of presentations from the Town staff and consultant regarding the materials submitted for hearing, from the University regarding its application, from the Town staff and consultant regarding the transportation impact analysis, and receipt of comments and questions from the public and the Council, the hearing was recessed until June 15, 2009.

3.27. On May 19, 2009 an updated LUMO text amendment, zoning atlas amendment, and development agreement were submitted to the Town that incorporated public comments and further discussion between the Town Council and University.

3.28. On May 31, 2009 notice of a second public hearing to be held on June 15, 2009 on the LUMO text amendment, zoning atlas amendment, and proposed development agreement for the Carolina North Project (and the continuation of the May 11 public hearing) was published. A second notice of this additional public hearing was published on June 7, 2009. The signs posted on the site advertising the initial public hearing remained in place for this notice of a second public hearing.

3.29. On June 3, 2009 the final Transportation Impact Analysis for the Carolina North Project, the final Executive Summary of that report, and Addendum 1: Additional Parking and Mode Share Sensitivity Analysis were submitted to the Town by the Vannese Hangen Brustlin, Inc. consulting firm. These documents were posted on the Town website on June 3, 2009 and were concurrently distributed to the Town Council.

3.30. On June 15, 2009 the Town Council conducted a second public hearing and a continuation of the May 11 public hearing on the proposed LUMO text amendment, zoning atlas amendment, and development agreement for the Carolina North Project. At the conclusion of receipt of all
comments on June 15, the Town Council continued the hearing to June 22, 2009.

3.31. On June 22, 2009 the Town Council conducted a continuation of the May 11 and June 15 public hearings on the proposed LUMO text amendment, zoning atlas amendment, and development agreement for the Carolina North Project. At the conclusion of receipt of public comments, the Council closed these hearings and moved to deliberation and determination of these three matters.

3.32. The University has developed and approved a 50-year Carolina North development plan for approximately 250 acres of the Carolina North Tract. This plan focuses development on the previously disturbed areas of the Carolina North Tract, with development concentrated on approximately 228 acres. This development area is adjacent to the existing adjacent major road network. The long-range development plan anticipates some 8 to 9 million sq. ft. of floor space over a fifty year period. This plan is based on an extensive ecological assessment of the site, a detailed infrastructure analysis, and a series of public workshops. The University's long-range plan for Carolina North contemplated as of the Effective Date was submitted to the Town on April 29, 2009 as background material for the proposed rezoning and development agreement. The University also adopted Carolina North Design Guidelines 2008 (November 19, 2008) for the Carolina North Project, which are set forth as Exhibit L attached hereto and incorporated herein by reference.

3.33. The initial phase of the Carolina North Project involves the construction of approximately 3 million sq. ft. of building space on approximately 133 acres over a twenty year period. This phase of the development proposed that the site’s predominant uses be public or private development for college/university, research activity, civic, hospital, clinics, cultural, and/or related or support functions with integrated supporting housing, general business, convenience business, office-type business, recreation, utility and/or open space uses. The site plan for this portion of the Carolina North Project contemplated as of the Effective Date, which is the development subject to this Agreement, is set forth as Exhibit D attached hereto and incorporated herein by reference.

3.34. The purpose of this Agreement is to facilitate the implementation of the initial phase of the Carolina North Project, thereby realizing the public benefits to the Town and the University described in this Agreement. The development of Carolina North requires a major investment by the University in public facilities, substantial front-end investment in on-site and off-site improvements, participation in other programs for public benefit and purposes and substantial commitments of the resources to achieve the benefits of the Project for the University and the Town. The University will be unable to make and realize the benefits from such commitments without the assurances of a realized Project as provided by this Agreement.

3.35. The general benefits to be received by the Town from the implementation of the Project include, without limitation:

1) Implementation of the Carolina North plan and furthering the goals of securing an appropriate mix of uses and densities on the site.
2) Protection of natural resources within the Carolina North Tract beyond the development area included within the Agreement, minimization of adverse off-site impacts, and incorporation of sustainability principles in the design and implementation of the Project.
3) Provision of an efficient, effective, and practical overall plan for addressing the transportation needs of the Project, including commitments to transit, bikeways, greenways, sidewalks, and road improvements.
4) Assurance that the Project will be undertaken in a manner that is revenue neutral or revenue positive in terms of fiscal impacts for the Town.
5) Establishment of integrated site plans, urban design elements, land uses, architecture, site engineering, and landscape architecture.
6) Assurance of substantial commitments to public infrastructure and amenities as a result of sufficient certainty, timelines and predictability for the University.
7) Assurance that the University provides the herein referenced public improvements, facilities, and services.

3.36. The general benefits to be received by the University from the implementation of the Project...
include without limitation:

1) Obtaining sufficient certainty, timeliness, and predictability in the Town’s development review and approval process to justify the required substantial up-front capital investment for a project that will require multiple years to build out.

2) Realization of the opportunity to implement the Carolina North development plan for a mixed use campus development that is consistent with Town and University goals and needs.

3) Securing development rights for up to three million square feet of buildings and associated development in accordance with an approved plan of development.

4) Integration of site plans, urban design elements, land uses, architecture, site engineering, landscape architecture, and mitigation measures over the entire Project.

3.37. In exchange for providing these benefits to the Town, the University desires to receive the assurance that it may proceed with the development of the Project in accordance with any and all existing Town development regulations and conditions of approval of the Town as they exist on the Effective Date, subject to the terms, conditions, and exceptions contained herein and subject to periodic potential amendments to this Agreement.

3.38. After careful review and deliberation, the University has determined that the latitude afforded the proposed Carolina North development plan and the certainty, timeliness, and predictability regarding Town development approval afforded by this Agreement provide important benefits for long-range University planning and development and justify the provision of the mitigation measures specified by this Agreement, which the University freely and with full knowledge and consent agrees to provide.

3.39. The terms and conditions of this Agreement have undergone extensive review by the Town’s staff, advisory boards, and the Town Council and have been found to be fair, just and reasonable. After careful review and deliberation, the Town Council has determined and concluded that:

1) the University plans for development of the Project are consistent with the adopted plans and development ordinances of the Town.

2) the Project, with the terms and limitations of this Agreement, will further the Town’s land use planning objectives and policies as set out in these documents and will protect the health, safety, welfare and economic well being of the Town and its citizens and will maintain the overall quality of life and of the environment within the Town.

3) the series of mitigation measures set forth in this Agreement are necessary to minimize the anticipated adverse impacts of the Project on the environment, on surrounding neighborhoods and the community, on the Town’s traffic conditions, and on the levels of public services and facilities within the Town.

4) the Project as approved and conditioned by this Agreement presents a unique opportunity for the Town to secure quality planning and growth, to protect the environment, to strengthen the tax base and to acquire those public amenities described in this Agreement through the development approval process.

5) the Project plan as approved and conditioned by this Agreement is in the best interest of the Town and its citizens.

3.40. The Town, by electing to enter into this Agreement in accordance with statutory procedures, acknowledges that the obligations of the Town shall survive beyond the term or terms of the present Town Council and that such action will serve to bind the Town and future councils to the obligations thereby undertaken. By approving this Agreement, the Town Council has elected to exercise certain governmental powers at the time of entering into this Agreement rather than deferring its actions to some undetermined future date.

3.41. Based on the foregoing considerations, the University and the Town desire to enter into this Agreement for the purposes of:

1) agreeing upon the plan, design, and density of development on the relevant parcels of land and the types of uses thereon, and promoting sustainability, reflecting consideration of economic, environmental and social issues;

2) coordinating the construction and provision of infrastructure that will serve the above-
3.42. Pursuant to G.S. 160A-400.24, the Town Council conducted public hearings on May 11, 2009, June 15, 2009, and June 22, 2009 to consider the approval of this Agreement. The notice of public hearing specified, among other things, the location of the parcel of land subject to this Agreement, the development uses proposed on the parcels of land, and a place where a copy of the proposed Agreement could be obtained. The initial draft of this Agreement was posted on the Town website in January, 2009 and was available for public inspection at Town offices at that time. Updates to the draft Agreement were posted at regular intervals thereafter and were available for public review throughout the January through June, 2009 period.

3.43. On June 22, 2009, the Town Council considered and unanimously approved this Agreement and authorized the Town’s execution of the same. The approval of this Agreement constitutes a legislative act of the Town Council.

3.44. On June 25, 2009, the University Board of Trustees considered and unanimously approved this Agreement and authorized the University’s execution of the same.

ARTICLE 4. TERMS

NOW, THEREFORE, based upon the terms and conditions set forth herein and in consideration of the mutual promises and assurances provided herein, the parties do hereby agree as follows:

4.1. Recitals. The parties agree the foregoing Recitals are true and correct.

4.2. Term. The term of this Agreement shall commence upon the Effective Date and it shall expire twenty (20) years thereafter unless sooner terminated by the mutual consent of the parties hereto or their successors in interest or is otherwise terminated pursuant to the terms of this Agreement. This twenty (20) year term has been established by the parties as a reasonable estimate of the time required to carry out the Project subject to this Agreement and to obtain the public benefits of the Project. The Town finds that a term of twenty (20) years is reasonably necessary to assure the Town of the realization of the public benefits from the Project. All of the development authorized by this Agreement must be initiated within the term of the Agreement, but expiration of the twenty (20) year term shall not terminate mutually agreed to obligations and commitments included within this Agreement that are expressly specified to extend beyond the term of the Agreement.

4.3. Property subject to Agreement. The property subject to this Agreement includes all of the approximately 643 acres of the Carolina North Tract included within the corporate limits of the Town as depicted in Exhibit A. All of the property subject to this Agreement is owned by the State of North Carolina for the use and benefit of the University. This Agreement limits development of buildings within the Carolina North Tract to that 133 acre portion of this land area depicted in Exhibit C. Future development agreements may address additional development within the Carolina North Tract, such as subsequent phases of the long-term development depicted in the University’s long-range development plan for Carolina North.

4.4. Zoning of the Property. On June 22, 2009, concurrently with the approval of this Agreement, the Town Council rezoned the portion of the Carolina North Tract located within the Town’s planning and zoning jurisdiction to the University-1 (U-1) zoning district. The development allowed pursuant to this Agreement is consistent with the currently existing provisions of the U-1 zoning district and all other applicable provisions of the Town of Chapel Hill Land Use Management Ordinance (hereinafter “LUMO”).

4.5. Development of the Property. The Project subject to this Agreement shall be developed in
accordance with the terms and conditions of the LUMO in effect as of the Effective Date and with 
the terms and conditions of this Agreement, including all incorporated Exhibits. The maximum 
height, bulk, size, and design of buildings and the placement, location, and configuration of the 
development sites, infrastructure, open space, streets, sidewalks and other public improvements 
shall be in substantial compliance with this Agreement, subject, however, to any rights the 
University may have to make adjustments to the same as provided in Section 3.5.5 of the LUMO. 
Development shall be substantially consistent with that depicted on the long-range plan for 
Carolina North. Except as limited by Section 5.12.1 of this Agreement, development shall be 
substantially consistent with the approved Carolina North Design Guidelines 2008, which are set 
forth as Exhibit L attached hereto and incorporated herein by reference. Development shall be 
substantially consistent with the site plan for the portion of the Carolina North Project that is 
subject to this Agreement, which is set forth as Exhibit D attached hereto and incorporated herein 
by reference. Provided, however, that in the event of any conflict between the provisions of these 
Exhibits and the express provisions of this Agreement, the terms of the Agreement shall be 
controlling.

4.6. **Uses.** The Project shall be devoted to those uses that are allowed under Section 3.3.5 of the 
LUMO for the U-1 zoning district.

4.7. **Specific standards for development.** The development of the Project shall be in substantial 
compliance with the specific standards and mitigation measures approved by the Town and the 
University as set forth in Article 5 of this Agreement.

4.8. **Innovation Center SUP.** The approval, terms and conditions of the special use permit issued on 
January 26, 2009 by the Town for the Innovation Center within the Carolina North Project 
(recorded in book RB 4733, page 325, Orange County Register of Deeds) are hereby 
incorporated into this Agreement. The development of that project shall be consistent with the 
terms of that permit and that approval shall not be deemed to be the initial site development 
permit under this Agreement.

4.9. **Development Schedule.** The Project shall substantially comply with the specific timetables and 
triggers for action set forth in Article 5 of this Agreement. The parties acknowledge that, as 
provided in G.S. 160A-400.25(b), the failure to meet a commencement or completion date shall 
not, in and of itself, constitute a material breach of this Agreement pursuant to G.S. 160A-400.27 
but must be judged based upon the totality of the circumstances.

4.10. **Law in Effect at Time of the Agreement Governs the Development.** Pursuant to G.S. 160A-400.26 
and except as provided in G.S. 160A-400.29(b), the Town may not apply subsequently adopted 
ordinances or development policies to the Project during the term of this Agreement without the 
written consent of the University or its successors in interest. Accordingly, the University and its 
successors in interest shall have a vested right to develop the Project in accordance with the 
terms of this Agreement and the terms of the LUMO and any applicable laws and regulations as 
they exist as of Effective Date during the entire term of this Agreement. This Agreement does not 
abrogate any rights that may vest pursuant to statutory or common law or otherwise in the 
absence of this Agreement. The Parties agree, intend, and understand that the obligations 
imposed by this Agreement are only such as are consistent with state and federal law. In 
accordance with G.S. 160A-400.26(c), in the event State or federal law is changed after the 
Effective Date and the change prevents or precludes compliance with one or more provisions of 
this Agreement, the Town may modify the affected provisions, upon a finding that the change in 
State or federal law has a fundamental effect on the Agreement, by ordinance after notice and a 
hearing. A certified copy of the LUMO and any other applicable Town ordinances in effect as of 
the Effective Date shall be provided to and maintained on file by the Town Clerk and the 
University Secretary.

4.11. **Local Development Permits.** In accordance with G.S. 160A-400.25(a)(6), the local development 
permits approved or needed to be approved for the development of the Project are set forth in 
Section 4.36 of this Agreement. The failure of this Agreement to address a particular permit, 
condition, term or restriction does not relieve the University of the necessity of complying with 
their permitting requirements, conditions, terms or restrictions. The Town shall exercise
reasonable diligence to expedite the processing of the required permit and approval applications for the development of the Project. The University shall notify the Town with all documents, applications, plans, and other information necessary for the Town to carry out its obligations hereunder.

4.12. Amendment. The terms of this Agreement may be amended by the mutual consent of the parties hereto or their successors in interest. A major amendment of the terms of this Agreement shall follow the same procedures as required for the initial approval of this Agreement, as are set forth in Section 3.5 of the LUMO. Any amendment that substantially affects the American College and University Presidents’ Climate Change Commitment (Exhibit K) shall be deemed a major amendment. A minor modification pursuant to Section 3.5.5 of the LUMO shall not be considered to be an amendment to this Agreement. All minor modifications approved by the Town shall be memorialized by letter from the Town Manager and acknowledged by the University and shall be maintained on file by the Town Clerk and University Secretary.

4.13. Recordation/Binding Effect. Within fourteen (14) days after the Town enters into this Agreement, the University shall record this Agreement in the Orange County Public Registry. The burdens of this Agreement shall be binding upon, and the benefits of this Agreement shall inure to, all successors in interest to the parties hereto. All of the provisions of this Agreement shall be enforceable during the term as equitable servitudes and constitute covenants running with the land pursuant to applicable law. Provided, the University’s benefits under this Agreement shall inure only to those whom the University has expressly assigned them and only to the extent of the assignment. This Agreement shall be applicable to the air rights associated with land subject to the Agreement. This Agreement shall be applicable to lessees of property subject to this Agreement.

4.14. Annual Report. The University shall on an annual basis submit a written report to the Town Manager on the development undertaken pursuant to this Agreement in the previous year. The report shall set forth all individual site development permits issued, infrastructure installed, the status of participation by the University in the provision of or financing of public infrastructure for this Project, dedications and acquisitions of infrastructure by the University, and the projected schedule for development of the Project in the forthcoming year. This report shall include all of the information required pursuant to Section 5.27 of this Agreement and shall be provided at the times specified by that Section. This report shall include sufficient information to demonstrate good faith compliance by the University with the terms of this Agreement. Upon receipt of the report, the Town Manager shall undertake the Periodic Review as set forth in Section 4.15 of this Agreement.

4.15. Periodic Compliance Review and Enforcement. Pursuant to G.S. 160A-400.27, the Town Manager shall conduct a periodic compliance review (the "Periodic Review") at least every twelve (12) months, at which time the University shall be required to demonstrate good faith compliance with the terms of this Agreement. The Town Manager shall promptly report the results of this review to the Town Council. If, as a result of the Periodic Review, the Town Council finds and determines that the University has committed a material breach of the terms or conditions of the Agreement, the Town Manager shall serve notice in writing, within a reasonable time after the Periodic Review, upon the University setting forth with reasonable particularity the nature of the breach and the evidence supporting the finding and determination, and providing the defaulting Party a reasonable time in which to cure the breach. If the University fails to cure the material breach within the time given, then the Town Council unilaterally may terminate or modify the Agreement, provided, however, that the notice of termination or modification of finding of breach may be appealed to the Town Board of Adjustment in the manner provided by G.S. 160A-388(b). Thereafter the University may pursue any other rights and remedies available at law or in equity. If the Town Council elects to unilaterally modify the Agreement, the University may elect for the Agreement to be terminated rather than accept the Agreement with the modifications made by the Town Council. Failure of the Town to conduct this Periodic Review shall not constitute a waiver by the Town of its rights to otherwise enforce the provisions of this Agreement, nor shall the University have or assert any defense to such enforcement by reason of such failure to conduct a periodic review.
4.16. **Periodic Assessments.** The Parties shall at periodic intervals undertake an assessment of the overall effectiveness on this Agreement. This assessment shall examine and consider, among any other factors deemed relevant and useful by the Parties: (1) the Parties' experience with the Agreement; (2) the degree to which the Agreement and its implementation is consistent with the intent of the Parties; and (3) whether the Agreement is effectively addressing each Parties' objectives and interests. This process for conducting the assessment shall be mutually agreed upon by the Parties and shall include active solicitation of broad public participation. Either Party may recommend modifications to or termination of this Agreement as a result of these assessments. The first assessment pursuant to this Section shall be conducted within three years of the Effective Date of this Agreement. The initial assessment and each subsequent assessment shall include an agreed upon date for the next assessment.

4.17. **Mediation.** In the event either Party believes the other Party is in default or is in material breach, the Parties shall make a good faith effort to negotiate and informally resolve the issues in dispute prior to terminating this Agreement. In the event of an impasse between the Parties in reaching any mutual agreement mandated by this Agreement, the Parties shall make good faith efforts to negotiate and informally resolve the issue in dispute.

4.18. **Development Timing and Moratorium.** The University may develop all or any portion of the Project approved pursuant to this Agreement and may carry out the development in such order and sequence as the University shall determine in its discretion, provided such does not violate an express provision of this Agreement. Phasing of the development shall be based on sound engineering practices to ensure functional and safe street circulation and utility systems at all times. Phasing shall be based in such a way that all infrastructure improvements to be constructed within the Project area will be provided when or before they are necessary for that phase of the development. Absent an imminent threat to public health or safety, neither the right to develop nor the timing of development shall be affected by a moratorium or suspension of development rights adopted by the Town except to the extent imposed by this Agreement or by supervening federal or state law, order, rule or regulation.

4.19. **Default.** Apart from the Periodic Review process set forth in Section 4.15 of this Agreement, the failure of the University or the Town to comply with the terms of this Agreement shall constitute a default, entitling the non-defaulting Party or Parties to pursue such remedies as allowed under applicable law against the defaulting Party, provided, however, that no termination of this Agreement may be declared by the Town or the University absent its according to the defaulting Party the notice and opportunity to cure set out in Section 4.15 of this Agreement. A Party believing the other Party to be in default shall provide reasonable notice of that to the other Party and shall provide that Party an opportunity to cure any default within a reasonable time.

4.20. **Force majeure.** In addition to specific provisions of this Agreement, neither the University nor the Town shall be responsible for any default, delay or failure to perform if such default, delay or failure to perform is due to causes beyond such Party's reasonable control, including, but not limited to, strikes, lockouts, actions or inactions of governmental authorities (excluding parties to this Agreement), epidemics, wars, embargoes, fires, hurricanes, acts of God or the default of a common carrier. In the event of a default, delay or failure to perform due to causes beyond such Party's reasonable control, any date or times by which the parties are otherwise scheduled to perform shall be extended automatically for a period of time equal in duration to the time lost by reason of the cause beyond the reasonable control of such Party. If written notice of such delay is given to the other Party after the commencement of such delay, an extension of time for such cause shall be granted in writing for the period of the enforced delay, or longer as may be mutually agreed.

4.21. **Disclaimer of Joint Venture, Partnership and Agency.** This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the University and the Town, or to impose any partnership obligation or liability upon such parties. Neither the University nor the Town shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent of representative of, or to otherwise bind, the other Party.
4.22. **No Third Party Beneficiaries.** The Agreement is not intended to and does not confer any right or benefit on any third party.

4.23. **Legal Actions.** In addition to any other rights or remedies, any Party may institute legal action against a defaulting Party to cure, correct, or remedy any default or breach, to specifically enforce any covenants or agreements set forth in the Agreement or to enjoin any threatened or attempted violation of the Agreement, or to obtain any remedies consistent with the purposes of the Agreement. In no event shall the Town or the University, or their respective officers, agents, or employees, be liable in damages for any breach or violation of this Agreement, it being expressly understood and agreed that the sole legal remedy available to the Parties for a breach or violation of this Agreement shall be a legal action in mandamus, specific performance, or other injunctive or declaratory relief to enfore the provisions of this Agreement. Legal actions shall be instituted in the Superior Court of the County of Orange, State of North Carolina, and the Parties hereto submit to the personal jurisdiction of such court without application of any conflicts of laws provisions of any jurisdiction. In the event that it becomes necessary for a Party to pursue a civil action against a defaulting Party, the prevailing Party in such action shall be entitled to recover its reasonable attorney fees and costs from the defaulting Party if such fees are awarded by a court of competent jurisdiction.

4.24. **Notices.** Unless specifically provided otherwise by this Agreement, any notice, demand, request, consent, approval or communication which a signatory Party is required to or may give to another signatory Party hereunder shall be in writing and shall be delivered or addressed to the other at the address below set forth or to such other address as such Party may from time to time direct by written notice given in the manner herein prescribed. Such notice or communication shall be deemed to have been given or made when communicated by personal delivery or by independent courier service or by facsimile or if by mail on the fifth (5th) business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided. Parties shall make reasonable inquiry to determine whether the names or titles of the persons listed in this Agreement should be substituted with the name of the listed person's successor.

All notices, demands, requests, consents, approvals or communications to the Town shall be addressed to:
- Town Manager
- Town of Chapel Hill
- 405 Martin Luther King, Jr. Blvd.
- Chapel Hill, NC 27514-5705
- 919-969-2063 (fax)

All notices, demands, requests, consents, approvals or communications to the University shall be addressed to:
- Vice Chancellor for Finance and Administration
- UNC-CH
- 300 South Building
- Chapel Hill, N.C. 27599-1000
- 919-962-0647 (fax)

4.25. **Entire Agreement.** This Agreement sets forth and incorporates by reference all of the agreements, conditions and understandings between the Town and the University relative to the Project and supersedes all previous agreements. There are no promises, agreements, conditions or understandings, oral or written, expressed or implied, among these Parties relative to the matters addressed herein other than as set forth or as referred to herein or as contained in the LUMO or as expressed in the development conditions applicable to this parcel of land.

4.26. **Construction.** The parties agree that each Party and its counsel have reviewed and revised this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not apply in the interpretation of this Agreement or any
amendments or exhibits hereto.

4.27. Assignment. After notice to the Town, the University may assign its respective rights and responsibilities hereunder to subsequent land owners of all or any portion of the relevant parcels of land, provided that no assignment as to a portion of the relevant parcel of land will relieve the assigning Party of responsibility with respect to the remaining portion of the relevant parcel of land owned by the assigning Party without the written consent of the Town.

4.28. Governing Law. This Agreement shall be governed by the laws of the State of North Carolina.

4.29. Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed an original and such counterparts shall constitute one and the same instrument.

4.30. Agreement to Cooperate. In the event of any legal action instituted by a third party or other governmental entity or official challenging the validity of any provision of this Agreement, the Parties hereby agree to cooperate in defending such action; provided, however, each Party shall retain the right to pursue its own independent legal defense.

4.31. Termination. This Agreement shall terminate on the earlier of the expiration of the term specified in Section 4.2 of this Agreement or a specific termination made by operation of the provisions of this Agreement. Termination of this Agreement as to the University or the portion of the Carolina North property subject to this Agreement shall not affect any of the following:

   1) any requirements to comply with the applicable terms and conditions of the LUMO, site development permits, approval and acceptance of infrastructure improvements, and any applicable permits; or

   2) provided, if this Agreement shall have run for the entire twenty (20) year term or if the University has completed construction of three (3) million square feet of building floor area or if this Agreement has otherwise been extended or renewed, those covenants of the University expressly specified in this Agreement to continue after termination of this Agreement.

In the event consideration is given to (i) suspension of this Agreement, (ii) termination of this Agreement, or (iii) suspension or termination of any approval of an individual site development permit issued pursuant to this Agreement prior to completion of the twenty (20) year term of this Agreement or prior to the completion of construction of three (3) million square feet of building floor area, the Parties agree that each will identify appropriate representatives to meet and participate in good faith negotiations, as provided in Section 4.17, aimed at resolving the issues prompting that consideration.

4.32. No Obligation to Develop. It is understood that the University’s development of the Project depends upon a number of factors including, but not limited to, the availability of financing, state appropriations, receipt funds, general economic factors, and academic and programmatic needs. Nothing in this Agreement shall be construed as requiring the University to develop the subject property and any failure to develop the subject property shall not be deemed a default by the University of its obligations set forth in this Agreement.

4.33. No Deemed Waiver. Failure of a Party to exercise any right under this Agreement shall not be deemed a waiver of any such right and shall not affect the right of such Party to exercise at some future time said right or any other right it may have hereunder.

4.34. Severability. If any term or provision herein shall be judicially determined to be void or of no effect, such determination shall not affect the validity of the remaining terms and provisions. The Parties agree that if any provision of this Agreement is judicially determined to be invalid because it is inconsistent with a provision of state or federal law, this Agreement shall be amended to the extent necessary to make it consistent with state or federal law and the balance of the Agreement shall remain in full force and effect.

4.35. Authority. Each Party represents that it has undertaken all actions necessary for approval of this Agreement, and that the person signing this Agreement has the authority to bind the Town or the University.

4.36. Other Local Permits. Development of the Carolina North Project that is subject to this Agreement
is subject to subsequent approval of the Town of the following: (1) individual site development permits for specific buildings proposed within the physical boundaries covered by this Agreement; (2) Building and other applicable construction permits for non-State development; (3) Engineering construction permits for work in Town rights of way; and (4) such other Town approvals for development that does not involve a building as determined by the Town Manager.

4.37. Transparency and Public Involvement. It is the intent of the Parties that all aspects of the implementation of this Agreement shall be carried out in an open, transparent fashion with opportunities for effective and meaningful public involvement. The Town and University shall take reasonable steps to make information about all aspects of the implementation of this Agreement (including required studies, analysis, plans, reports, and applications) fully available for public review. The Town and University shall take appropriate steps to secure effective and appropriate public involvement in the implementation of this Agreement.

ARTICLE 5. SPECIFIC STANDARDS AND MITIGATION MEASURES

The Parties do hereby agree to the specific standards and mitigation measures set forth in this Section.

1. Scale of Development Approved

5.1.1. The development approved pursuant to this Agreement shall not exceed three million square feet of floor space on an approximately 133 acre site located in the southeast corner of the overall Carolina North Tract. This development area is depicted in Exhibit C and the site plan for this development is depicted in Exhibit D. Provided, the square footage and acreage limits of this section do not apply to a public school site or school building as may be undertaken by the Chapel Hill-Carrboro school district pursuant to Section 5.14 of this Agreement. The development approved pursuant to this Agreement may proceed in distinct phases. This Agreement also includes specific thresholds that require specified actions prior to continuing with additional development. Development beyond a specified threshold shall only be approved upon a conclusion by the Manager that the specified conditions to proceed have been met.

2. Uses Permitted

5.2.1. The land uses permitted by this Agreement are limited to those allowed under the LUMO in the U-1 zoning district. These uses include public or private development for college/university, research activity, civic, hospital, clinics, cultural, and/or related or support functions with integrated supporting housing, general business, convenience business, office-type business, recreation, daycare, utility, and/or open space uses.

3. Mix of Uses

5.3.1. The development approved pursuant to this Agreement shall incorporate a mix of college/university, research activity, civic, hospital, clinic, and cultural uses, with supporting housing, business, recreation, and open space uses at all major phases of development.

5.3.2. The University’s projected land uses in the initial 800,000 square feet of building development for the Carolina North Project are as set forth in this Section. The development of the initial 800,000 square feet of building development undertaken pursuant to this Agreement shall be in substantial compliance with this general allocation of uses. Any modification of this allocation of uses that would result in substantial changes in parking or traffic generation (as defined in Section 3.5.5(j) of the LUMO) shall be deemed to be a major amendment of this Agreement.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>410,000 sf</td>
</tr>
<tr>
<td>Private Research and Development</td>
<td>180,000 sf</td>
</tr>
<tr>
<td>Civic/Retail</td>
<td>10,000 sf</td>
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<tr>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Recreation Fields</td>
<td>n/a</td>
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<tr>
<td>Housing</td>
<td>200,000 sf</td>
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<tr>
<td>Health Care</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>800,000 sf</strong></td>
</tr>
</tbody>
</table>

4. Housing

5.4.1. A minimum of 25% of the total floor space in the Carolina North Project covered by the Agreement shall be devoted to housing. Of the three million total square feet of building space authorized by this Agreement, no less than 750,000 square feet of building space shall be devoted to housing. Subject to the availability of a certificate of adequacy of public school facilities, at least 200,000 square feet of housing shall be included in the initial 800,000 square feet of total building space in the Carolina North Project.

5.4.2. After the total built square footage within the Carolina North Project reaches 800,000 square feet, if the total square footage of building space devoted to housing drops to 15% or less of the built floor area, construction of non-housing space shall halt until the housing space is at least 20% of the built space. The Annual Report shall provide data for the number of residents and full time equivalent employees within the Carolina North Project. In the event a certificate of adequacy of public school facilities pursuant to the Adequate Public School Facilities section of the LUMO is not available, the provision of housing at Carolina North may be deferred until such time as a certificate is available.

5.4.3. A preference for housing availability within the Carolina North Project shall be given to students and employees of the University, UNC HealthCare, and persons with an active connection to the Carolina North Project (such as employees or researchers engaged in work or activity on the Carolina North Tract). A secondary priority shall be given to other public employees working within the Town. Prior to the approval of the first individual site development permit under this Agreement that includes housing, the University shall submit a plan for providing these preferences. The Manager shall approve that plan upon determining that it effectively addresses the requirements of this Section. This section shall be applicable to all housing within the Carolina North Project, whether owner-occupied or rental and whether publicly or privately owned.

5.4.4. The housing provided within the Carolina North Project shall have a full range of affordability. While the University may provide housing opportunities at Carolina North for the full income range of those employed on the Carolina North Tract, a primary emphasis shall be in provision of housing that is affordable for those working on the site and that is not otherwise available in the Chapel Hill housing market. At a minimum, the housing provided shall meet the Town affordable housing goals as set forth in the Town’s comprehensive plan and ordinances in effect as of the Effective Date of this Agreement. Affordable housing units shall be integrated within the full range of housing provided within the Carolina North Project. Prior to the approval of the first individual site development permit under this Agreement that includes housing, the University shall secure the Manager’s approval of the measures the University will use to maintain housing affordability over time. To secure the Manager’s approval, the University shall submit a report of the measures it will undertake and the Manager shall approve those measures if they are reasonably designed to meet the applicable permanent affordability goals. This section shall be applicable to all non-student housing within the Carolina North Project, whether owner-occupied or rental and whether publicly or privately owned.

5.4.5. All housing provided within the Carolina North Project shall be in the form of compact, multi-family units. All housing shall meet the energy efficiency and sustainability standards specified in Section 5.10 of this Agreement.
5. Preservation of Open Space and Natural Areas

5.5.1. Conservation Area.

a. Subject to obtaining any required State of North Carolina approval, the University shall convey one or more conservation easements for the areas described in this Section to the State, a local government, or a body that is both organized to receive and administer lands for conservation purposes and qualified to receive charitable contributions pursuant to G.S. 105-130.9. The conservation area required by this section comprises approximately 311 acres.

b. It is the intent of the Town and University that the conservation easement(s) shall constitute a "conservation agreement" as defined by G.S. 121-35(1) in that the conservation easement(s) shall serve to retain the applicable land and water areas predominantly in their natural, scenic or open condition. In general, the conservation easement(s) shall forbid or limit any or all (i) construction or placing of buildings, roads, signs, billboards or other advertising, utilities or other structures on or above the ground, (ii) dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste or unsightly or offensive materials, (iii) removal or destruction of healthy native trees, shrubs or other vegetation, unless done as a component of an established forest management plan, (iv) excavation, dredging or removal of loam, peat, gravel, soil, rock or other mineral substance in such manner as to affect the surface, (v) surface use except for forest or outdoor recreational purposes or purposes permitting the land or water area to remain predominantly in its natural condition, (vi) activities detrimental to drainage, flood control, water conservation, erosion control or soil conservation, or (vii) other acts or uses detrimental to such retention of land or water areas. The conservation easement(s) shall allow the University to undertake appropriate research and educational activities within the area covered by the easement. The conservation easement(s) may allow for continued sustainable trail maintenance. Maintenance shall be deemed to include minor repair, restoration, or relocation of existing trails. A map of existing trails as of the Effective Date of this Agreement is set forth on Map 2 in Exhibit H. All trail work shall adhere to the guidelines for sustainable single track as set forth by the International Mountain Bike Association. The conservation easement(s) shall not allow construction of new trails (except for potential greenways and paths that are located and approved by the Town Council pursuant to Section 5.16 of this Agreement). The conservation easement(s) shall not automatically preclude trail and road crossings that are consistent with the provisions of the Resource Conservation District provisions of Section 3.6.3 of the LUMO and the terms of this Agreement. The conservation easement(s) shall identify and allocate maintenance and enforcement responsibilities for the area covered and specify how that activity will be funded.

c. This conservation easement(s) shall cover the following critical natural areas located within the Carolina North Tract: those six areas labeled areas 1, 2, 3, 4, 5, and 6A within the Carolina North Tract set forth on Exhibit E (approximately 311 acres). These six areas include all of those lands identified as Most Suitable for Conservation (EW) in the Weighted Analysis Land Areas by Land Suitability Index Category, as set forth on page 11 of the Ecological Assessment Report: Carolina North (October 2007) along with additional surrounding lands. This weighted analysis in the Ecological Assessment Report: Carolina North particularly emphasizes Landscape Ecology metric classification values. It emphasizes wildlife corridor regional importance, width, and structural integrity, as well as forest patch and forest interior patch sizes. It encompasses critical ecological attributes that are not afforded regulatory protections comparable to floodplains and stream buffers, input received from stakeholders, and the best professional judgment of the consulting team that prepared the Ecological Assessment Report: Carolina North.

d. The conservation easement(s) shall run in perpetuity.

e. The draft conservation easement(s) shall be submitted to the Manager for review and approval prior to recording. A copy of the recorded conservation easement(s) shall be submitted to the Manager upon recording. Provided that the easement is recorded prior to the initiation of construction pursuant to a site development permit issued pursuant to this Agreement, the conservation easement(s) shall not be required to be conveyed to the receiving entity prior to the issuance of a required state or federal permit for wetland alteration on the Carolina North Tract in order that the easement(s) can be considered a mitigation measure for development of the Carolina North Project.
5.5.2 Limited Development Area.

a. Land within the Carolina North Tract that is not included in either a conservation area defined by Section 5.5.1 of this Agreement or within the long-term development area defined by Section 5.5.3 of this Agreement is designated as a "limited development area." The limited development area comprises approximately 408 acres.

b. Except as specifically provided within this Agreement no development that involves the construction or use of a building shall be undertaken prior to July 1, 2059 within the limited development area. In addition, except as specifically provided within this Agreement, no development that involves the construction or use of a building shall be undertaken within the area identified as Area 6B (approximately 53 acres) in Exhibit E prior to July 1, 2109. This restriction on development within the limited development area shall not be applicable to uses identified as permitted uses for the U-1 zoning district. For the purposes of this section, the term "building" includes all structures or edifices covering a space of land, usually covered by a roof, more or less completely enclosed by walls, and used for habitation, shelter, storage, trade, manufacture, religion, business, education, or the like.

c. Notwithstanding Section 4.31 of this Agreement, in the event this Agreement is terminated prior to its twenty (20) year term or prior to the completion of construction of three (3) million square feet of building floor area, then the restrictions identified in Section 5.5.2 of this Agreement for the limited development area shall extend for two and one-half (2.5) years for each year this Agreement was in effect. Notwithstanding Section 4.31 of the Agreement, in the event this Agreement is terminated prior to its twenty (20) year term or prior to the completion of construction of three (3) million square feet of building floor area, the restrictions identified in Section 5.5.2 of this Agreement for the area identified as Area 6B in Exhibit E shall extend for five (5) years for every year this Agreement was in effect.

Alternatively, in the event of such early termination, the restrictions identified in Section 5.5.2 of this Agreement for the limited development area shall be extended according to the following schedule:

1) After completion of 750,000 total square feet of building floor area for the Project, the restrictions on the limited development area shall extend for 12.5 years and the restrictions within the area identified as Area 6B shall extend for 25 years.

2) After completion of 1,500,000 total square feet of building floor area for the Project, the restrictions on the limited development area shall extend for 25 years and the restrictions within the area identified as Area 6B shall extend for 50 years.

3) After completion of 2,250,000 total square feet of building floor area for the Project, the restrictions on the limited development area shall extend for 37.5 years and the restrictions within the area identified as Area 6B shall extend for 75 years.

4) After completion of 3,000,000 total square feet of building floor area for the Project, the restrictions on the limited development area and shall extend for 50 years and the restrictions within the area identified as Area 6B shall extend for 100 years.

The application of the restrictions provided for in Section 5.5.2 of this Agreement shall apply according to whichever of the two alternative schedules set forth in this Subsection results in the longest duration of the restrictions applicable in the limited development area. The time periods referenced in this Section regarding the length of time this Agreement is in effect and the length of time development within the limited development area is restricted all run from the Effective Date of this Agreement.

d. The following land uses and activities within the limited development area that do not involve the construction or use of a building shall be subject to Town review and approval by the Manager (using the appropriate form for approval acceptable to the Town Manager) and shall only be undertaken in a manner consistent with the terms of this Agreement:

1) Roads with exterior connections (construction);
2) Roads with exterior connections (operation);
3) Work in any public right of way;
4) Surface parking areas with greater than 50 spaces; and,
5) Any work in a Resource Conservation District (as defined by the LUMO) that is not within a conservation area as defined by Section 5.5.1 of this Agreement.

In addition, within the Area identified as Area 8B in Exhibit E, the land uses and activities undertaken prior to July 1, 2109 shall be consistent with those permissible under the conservation easement(s) provided for in Section 5.5.1 of this Agreement.

e. The following land uses and activities within the limited development area that do not involve the construction or use of a building shall be undertaken in a manner substantially consistent with the terms of this Agreement. The University shall include a report of all such activities undertaken in the previous year in the Annual Report required by this Agreement:

1) University chilled water, steam, electric duct bank, water, and telecommunication lines;
2) University reclaimed water line;
3) Maintenance and improvements to existing utility lines;
4) Stormwater lines and improvements;
5) Stormwater structures;
6) Public utility lines traversing site (e.g., Duke Energy, PSNC);
7) Utility structures without a building (e.g., electrical substation);
8) Alterations to utility equipment (e.g., generator, other mechanical components);
9) Site storage and construction staging areas;
10) Stream restoration projects;
11) Greenways and other paved trails;
12) Public art; and,
13) Site clearing for any other purpose, provided there is no more than one acre of clearing for any individual project and the total amount of cumulative clearing over the life of this Agreement is consistent with the maintenance of tree canopy coverage for the Carolina North Tract as provided in Section 5.21.1 of this Agreement.

f. The land uses and activities in the limited development area that are listed below and that do not involve the construction or use of a building are not subject to this Agreement, provided any individual undertaking of the activity does not involve land clearing or grading of more than 20,000 square feet and the total amount of cumulative clearing over the life of this Agreement is consistent with the maintenance of tree canopy coverage for the Carolina North Tract as provided in Section 5.21.1 of this Agreement. The University shall include a report on all such activities undertaken on the Carolina North Tract in the previous year in the Annual Report required by this Agreement.

1) Conditions existing as of date of this Agreement (which are generally depicted on Map 1 in Exhibit H);
2) Alterations (but not expansion) in existing parking lots, including repaving, replanting for stormwater mitigation, or changing impervious to pervious pavement;
3) Roads, internal service without exterior connections and not designed for vehicular circulation to serve buildings within the developed area of Carolina North;
4) Exterior tennis and basketball courts;
5) Athletic facilities and events that are not buildings and that do not involved land clearing or grading of more than 20,000 square feet;
6) Gazebos and other open air shelters, parks, children’s play areas, passive recreation features, and park site furnishings;
7) Unpaved trail construction/maintenance (e.g., volunteer work on paths, harvesting);
8) Memorial gardens;
9) Kiosks and benches;
10) Incidental parking areas, provided each such parking area includes no more than 50 spaces, the cumulative number of parking places in the limited development area does not exceed 300 parking places, and all such parking is consistent with the provisions of Section 5.8 of this Agreement;
11) Site furnishings (e.g., recycle containers, fixtures, blue lights);
12) Support facilities for special events (e.g., Tar Heel town, concerts);
13) Demolitions;
14) Landscaping activities; and,
15) Community gardens.
g. An elementary school provided pursuant to Section 5.14 of this Agreement may be sited within the limited development area provided the entity responsible for construction of the school secures a conditional use permit from the Council. The Council shall issue such permit upon finding the school meets the following standards:
   1) That the use is located, designed, and proposed to be operated so as to maintain or promote the public health, safety, and general welfare;
   2) That the use is located, designed, and proposed to be operated so as to maintain or enhance the value of contiguous property, or that the use is a public necessity;
   3) That the use conforms with the general plans for the physical development of the Town as embodied in the Comprehensive Plan; and
   4) That the use conforms with the applicable terms of this Agreement.

The process established by Section 4.5.3 of the LUMO shall be followed in the consideration of this conditional use permit and Sections 4.5.4 and 4.5.5 of the LUMO shall apply to modification, expiration, and revocation of this conditional use permit.

5.5.3. Development Area.

a. The “development area” includes that portion of the Carolina North Tract identified as the long-term development area set forth in Exhibit B of this Agreement. The development area designated by this section comprises approximately 228 acres.

b. Except as specifically provided within this Agreement, no development shall be undertaken in the development area in areas identified as “open space,” “working landscapes,” or “recreational fields” on the site plan for the portion of the Carolina North Project subject to building development pursuant to this Agreement (Exhibit D). This restriction does not include development associated with walking paths, stormwater management, wastewater treatment, low impact recreational opportunities (and associated support structures), public art, community gardens, shallow groundwater recharge, native plant nurseries, native habitat for targeted species, and ecological research and learning activities.

c. The following land uses and activities within the development area that do not involve the construction or use of a building shall be subject to Town review and approval by the Manager (using the appropriate form for approval acceptable to the Town Manager) and shall only be undertaken in a manner consistent with the site plans set forth in this Agreement and any other applicable terms of this Agreement:
   1) Roads with exterior connections (construction);
   2) Roads with exterior connections (operation);
   3) Work in any public right of way;
   4) Surface parking areas with greater than 50 spaces; and,
   5) Any work in a Resource Conservation District (as defined by the LUMO) that is not within a conservation area as defined by Section 5.5.1 of this Agreement.

d. The land uses and activities set forth in Section 5.5.2(e) of this Agreement that do not involve the construction or use of a building may be undertaken within the development area in a manner substantially consistent with the site plans set forth in this Agreement and any other applicable terms of this Agreement. The University shall include a report of all such activities undertaken in the previous year in the Annual Report required by this Agreement.

e. The land uses and activities set forth in Section 5.5.2(f) in the development area that do not involve the construction or use of a building are not subject to this Agreement, provided any individual undertaking of the activity does not involve land clearing or grading of more than 20,000 square feet.

f. An elementary school provided pursuant to Section 5.14 of this Agreement may be sited within the development area provided the entity responsible for construction of the school secures a conditional use permit from the Council pursuant to Section 5.5.2 of this Agreement.

6. Stormwater Management

5.6.1. Stormwater management shall be integrated into the site, building, and landscape design. Stormwater management strategies shall be coordinated and applied in a comprehensive manner across Carolina North.
5.6.2. A conceptual stormwater management plan for the entire Carolina North Project shall be submitted with the initial site development permit application. The conceptual stormwater management plan shall include hydrologic analyses of the existing conditions (pre-development) and the undeveloped conditions (meadow). At a minimum, the proposed conditions hydrology will not exceed the pre-development (existing) conditions as specified in this Agreement. Additionally, the University will strive to make the proposed conditions hydrology match the undeveloped (meadow) conditions to the maximum extent practicable. The conceptual stormwater management plan will identify the discharge points from the development area and the limited development area that will be analyzed with each site development permit application.

5.6.3. The University shall identify the stormwater impacts and document in individual site development permit applications how those stormwater impacts will be mitigated. Stormwater management plans will meet the design criteria specified in this Agreement, applicable NPDES permit requirements, applicable federal and state rules, and applicable federal and state laws (including the Jordan Water Supply Nutrient Strategy requirements as may be adopted by rule or statute).

5.6.4. The stormwater design criteria shall address peak rates, volume, and quality as follows:

1) The post-development stormwater runoff peak discharge rate shall be controlled such that the post-development runoff peak discharge rate at all locations where stormwater runoff exits the development area (or at other points designated in the conceptual plan) shall not exceed the pre-development (existing conditions) stormwater runoff peak discharge rate for the local 1-year (2.88 inches), 2-year (3.60 inches), 10-year (6.38 inches), 25-year (6.41 inches), and 50-year (7.21 inches) frequency, 24-hour duration storm events.

2) The post-development stormwater runoff volume shall be controlled such that the post-development runoff volume, at all locations where stormwater runoff exits the development area (or at other points designated in the conceptual plan) shall not exceed the pre-development (existing conditions) runoff volume for the local 2-year (3.60 inches) frequency, 24-hour duration storm event.

3) All post-development stormwater runoff resulting from the first one inch of precipitation shall be treated to remove 85% of total suspended solids prior to entering waters of the State and prior to exiting Carolina North Tract. Stormwater treatment facilities shall be designed according to: (1) the NCDENR Stormwater Best Management Practices Manual as modified by the Town of Chapel Hill; (2) the Town of Chapel Hill Design Manual, as amended; (3) the UNC Design and Construction Guidelines, as amended; and (4) any future written design guidance approved by both the Town and the University stormwater engineers.

4) Stormwater runoff shall be treated as required by current and future federal or state rules, including the Jordan Water Supply Nutrient Strategy requirements as may be adopted by rule or statute.

5.6.5. Upon completion of construction, the University shall provide a copy of as-built drawings to the Town, signed and sealed by a North Carolina-registered Professional Land Surveyor, showing building footprints, driveways, stormwater drainage/conveyance piping, stormwater management structures, and all other impervious surfaces and totals.

5.6.6. Upon completion of construction, the University shall provide a copy of a certification, signed and sealed by a North Carolina-registered Professional Engineer, that the stormwater management facility(ies) was/were constructed in accordance with the approved plans and specifications.

5.6.7. The University shall be responsible for the maintenance of all stormwater facilities on its property.

5.6.8. Stormwater management facilities shall not be located in any street rights-of-way maintained by the Town unless mutually agreed upon but may be located within rights-of-way maintained by the University. Stormwater management facility outlets shall be located a minimum of 30 feet from
adjacent private property boundaries, and facility discharges toward private property shall be in a sheet flow condition.

5.6.9. Stormwater facilities shall not be located in the Resource Conservation District streamside zones established in the LUMO or in stream buffers as restricted by applicable Jordan Water Supply Nutrient Strategy rules or statutes.

7. **Stormwater Utility**

5.7.1. The University and Town acknowledge that both entities operate stormwater programs that include responsibilities pursuant to their respective NPDES Phase II stormwater permits, their stormwater infrastructure maintenance responsibilities, sustainable program practices, and other state and federal requirements. The University stormwater program includes many, but not all, services that would otherwise be provided by the Town.

5.7.2. The Town and University shall prepare and regularly update (at three year intervals) a cost sharing agreement for stormwater utility functions. This agreement shall document the stormwater utility services provided by the University and Town, their costs, and provisions for University financial contributions for services provided by the Town and credits for services provided by the University. The Manager shall approve the agreement if it reasonably provides for equitable cost-sharing based on the respective duties and financial obligations of the Town and University.

5.7.3. The initial cost-sharing agreement for stormwater utility functions shall be based on the analysis prepared by Town and University staff and submitted to the Manager on April 22, 2009. The stormwater utility cost-sharing for the 2009-2010 fiscal year shall be 24% of the fee that would be charged based on the impervious surface coverage on the Carolina North Tract existing as of the Effective Date of this Agreement. This rate shall remain in effect for three years and may thereafter be adjusted based on the updated agreements required by Section 5.7.2 of this Agreement. The initial updated agreement shall include a provision for equitable cost-sharing in capital projects or funds based on the respective duties and financial obligations of the Town and University.

8. **Transportation: Transit, Parking, Streets, Sidewalks, Bikeways, and Greenways**

**Section 5.8.A. General Provisions**

5.8.1. No automobile parking or external road connections shall be made on any portion of the entire Carolina North Tract except as provided in this Agreement.

5.8.2. All roads and streets within the Carolina North Project that may support public transit in the future shall be designed and constructed to meet Town standards for roads that support such use unless otherwise approved by the Town Manager. All pedestrian, bicycle, and greenway facilities within the Carolina North Project shall be designed and constructed to meet minimum Town standards unless otherwise approved by the Town Manager. The design of these facilities and roads shall consider the issues identified in Section 4.2 -- Preliminary Evaluation of the Carolina North Site Plan, Transportation Impact Analysis for the Carolina North Project (June 3, 2009).

5.8.3. Prior to the approval of the first individual site development permit pursuant to this Agreement, the University shall submit and secure the Manager's approval of guidelines for ownership and maintenance responsibilities of streets, bicycle, pedestrian, and greenway facilities within the entire Carolina North Project. The University and Town shall follow all mandated procedures for offer and acceptance of any streets, bicycle, pedestrian, or greenway facilities proposed for Town ownership or maintenance.
5.8.4. Transit stops, transit passenger amenities, bus turnouts, and other transit facilities necessary to support the provision of safe, accessible and efficient public transit shall be incorporated into the design and construction of all applicable new roads within the Carolina North Project. Appropriate parking restrictions shall be applied and enforced within bus stops. Transit stop design shall be consistent with the standards of the Chapel Hill Transit System or as approved by the Town Manager.

5.8.5. The University shall maintain its current role as a partner in the Chapel Hill Transit System for the full twenty (20) year term of this Agreement. The University, Town, and the Town of Carrboro are currently partners in the Chapel Hill Transit System and share in the System’s capital and operating costs. After deducting revenues, including federal and state funding, the remaining System costs are shared as follows: The University is solely responsible for the costs of routes defined as University exclusive routes. The remaining costs are then allocated on a proportional basis to the University, Town, and Town of Carrboro. The amount of each entity’s share of that remaining cost is determined by the relative size of: (1) the total University student and employee (including UNC HealthCare employees) population; (2) the Town’s population; and (3) the Town of Carrboro’s population. It is the intent of the Parties to continue this general cost-sharing partnership.

5.8.6. The University shall take all reasonable and prudent steps to maintain the existing rail corridor that traverses the Carolina North Tract for potential long-term future transportation uses.

5.8.7. Parking.
   a. Development undertaken within the initial 800,000 square feet (sf) of total building space in the Carolina North Project. The baseline and constrained parking ratios set forth in this Section are derived from the Transportation Impact Analysis for the Carolina North Development: Addendum 1, Additional Parking and Mode Share Sensitivity Analysis (June 3, 2008). When applied to the University’s projected uses of the initial 800,000 square feet of total building space in the Carolina North Project as set forth in Section 5.3.2 of this Agreement, the baseline ratio yields a potential total of 1,525 spaces for the initial phase of development. This shall be the maximum number of new parking spaces provided in this initial phase of the Carolina North Project.

   The Annual Report shall show how the development in this phase of the Carolina North Project that has been undertaken to that date and that is anticipated within the next year provides an amount of parking that is at or below that which is allowed through the application of the baseline parking ratios set forth in this Section. The University shall make a good faith effort to limit parking spaces provided within the Carolina North Project in this initial phase of development to the constrained parking ratios set forth in this Section. The Parties acknowledge that provision of parking, particularly when parking structures are provided, can occur in increments that do not precisely match building construction rates. Therefore, some reasonable latitude in the timing of provision of parking shall be allowed to accommodate that fact, provided the spirit and intent of the limitations of this Section are observed.

   As an incentive to achieving greater parking reductions, if the University achieves more than a 10% reduction in the baseline parking ratios at 800,000 square feet of total building space in the Carolina North Project or a comparable reduction in the number of single-occupancy vehicle trips generated by that development, the traffic and roadway mitigation measures that would otherwise be required by future Transportation Impact Analysis (TIA) updates mandated by Section 5.8.9 of this Agreement will be reduced commensurate with the reduction in need for those measures (as documented by the TIA updates) that is produced by the greater constraints.

   Each individual site development permit application shall demonstrate that the total number of parking spaces provided does not exceed the baseline number of parking spaces for 800,000 square feet of total building space in the Carolina North Project.

   The baseline and constrained parking ratios to be applied in this initial phase of development are:
<table>
<thead>
<tr>
<th>Land Use</th>
<th>Baseline Parking Ratios</th>
<th>Constrained Parking Ratios (-10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University - Employees</td>
<td>0.50 per employee</td>
<td>0.45 per employee</td>
</tr>
<tr>
<td>University - Commuting Students</td>
<td>0.25 per student</td>
<td>0.23 per student</td>
</tr>
<tr>
<td>University - Visitors</td>
<td>0.20 per 1,000 sf</td>
<td>0.13 per 1,000 sf</td>
</tr>
<tr>
<td>Private R&amp;D</td>
<td>2.50 per 1,000 sf</td>
<td>2.25 per 1,000 sf</td>
</tr>
<tr>
<td>Housing</td>
<td>1.25 per 1,000 sf</td>
<td>1.15 per 1,000 sf</td>
</tr>
<tr>
<td>Civic/Retail</td>
<td>1.50 per 1,000 sf</td>
<td>1.35 per 1,000 sf</td>
</tr>
<tr>
<td>UNC Healthcare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Employee</td>
<td>0.50 per employee</td>
<td>0.45 per employee</td>
</tr>
<tr>
<td>UNC Healthcare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Patient/Visitor</td>
<td>2.50 per 1,000 sf</td>
<td>2.25 per 1,000 sf</td>
</tr>
<tr>
<td>Fields</td>
<td>35 per field</td>
<td>20 per field</td>
</tr>
</tbody>
</table>

b. Development undertaken subsequent to the initial 800,000 square feet of total building space in the Carolina North Project. Development subsequent to the initial phase of the Carolina North Project shall comply with the total number of parking spaces as determined by parking ratios mutually agreed upon by the Parties. These subsequent parking ratios shall be based on consideration of the Transportation Impact Analysis updates mandated by Section 5.8.9.c of this Agreement and the updated Short Range Transit Plans and Transportation Management Plans mandated by this Agreement. It is the intent of the Parties that parking ratios at the Carolina North Project will be reduced over time as transit, pedestrian, bicycle, and greenway alternatives are enhanced. The Parties have discussed the feasibility of reducing the parking ratios for future phases of the Carolina North Project by 20% or 30% below the current baseline ratios and are committed to further discussions with a goal of achieving the maximum feasible reductions in the future.

The Manager may suspend approval of individual site development permits for projects that would exceed 800,000 square feet of total building space in the Carolina North Project pending mutual agreement of the Parties on updated parking ratios. Unless otherwise mutually agreed by the parties, this Agreement shall be deemed terminated by mutual consent of the parties if the suspension of individual site development permits continues for twelve (12) months in duration.

c. Allocation of parking. The parking ratios in this Section shall be used to establish the maximum total number of new parking spaces that may be provided at the Carolina North Project. The University shall retain the discretion to allocate this total maximum number of parking spaces to individual buildings and projects within the Project.

d. Parking for on-site uses. It is the intent of the Parties that all new parking provided at the Carolina North Project shall be for the principal purpose of serving development and uses on the Carolina North Tract.

Section 5.8.8. Required Future Analysis and Planning

5.8.8. The University and the Town shall work together to cooperatively plan for increased transit and alternate transportation to the Carolina North Project through the Transportation Impact Analysis, Traffic Management Plan, and Short Range Transportation Plan process identified in this
Agreement. Planning for increased transit will include a complete analysis of the transportation system, housing, connections with other providers, and changes in technology and growth patterns. The Parties agree that the plans and policies for reduced reliance on automobile transportation to serve the Carolina North Project shall be integrated with Town efforts to similarly reduce reliance on automobile transportation overall within the Town.

5.8.9. Transportation Impact Analyses.
   a. Production and contents. Each Transportation Impact Analysis (TIA) required by this Agreement shall be conducted according to the Guidelines and Procedures used in the June 2009 Carolina North TIA and the Town’s Traffic Impact Analysis Guidelines (TIA Guidelines) in effect at the time of preparation of the TIA. The cost of preparation of the TIA and subsequent updates shall be borne by the University and shall be conducted by an entity mutually agreed to by the Town and the University. The number of intersections requiring analysis may increase or decrease depending on whether the intersections meet the analysis criteria established in the TIA Guidelines. New traffic and transportation data shall be collected in September/October of the applicable year for each TIA update, beginning with the first update in 2009. Each TIA shall include an executive summary. To the extent feasible, projected construction traffic at the Carolina North Project shall be considered in each TIA. Each TIA shall consider transit, traffic, bicycle, pedestrian, and greenway transportation and shall address the accuracy of the projections and assumptions in previous TIAs for this Project.
   b. Initial update. An updated Transportation Impact Analysis (TIA) for the Carolina North Project shall be submitted by the University in December 2009.
   c. Subsequent updates. An updated TIA shall be submitted in December 2015 or when the total built square footage with the Carolina North Project reaches 800,000 square feet of total building floor space, whichever occurs first. Thereafter, additional TIA updates shall be submitted upon a schedule mutually agreed upon by the Town and University, provided that an update shall be submitted no less frequently than every five years. If there has not been substantial development on the Carolina North Project in the period since the previously completed TIA, the University may request that the Manager approve a revised schedule or a modification in the scope of the TIA.

5.8.10. Short Range Transit Plans.
   a. A Short Range Transit Plan (SRTP) for the Chapel Hill Transit service area affected by the Carolina North Project shall be prepared by the Town and updated in response to the results of each TIA update, commencing with the December 2009 TIA update. Each SRTP shall merge Chapel Hill Transit planning with plans for development at the Carolina North Project and shall consider issues of internal circulation, transit hubs, and policies necessary to maximize transit use as outlined in the Town’s SRTP Guidelines in effect at the time of the plan.
   b. The University shall participate in the SRTP process and include in its Annual Report to the Town Manager updated information on the current status of transit planning for the Carolina North Project and coordination with the SRTP process.
   c. Services that are implemented as a direct result of the Carolina North Project shall be funded on a prorated basis as determined appropriate by the partners engaged in Chapel Hill Transit. The provision of dedicated services to the Carolina North Project shall not take precedence over the priority of maintaining existing services to the community (see Section 5.9.3, regarding fiscal impacts).
   d. The Manager may suspend approval of all individual site development permits pursuant to this Agreement if a mutually satisfactory updated cost sharing agreement is not agreed to by the University and Town within twelve months of the completion of each updated SRTP prepared pursuant to this Agreement. Unless otherwise mutually agreed by the parties, this Agreement shall be deemed terminated by mutual consent of the parties if the suspension of individual site development permits continues for twelve (12) months in duration.
   e. An appropriate facility for transit service shall be provided at the intersection of Martin Luther King Jr. Blvd. and the Central Green Way within the Carolina North Project, as identified in the SRTP and approved by the Town Manager.
5.8.11. Transportation Management Plans.
   a. A Transportation Management Plan (TMP) for the Carolina North Project shall be submitted with
      the first individual site development permit application and it shall set forth overall
      recommendations for Carolina North, according to the Carolina North TMP Guidelines.
   b. In the Annual Report to the Town Manager, the University shall include an update of how
      development is coordinated with the Carolina North Project TMP.
   c. A mode split survey of employees, students, residents, and visitors to the Carolina North Project
      and a parking utilization survey of employees, students, residents, and visitors to the Carolina
      North Project shall be conducted with the first 400,000 square feet of development or in
      conjunction with a TIA, as mutually agreed to by the Parties. The proposed schedule for mode
      split surveys shall be included in the proposed schedule for TIA updates to be approved by the
      Town Manager.

5.8.12. Public Notice and Participation. The Town Manager shall take reasonable steps to broadly
         publicize and provide opportunities for public consultation and participation in all of the
         transportation analyses and plans mandated by this Agreement.

Section 5.8.C. Specific Improvements
5.8.13. Innovation Center Improvements. The traffic and pedestrian improvements included in the special
         use permit issued for the Innovation Center located on the Carolina North Tract (recorded in book
         RB 4733 page 325, Orange County Register of Deeds) are incorporated into and made a part of
         this Agreement.

   a. Section 5.8.C of this Agreement identifies the transportation improvements that the Transportation
      Impact Analysis for the Carolina North Project (June 3, 2009) identified as needed to address the
      impacts of the initial 800,000 square feet of building development within the Carolina North
      Project. The TIA update scheduled for December 2009 may refine and update the improvements
      needed for this initial phase of development.
   b. The University shall either design and install or reimburse the Town for all customary costs of
      providing the transportation and traffic improvements set forth in Section 5.8.C of this Agreement.
      If the University chooses to reimburse the Town the total cost shall include actual design and
      construction costs and staff time for administration of the design and construction contracts.
   c. In determining the schedule and responsibility for the improvements required by Section 5.8.C of
      this Agreement, the Town Manager shall take account of future non-University development that
      contributes to the need for some of these improvements and that may proportionally share in the
      cost of providing them.
   d. The schedule for making the improvements set forth in Section 5.8.C of this Agreement shall be
      determined by mutual agreement of the Parties and shall be consistent with the provisions of this
      Section 5.8.C of this Agreement. The schedule shall provide that improvements are made prior to
      occupancy of the building development that generates the need for those improvements. The TIA
      update scheduled for December 2009 shall include an analysis of the timing of the need for these
      specific improvements based on the programming for uses at Carolina North set forth in Section
      5.3.2 of this Agreement. That analysis shall guide the Parties in setting the schedule of
      improvements.
   e. Each individual site development permit issued pursuant to this Agreement shall contain
      conditions that require installation of or payment for those improvements set forth in Section 5.8.C
      of this Agreement that are needed as a result of that development prior to occupancy of that
      permitted building.
   f. Each TIA update shall include a review of additional information and proposed additional
      improvements or adjustments to mitigation measures to address adverse impacts of growth from
      the Carolina North Project. The Parties intend that TIA updates prepared subsequent to the
      December 2009 update will identify the set of specific improvements that will be required for the
      next phase of development beyond the 800,000 square feet of building development addressed
      by Section 5.8.C of this Agreement. The Parties will by mutual agreement determine the schedule
for the installation of the improvements needed for each subsequent phase of development of the Carolina North Project. The subsequent schedules shall provide that identified improvements are made prior to occupancy of the building development that generates the need for those improvements.

g. Final design and construction details for all of the improvements required pursuant to Section 5.8.C of this Agreement are subject to Town Manager approval for Town roads and North Carolina Department of Transportation approval on State roads. The University may provide performance guarantees (provided such guarantees are acceptable to the Town Manager) for completion of required improvements if necessary to allow occupancy of buildings prior to the completion of required improvements.

5.8.15. Traffic Calming Improvements. The exact location, design, and construction details of traffic calming devices must be reviewed with area residents. The Town Manager may modify or revise the proposed traffic calming devices based on updated findings of each TIA update. Streets identified for traffic calming measures are:

1) Piney Mountain Road;
2) Hillsborough Street;
3) Seawell School Road;
4) North Elliott Road/Curtis Road/Caswell Road;
5) Northwoods Road;
6) North Lakeshore Drive;
7) Barclay Road; and
8) Airport Drive for improvements to the existing speed table.

5.8.16. NC 86/Martin Luther King Jr Boulevard Pedestrian and Bicycle Study Recommendations. The University shall be responsible for the bus shelter, bus pullouts, mid-block pedestrian crossings and crosswalk improvements on Martin Luther King Jr. Blvd between Airport Drive and Homestead Road as identified by the NC 86 / Martin Luther King, Jr. Boulevard Corridor and Town-Wide Pedestrian Safety Evaluation Study (February 2007) conducted by the Town.

5.8.17. Sidewalk Improvements. Sidewalks shall be built in existing right-of-way or on University property. Sidewalks shall be provided for the following locations. The locations are:

1) On west side of Martin Luther King Jr. Blvd from Airport Drive to Homestead Road;
2) On both sides of Estes Drive from Martin Luther King Jr. Blvd. to Seawell School Road;
3) On the north side of Estes Drive from Caswell Road to Martin Luther King Jr. Blvd.
4) On one side of Airport Drive from Martin Luther King Jr. Blvd to Estes Drive; and
5) On one side of Seawell School Road between Estes Drive and Homestead Road.

5.8.18. Bicycle Improvements. Bicycle facilities shall be built in existing right-of-way or on University property. Bicycle facilities shall be provided on the following streets. The locations are:

1) Both sides of Estes Drive from Martin Luther King Jr. Blvd. to Seawell School Road; and
2) Both sides of Seawell School Road between Estes Drive and Homestead Road.

5.8.19. Greenway Connection to Main Campus. The Town and the University shall work cooperatively to expeditiously identify a greenway/bicycle connection between the Carolina North Tract and the University’s central campus. This work shall be undertaken pursuant to Section 5.16 of this Agreement.

5.8.20. Pedestrian Island on Piney Mountain Road. Prior to the issuance of the first individual site development permit, the University shall provide a payment of $50,000 for construction of a pedestrian refuge island on Piney Mountain Road near the bus stop crossings east of Martin Luther King Jr. Blvd.

5.8.21. Traffic Signal System Improvements. Traffic Signal System improvements shall include the following:
1) Traffic signal system timing plans for progression shall be studied, revised, and implemented in the Town system as necessary at all intersections that are analyzed for level of service criteria. Additional traffic signal system timing plans shall be updated following the same schedule as the updated TIAs until development pursuant to this Agreement is substantially complete or until a new development agreement is approved.

2) Traffic Signal Improvements at Estes Drive and Seawell School Road Intersection. The University shall upgrade the existing traffic signals with:
   i. Pedestrian amenities on all approaches of the intersection including street imprint for all crosswalks, countdown heads, and audible pedestrian signals;
   ii. Bicycle activated loops; and
   iii. New traffic signals phasing as determined by the Town Manager and approved by NCDOT.

3) New traffic signal controls: Traffic signal control must be designed and constructed at the intersections listed in this subsection when the associated new road connections are made from Carolina North. The signal plans must include pedestrian amenities and phasing, marked crosswalks with street imprint, bicycle activated loops, audible pedestrian signals, required handicapped ramps, and “countdown” heads on all approaches.
   i. Estes Drive and Airport Drive,
   ii. Martin Luther King Jr. Blvd and Airport Drive.

5.8.22. Roadway Improvements. Roadway improvements shall include the following:
   1) Right-turn lane on southbound Martin Luther King Jr. Blvd at the main site entrance (to be completed prior to the occupancy of the first building pursuant to this Agreement other than the Innovation Center);
   2) Right-turn lane on northbound Martin Luther King Jr. Blvd at Estes Drive.
   3) A new street connection on Estes Drive and Airport Drive. The design of this improvement shall reflect the following:
      i. New street entrance aligned with Airport Drive;
      ii. A three lane cross-section at the intersection of Estes Dr and Airport Drive; and
      iii. Appropriate turning lanes (left and right) on Estes Drive and Airport.

5.8.23. Park and Ride Spaces. The University shall provide at a minimum the number of park and ride spaces identified in the June 2009 TIA for Carolina North. The University, Town and Public Transit Committee shall work together to identify a funding formula for associated studies, service and capital costs. Park and ride spaces shall be provided in a manner consistent with the SRTP and shall be located in an appropriate service area to serve the Carolina North Project.

9. Fiscal Impacts

5.9.1. The University and Town agree that the University, the State, or Carolina North Project tenants shall bear the cost of Town services required by the Carolina North Project. The Carolina North Project shall be either revenue positive or revenue neutral for the Town.

5.9.2. The Fiscal Impact Analysis: Phase I of Carolina North (March 3, 2009) shall be used as a guide to identify the costs and the revenues associated with the Carolina North Project.

5.9.3. Short Range Fiscal Plans
   a. The Town and University shall collaboratively undertake and regularly update Short Range Fiscal Plans (SRFP) that assess and address the fiscal impacts of the Carolina North Project on the Town. Each plan shall include an analysis of anticipated fiscal impacts and shall include agreements on how any adverse fiscal impacts on the Town are to be addressed. The report shall specifically address: (1) University and State payments for fire services provided by the Town; (2) contributions for capital facilities for police, fire, and emergency medical services identified in Section 5.13; and, (3) transportation costs identified in Section 5.8.
b. The fiscal impact analysis mandated by this Section shall be based upon the model used for the March 3, 2009 fiscal impact analysis for Carolina North and shall use a mutually agreed upon methodology and process for updates to that analysis.

c. The Manager may suspend approval of all individual site development permits pursuant to this Agreement if a mutually satisfactory means by which negative fiscal impacts on the Town resulting from the Carolina North Project are to be addressed is not agreed to by the University and Town within twelve months of the completion of each updated SRFP prepared pursuant to this Agreement. Unless otherwise mutually agreed by the parties, this Agreement shall be deemed terminated by mutual consent of the parties if the suspension of individual site development permits continues for twelve (12) months in duration. In the event the Parties have not mutually agreed on a means for addressing negative fiscal impacts with twelve (12) months of completion of a SRFP, the Parties shall initiate good faith efforts to resolve this matter, including potential use of facilitators, mediators, or other alternate dispute resolution techniques.

d. The initial SRFP shall be completed in conjunction with issuance of the initial site development permit for the Carolina North Project and shall address how the Parties will manage the fiscal impacts on the Town generated by that development. Unless otherwise agreed by the Parties, the SRFP shall be updated annually thereafter and each update shall address the fiscal impacts of the development constructed and approved at the time of that update.

e. A summary of the activity taken in the previous year to address the recommendations of the most recent SRFP shall be included in each Annual Report mandated by this Agreement.

5.9.4. Any portion of buildings, improvements, or personal property at the Carolina North Project that are privately owned shall be subject to ad valorem taxation per North Carolina General Statutes. In addition, in the event any such building reverts to public ownership and subsequently is transferred back to private ownership, it shall again be subject to ad valorem taxation for any periods in which it is held in private ownership.

5.9.5. For any portion of buildings, improvements, or personal property at the Carolina North Project that is privately owned by a for-profit entity, and that entity is, under future taxation law, considered to be eligible to apply for tax-exempt status, the entity shall not apply for tax-exempt status during the term of this Agreement. The University shall inform the Manager and the Orange County Tax Assessor annually as to who owns each building at the Carolina North Project and whether the owner is tax exempt.

5.9.6. Any portion of buildings or improvements at the Carolina North Project that is privately owned shall be subject to Town fire and building permitting and inspection fees.

10. Energy

5.10.1. The University is committed to meeting the standards in the American College and University Presidents Climate Commitment (ACUPCC). This document is attached and incorporated in this Agreement as Exhibit K. It supersedes prior Town-University carbon reduction goals and exceeds state required energy efficiency standards. This Commitment covers all sources of emissions.

5.10.2. The University has committed through the ACUPCC to carbon neutrality by the year 2050. The University is preparing a Climate Change Action Plan that will result in zero carbon emissions from campus buildings and university activities and operations by 2050. This plan will be announced by September, 2009. In order to achieve net zero emissions campus-wide, the Carolina North Project shall eventually need to exceed carbon neutrality by generating more energy from renewable resources than it consumes.

5.10.3. The University shall maintain and update its carbon and other greenhouse gas emissions inventory ([http://acupcc.aashe.org/ghgreport.php?id=372](http://acupcc.aashe.org/ghgreport.php?id=372)), and submit a report every two years (Biennial Report) to the Manager that confirms a trajectory of emissions consistent with adhering to its commitment to reduce greenhouse gas emissions to zero by the year 2050. Any increase in emissions due to the construction of new buildings, emissions generated by fossil fuels
consumed by those buildings, or increased vehicle emissions resulting from transportation to and from those buildings, will be offset by energy efficiency and renewable energy generation (or as a last resort by purchasing NC-based renewable energy certificates). The Biennial Report will account for total greenhouse gas emissions and total offsets. The Biennial Report shall include a summary of actions taken and overall University progress in meeting energy conservation goals. The Biennial Report shall also include a schedule of goals (in five year increments) for progress Project towards meeting reductions in use of nonrenewable energy by buildings at the Carolina North Project relative to existing comparable buildings and shall include a regularly updated estimate of the percentage reduction in non-renewable energy use for buildings at the Carolina North Project relative to existing comparable buildings. The initial Biennial Report shall be submitted not later than two years after the date of approval of the initial site development permit pursuant to this Agreement.

5.10.4. Central Cogeneration/utility plants.
    a. Any central cogeneration/utility plant that is constructed at the Carolina North Project to supply steam, heat, electric power, chilled water, or cooling to buildings shall not use coal fuel and shall to the extent practical and feasible be energized by a renewable energy fuel that is carbon neutral.
    b. A large central cogeneration/utility plant shall not be included within the initial 800,000 total square feet of building development at the Carolina North Project.
    c. A large central cogeneration/utility plant within the Carolina North Tract shall only be authorized upon issuance of a conditional use permit by the Council. The Council shall issue such permit upon finding the plant meets the following standards:
       1) That the use is located, designed, and proposed to be operated so as to maintain or promote the public health, safety, and general welfare;
       2) That the use is located, designed, and proposed to be operated so as to maintain or enhance the value of contiguous property, or that the use is a public necessity;
       3) That the use conforms with the general plans for the physical development of the Town as embodied in the Comprehensive Plan; and
       4) That the use conforms with the applicable terms of this Agreement.

    The process established by Section 4.5.3 of the LUMO shall be followed in the consideration of this conditional use permit and Sections 4.5.4 and 4.5.5 of the LUMO shall apply to modification, expiration, and revocation of this conditional use permit.
    d. For the purposes of this section, a "large central cogeneration/utility plant" includes any facility designed to produce steam, heat, electric power, chilled water, or cooling for other buildings and that is designed to or has the capacity to serve more than two million square feet of building space.
    e. A small central utility plant to provide heating or cooling for buildings within the Carolina North Project may be included within the initial 800,000 total square feet of building development at the Carolina North Project. Such a facility may be authorized by an individual site development permit provided it is below the threshold for a "large central cogeneration/utility plant" set by Section 5.10.4(d) of this Agreement. It is the intent of the parties that such a small central plant be no larger in scale or impact than the University's current Manning Drive steam plant or Cobb chiller plant.

5.10.5. All buildings at the Carolina North Project constructed pursuant to this Agreement shall:
    1) Be sited to maximize the renewable energy that can be collected and utilized by building-integrated energy systems and be constructed so renewable energy systems can be added at a future date without major modifications to the building structure.
    2) At a minimum meet all applicable state-required energy efficiency standards and be designed and constructed to meet all applicable code standards in effect at the time of building design, including the N.C. State Building Energy Conservation Code (which includes by reference ASHRAE 90.1).
    3) Be constructed and equipped so that they increasingly consume less fossil fuel energy than existing comparable buildings.
The University shall for all new construction submit to the Town Planning Department building energy performance models (pre-construction) and building commissioning reports (post-construction). Specifications for each building shall demonstrate how each building addresses the issues of energy in its design.

5.10.6. All non-healthcare buildings at the Carolina North Project constructed pursuant to this Agreement shall be designed to meet or exceed the minimum United States Green Building Council’s Leadership in Energy and Environmental Design (USGBC LEED) Silver criteria. All healthcare buildings at the Carolina North Project constructed pursuant to this Agreement shall be designed to meet or exceed the minimum USGBC LEED for Healthcare Green Building criteria (a separate sustainability guideline strictly for healthcare).

11. Water Use, Reuse, and Reclamation and Utility Siting

5.11.1. A comprehensive, holistic approach shall be employed at the Carolina North Project that includes water reclamation strategies for buildings, landscape, and all other water users on the site.

5.11.2. The University shall comply with applicable Orange Water and Sewer Authority (OWASA) policies standards for water and sewer service in effect at the time of construction and with the Water Utility Agreement of Sale and Purchase (August 9, 1976).

5.11.3. All buildings constructed at the Carolina North Project pursuant to this Agreement shall be designed, constructed, and operated to include water-reclamation and water-reuse. All buildings constructed at the Carolina North Project pursuant to this Agreement shall comply with the water use standard of G.S. 143-135.37(c) regarding reduction of potable water consumption. These requirements include a 20% reduction of indoor use and a 50% reduction of outdoor use relative to water use under the 2006 N.C. State Building Code. The performance verification required by G.S. 143-135.37(d) shall be submitted to the Town for information along with all relevant permit applications for individual site development permit approval. The limitations of this water use provision shall not apply to emergency and special purpose uses of water that are consistent with applicable OWASA policy.

5.11.4. Any reclaimed water facility or central cogeneration/utility plant shall be located within the interior of the Carolina North Project on sites identified for such uses in the long-range development plan (submitted April 29, 2009), site plan for the initial phase of the Carolina North Project (Exhibit D), and the Carolina North Design Guidelines 2008 (Exhibit L). The utility transmission lines supporting the Carolina North Project with natural gas, sewer, reclaimed water, utility tunnels, and internal utility distribution shall be located substantially as set forth in Exhibit L. The exact alignment of the utilities may be adjusted by mutual agreement of the Parties as necessary to avoid environmentally sensitive areas.

5.11.5. All utility work that is located outside of the Carolina North Project development area as identified by Section 5.5.3 of this Agreement and that is required to service development in that area shall be located underground to the extent practical and feasible.

12. Design Standards and Public Art

5.12.1. Except as provided in this Section, development at the Carolina North Project shall be substantially consistent with the University’s Carolina North Design Guidelines 2008, set forth as Exhibit L. These guidelines address, among other provisions, building height, building setbacks, building setbacks, entry and street level design, and building massing. The guidelines have specific provisions related to the main entry drive, the Central Green Way, working landscapes, individual plat parcels within the developed area of the Carolina North Tract, the mix and location of land uses, and building design guidelines.

In the event of any conflict between the specific provisions or maps of the Carolina North Design Guidelines 2008 and the specific provisions of this Agreement (including maps attached
as Exhibits), the terms of this Agreement shall be controlling. The following specific provisions in the University's Carolina North Design Guidelines 2008, along with any other provisions of those guidelines that are contrary to the specific provisions of this Agreement, are expressly not incorporated within the terms of this Agreement:

1) The road running from the Carolina North Project to Homestead Rd. that is depicted in whole or in part on the maps on pages 4, 5, 9, 26, 27, 30, 35, 41 of the Carolina North Design Guidelines 2008 and any other provisions regarding external road connections that are contrary to the terms of Section 5.8 of this Agreement;
2) Any building heights that exceed or building setbacks that are less than the provisions of Section 5.12 of this Agreement;
3) Any entry road design provisions that are contrary to Section 5.8 of this Agreement;
4) Any landscape design or plantings that are contrary to Section 5.21.2 of this Agreement;
5) The greenway and bike path locations depicted on the map on page 27 of the Carolina North Design Guidelines 2008 to the extent of any inconsistency with Section 5.16 and Exhibit F of this Agreement; and
6) Any provisions of the Carolina North Design Guidelines 2008 for development beyond the scale and term authorized by this Agreement, which are provided in the Guidelines for context and information only.

5.12.2. Buildings within the Carolina North Project that are adjacent to Martin Luther King, Jr. Blvd. and within perimeter transition areas shall not have a primary height that exceeds four to six stories above grade on the side of the building facing Martin Luther King, Jr. Blvd. Such buildings may have a secondary height that does not exceed eight stories, provided that the portion of the building exceeding four to six stories is on the campus or interior side of the building and that any portion of the building that exceeds four to six stories has an appropriate stepback from the lower portion of the building that faces Martin Luther King, Jr. Blvd. These height limitations do not apply to mechanical and ventilation equipment, elevator, antennae and communication equipment, solar collectors, roof gardens, and similar incidental equipment or structures that are customarily located on the roofs of similar buildings.

5.12.3. Buildings within the Carolina North Project that are adjacent to Martin Luther King, Jr. Blvd. and within perimeter transition areas shall be setback a minimum of 100 feet from the road right of way in place as of the Effective Date of this Agreement.

5.12.4. The design of buildings within the Carolina North Project shall include appropriate variation in architectural styles as the project is developed over time in order to secure architectural heterogeneity while maintaining a campus identity with a sense of evolution and continuity.

5.12.5. Low stone walls and brick sidewalks shall be integrated into the landscape of the Carolina North Project in order to repeat the outdoor visual themes of the University's central campus.

5.12.6. Underground parking shall be used where practicable within the Carolina North Project to reduce the extent of above ground parking. Parking decks shall be of such scale so as to not dominate the streetscape.

5.12.7. Each individual site development permit application shall demonstrate how the project meets the design standards applicable to the Carolina North Project in a form required by the Town Manager. The Manager shall use a U-1 site development application form substantially similar in content to the form set forth as Exhibit J. The Manager shall take appropriate steps to notify the Council and the public upon initiation of Town staff review of each individual site development permit application.

5.12.8. Any subsequent application for a development agreement on the Carolina North Tract shall include the Design Guidelines most recently approved by the University Board of Trustees.

5.12.9. The University is committed to making art, including public art, an integral part of the Carolina
North Project. The Carolina North Design Guidelines 2008 set forth as Exhibit L shall be updated to incorporate a specific section addressing provision of public art. This specific section shall include a comprehensive public arts program that contains the basic guidelines and procedures of implementation in a standard public art plan. These provisions shall broadly identify opportunities for integrating public art into the context of the built and natural environments of the Carolina North Project, including early involvement of artists in determining contextually appropriate public art locations overall and for individual project plans. The provisions shall also address options and sources of funding for implementation of the public art program.

5.12.10 The Town Manager may designate a staff liaison to the University’s Campus Art Advisory Committee.

5.12.11 The Annual Report shall include a description of public art activities undertaken on the Carolina North Tract in the previous year and planned for the forthcoming year.

13. Police, Fire, and Emergency Medical Services and Facilities

5.13.1. The Town and University police, fire, and emergency medical service providers will provide services at the Carolina North Project under the generally applicable arrangements for jurisdiction and operations on University-owned property. In general, for University-owned property the University provides police services, the Town provides fire services, and Orange County provides most emergency medical services. This Agreement shall not be deemed to restrict changes in these jurisdictional arrangements as may from time to time be mutually agreed to by the service providers.

5.13.2. The Carolina North Project will require additional facilities for police, fire, and emergency medical services as it develops. It is in the joint interest of the Town and University to co-locate and share these facilities to maximize response capabilities at Carolina North.

5.13.3. The University and Town (and other service providers) shall jointly fund the construction of joint police, fire, and emergency medical facilities. A formula for cost-sharing for these facilities shall be agreed to by the University and Town prior to the issuance of any individual site development permits that will bring the total building square footage for the Carolina North Project to a cumulative total of 800,000 square feet or more. This agreement shall be consistent with the fiscal equity provisions of Section 5.9 of this Agreement.

5.13.4. The initial facilities for police, fire, and/or emergency medical services shall be provided at the Carolina North Project prior to the approval of any individual site development permit that would bring the cumulative total building square footage at the Carolina North Project to 1.5 million square feet or more.

5.13.5. Additional facilities for police, fire, and/or emergency medical services shall be provided after the total square footage at the Carolina North Project exceeds 1.5 million square feet and prior to that total square footage reaching 4.0 million square feet. Individual site development permits that would bring the cumulative total building square footage at the Carolina North Project beyond 1.5 million square feet shall not be approved until the Town and University have entered an agreement for the location and funding of these facilities.

5.13.6. For planning purposes, it is anticipated that thereafter there will be future facility needs for police, fire, and/or emergency medical services after the total square footage at the Carolina North Project exceeds 4.0 million square feet but prior to the total square footage reaching 8.0 million square feet.
14. Public Schools

5.14.1. Subject to obtaining any required approvals from the State of North Carolina, the University will lease to the Chapel Hill-Carrboro City Schools (or Orange County as the case may be) sufficient land within the Carolina North Tract for a site for an elementary school at a rental rate of no more than one dollar ($1) per year.

5.14.2. The University shall coordinate site selection for this school with the Chapel Hill-Carrboro City School Board to address access, school programming needs, proximity to residential areas, and connections for pedestrian, bicycle, and greenway access. The University and school system shall coordinate and define the time period for site availability and communicate that schedule to the Town. The site selection shall be consistent with the provisions of Section 5.5 of this Agreement.

5.14.3. The location and size of the school shall be coordinated with the needs identified through the process set by the Adequate Public School Facilities section of the LUMO and the Memorandum of Understanding between Orange County, Chapel Hill, Carrboro, and the Chapel Hill/Carrboro School Board referenced in that section of the LUMO.

5.14.4. The entity responsible for construction of a public school on the Carolina North Tract shall secure a conditional use permit for the school prior to construction. The entity responsible for construction of a public school on the Carolina North Tract shall be responsible for permitting for that building, including preparation of any Transportation Impact Analysis required by the Town and implementation of any mitigation required by such analysis.

5.14.5. The amount of the school’s building floor area shall not be included for purposes of this Agreement in the total building development square footage at the Carolina North Project, and the development impacts resulting from the construction and operation of this school are not intended to be factored into the mitigation measures that the University would otherwise be required to perform under this Agreement for development at the Carolina North Project.

5.14.6. If the site provided for a public school is located within the area designated for development in the 50-year development plan depicted in Exhibit B, that development area may be increased by the University by an amount equivalent to the land area provided for the public school. Any adjustment to Exhibit B to incorporate such an increase shall be submitted to and approved by the Town Manager as a minor modification to this Agreement.

15. Recreation Areas

5.15.1. The University shall maintain continued free public access to trails in the Carolina North Tract. Trails shall be under the management and direction of the Carolina North Office of Forestry Management or its successor.

5.15.2. The general location of trails and recreational areas on the Carolina North Tract shall be consistent with the 50-year development plan for Carolina North. The general location and proposed use of trails and recreation areas at the Carolina North Project shall also be consistent with the site plan for the portion of the Carolina North Project that is set forth in Exhibit D. The locations of trails existing on the Carolina North Tract as of the Effective Date of this Agreement are set out on Map 2 in Exhibit H.

5.15.3. Recreation areas shall be developed in conjunction with the other programs and facilities at Carolina North.

5.15.4. Public access to and use of outdoor recreation areas shall be provided when these areas are not programmed for University use. The University and Town shall study the feasibility and cost-sharing options for future joint-use recreation areas at the Carolina North Project and shall include a report of that study in the Initial Annual Report required pursuant to this Agreement.
This report shall address future Town and University cooperation on the provision of passive recreation areas, public fora such as amphitheater and performance spaces, basketball courts, children’s play areas, gymnasium or recreation centers, community gardens, farmers’ markets, and natural parks.

5.15.5. All improvements of new recreation areas shall be designed in compliance with this Section. The Annual Report shall include a description of all such improvements made in the previous year and document compliance with the provisions of this Section. The University shall identify which applicable accessibility standards were used in the design of each project. All new recreation areas shall be designed to:

1. minimize disturbance and provide good material and maintenance choices of recreation fields and trails;
2. identify and avoid regulatory floodways and stream buffers when locating recreation areas (except for the use of cleared and active utility easements to reduce the need for additional forest clearing);
3. co-locate trails, pedestrian paths and other access needs in the more developed areas of campus; and,
4. co-locate trails, utilities and roads in the less developed areas of the property.

16. Greenways

5.16.1. Greenway Planning and Partnership.

a. The Town and University shall collaboratively examine the feasibility and form of a new partnership for planning and funding a program to address common interests in an effective system of bicycle, pedestrian, and greenway pathways. It is in the interest of the Town and University to establish such a system as an effective additional alternative to automobile and public transit.

b. This examination shall consider a model comparable to the partnership that has been established to address the Town and University interests in public transit. This examination shall, among other appropriate topics, review: (1) potential funding sources for implementation of the system, including state and federal funding; (2) institutional mechanisms for on-going or continued planning and implementation of the program; and (3) appropriate cost-sharing agreements among the partners. Appropriate Town advisory boards, University students, the Town of Carrboro, and the public shall be consulted in this examination. A report on this examination and recommendations for implementing action shall be submitted with the first Annual Report mandated by this Agreement.

c. The plans and improvements mandated by Section 5.16 of this Agreement shall be undertaken in conformance with the recommendations of this examination, provided that any adjustments to mandated improvements or the schedule for their completion must be mutually agreed upon by the Town Manager and University and promptly reported to the Town Council.

5.16.2. Consistent with Section 5.8.19 of this Agreement, the Town and University shall expeditiously explore the location and funding for a greenway and bike path connection between the Carolina North Project and main campus. This exploration shall seek a pathway that is not located within the Martin Luther King, Jr. Blvd. roadway, that avoids steep grades where feasible, and that is consistent with the planning process and other specific improvements mandated by Section 5.16 of this Agreement. The route could include existing or planned greenways for a portion of the route. A report on the potential location and funding alternatives for implementation of this connection shall be included in the first Annual Report mandated by this Agreement. This production of this report shall be coordinated to the extent feasible with the examination mandated by Section 5.16.1 of this Agreement.

5.16.3. The general location of greenways and paved paths for pedestrians and cyclists on the Carolina North Tract shall be consistent with the 50-year development plan for Carolina North. The University shall maintain continued public access to greenways and paved paths for pedestrians and cyclists in the Carolina North Tract. Greenways on the Carolina North Tract not within the
development area identified in Section 5.5.3 of this Agreement shall be under the management and direction of the Carolina North Office of Forestry Management or its successor.

5.16.4. A general plan for additional greenway locations shall be provided with the first individual site development permit application at Carolina North. The production of this plan shall be undertaken in a manner consistent with the recommendations of the examination mandated by Section 5.16.1 of this Agreement. This plan shall include a greenways maintenance plan that identifies maintenance routines and responsibilities and the location of site fixtures and amenities at designated trail heads (which may include but are not limited to informational kiosk, map/locator/wayfinding device, gated access to prohibit motorized access, trash cans, recreational parking, and/or bicycle racks). Each Annual Report prepared after the submission of this plan shall include information about the current status of the design and funding of greenway connections at Carolina North.

5.16.5. The Town plans to build a major paved greenway trail to the edges of the Carolina North Project from both the south and the north. The University and Town shall cooperate to assure that the trail systems are built in a logical manner such that non-motorized vehicle transportation and recreation are enhanced in the most efficient manner possible. The University and Town shall work to link the north-south trail corridor to other trails in the Town and University system and to eventually provide continuous access south to the Town’s Bolin Creek Trail and north to the Town Operations Center.

5.16.6. All greenways shall be built to AASHTO or Town standards for multi-use pedestrian and bicycle trails.

5.16.7. The University shall maintain all greenways built by the University under the terms of this Agreement.

5.16.8. The public shall be permitted to use all greenways on the Carolina North Tract without charge.

5.16.9. Installation of greenways and paths for pedestrians and cyclists within the Chapel Hill portion of the Carolina North Tract shall be provided as follows:
1) A temporary, non-paved central trail from Estes Drive Extension to Homestead Road shall be provided within one year of the closing and deactivation of the airport runway.
2) Additional improvements shall include:
   i. A paved trail from Estes Drive Extension to connect with the Town’s extension of the Bolin Creek Trail from the south and running to or through the development area identified in Section 5.5.3 of this Agreement, with an appropriate connection to Martin Luther King, Jr. Blvd.;
   ii. A paved trail from the development area identified in Section 5.5.3 of this Agreement running northward to Homestead Road to connect with the Town’s Horace Williams Trail to the north;
   iii. A paved trail in an east/west direction through the center of the development area identified in Section 5.5.3 of this Agreement to connect with the Carrboro/Chapel Hill extension of the Bolin Creek Trail; and
   iv. A means of crossing Estes Drive extension.
3) A map setting forth the potential general location of these greenways is attached as Exhibit F. The exact alignment of the greenways may be adjusted by mutual agreement of the Town and University as necessary to avoid environmentally sensitive areas, coordinate with connecting greenways, and coordinate with the transit, traffic, pedestrian, bicycle, and greenway plans required by Section 5.8 of this Agreement.
4) One of the four improvements identified in Subsection 5.16.9(2) shall be constructed prior to the completion of the initial 800,000 square feet of total building space within the Carolina North Project constructed pursuant to this Agreement. A second of these improvements shall be constructed prior to the completion of 1.5 million square feet of total building space at the Carolina North Project constructed pursuant to this Agreement.

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A third of these improvements shall be constructed prior to the completion of 2.25 million square feet of total building space of the Carolina North Project constructed pursuant to this Agreement. The fourth of these improvements shall be constructed prior to the completion of 3.0 million square feet of total building space at the Carolina North Project constructed pursuant to this Agreement. The Town shall provide the University with the priority order for these improvements. The Town shall provide the University with these priorities with sufficient lead time to allow timely completion of the projects consistent with the schedule set by this Section.

5.16.10. The University shall construct a greenway along Martin Luther King Jr Blvd. in conjunction with any frontage improvements related to the first building that fronts Martin Luther King Jr Blvd.

5.16.11. Additional greenways may be provided upon mutual agreement of the Town and University.

5.16.12. The University shall continue to show the greenway along the existing rail line on the Carolina North Tract for potential development in the future.

5.16.13 The University shall use the stormwater management “working landscapes” within the 50 year development area to locate access trails connecting to the major greenway corridors where appropriate and feasible.

5.16.14. All improvements for greenways shall be designed in compliance with this Section. The Annual Report shall include a description of all such improvements made in the previous year and document compliance with the provisions of this Section. The University shall identify which applicable accessibility standards were used in the design of each project. All greenway and paved paths for pedestrians and cyclists shall be designed to:

1) Minimize disturbance and provide good material and maintenance choices of greenways;
2) Be consistent with the terms of the conservation easement(s) required by Section 5.5.1 of this Agreement and any other applicable resource protection terms of this Agreement;
3) Co-locate greenways, pedestrian paths and other access needs in the more developed areas of campus;
4) Co-locate greenways, utilities and roads in the less developed areas of the property;
5) Make use of cleared and active utility easements, even in floodways, floodplains and stream buffers, in order to avoid additional forest clearing;
6) Integrate cyclists safely back into the flow of car traffic using appropriate traffic signaling or signage at locations where greenways and roadways cross or come together; and
7) Avoid undisturbed regulatory floodplains and stream buffers to the maximum extent possible.

5.16.15. The parties shall periodically consider the need for, location, design, and feasibility of pedestrian connections between the Carolina North Project and adjacent residential neighborhoods. This consideration shall be conducted concurrently with the production of each Transportation Impact Analysis update mandated by Section 5.8.9 of this Agreement and a report of that consideration shall be included in the Annual Report that follows that consideration. The University and Town shall work with neighborhoods to determine if neighborhoods want paved connectors, non-paved connectors, or no direct trail connection to the University’s trail system. Neighborhoods that should be approached include Glen Heights, Ironwoods, North Haven, Elkin Hills, and Homestead Village. If neighborhoods prefer paved connector trails these should be provided.

17. **Historic and Cultural Features**

5.17.1 The University shall comply with the applicable law regulating archeological resources, including, but not limited to, the state Archaeological Resources Protection Act, state statutes on historic cemeteries, and the National Archaeological Preservation Act/National Register of Historic Places.
5.17.2. The University shall manage any identified archaeological sites in coordination with the Carolina North Office of Forestry Management or its successor. The University shall be responsible for providing appropriate interpretation and on-line information regarding archaeological sites. The University shall be responsible for relevant communications to the public.

18. Solid Waste Management

5.18.1. Solid waste collection shall be provided to all buildings within the Carolina North Project by the University. The University shall consider including Orange County Solid Waste in pre-construction conferences for buildings.

5.18.2. Solid waste shall be managed by the University with reduction and recycling goals for construction and occupancy based on studies of best practices. Waste management shall support sustainability goals by focusing on reduction, reuse and recycling of materials at the Carolina North Project and shall strive for innovative and flexible approaches to managing waste generation and disposal.

5.18.3. The University shall design projects such that construction and demolition, recycling, reuse, salvage, and waste reduction are maximized.

5.18.4. Construction waste shall be managed in accordance with Town and University standards and with the Orange County Regulated Materials Ordinance.

5.18.5. Each individual site development permit shall provide clear direction on who will provide solid waste service for each building and each building will be designed accordingly. The current system for coordinating Orange County and municipal services with University services works well and the development at Carolina North shall emulate the positive aspects of current practices.

5.18.6. The University’s Department of Environment, Health, and Safety will be responsible for monitoring hazardous materials and developing a safety plan for the development and shall report pertinent fire safety information to the Chapel Hill Fire Department on a regular basis (in accordance with current reporting policy for campus buildings).

19. Landfill and Other Remediation

5.19.1. Development of certain areas of the Carolina North Project may require landfill remediation consistent with the planned use. The University shall develop a remediation strategy for these areas consistent with current standards, regulatory requirements and future land use plans.

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

5.19.3. The landfill shall be remediated to the applicable state standards for landfill remediation at the time of remediation.

5.19.4. The University shall communicate with Orange County and the Town during landfill mitigation planning and development of the mitigation strategy.

5.19.5. After cessation of airport activities, the University shall assess the environmental impacts of airport operations at any area at the airport that is planned for redevelopment. Such assessment(s) will determine if and to what extent environmental remediation may be required under applicable state and federal laws. The University shall report the results of any such assessment in the next Annual Report required pursuant to this Agreement. Any such report(s) shall identify regulatory agency required and approved remediation plans for environmentally impacted areas. Nothing in this section shall operate to prevent the use of existing buildings
and/or other facilities located at the airport for other purposes after cessation of airport operations, as provided in section 3.5.5 (h) of LUMO.

20. Stream Buffers
5.20.1. Streams shall be buffered on the Carolina North Tract consistent with the conservation easements provided for in Section 5.5.1 and the stormwater management standards of Section 5.6 of this Agreement. Development at the Carolina North Project shall be consistent with the Resource Conservation District regulations of the Town applicable as of the date of this Agreement. All activities designated as permitted uses or special uses in Table 3.6.3-2 of the LUMO that are consistent with this Agreement shall be designed in compliance with this Section. The Annual Report shall include a description of all such improvements made in the previous year and document compliance with the provisions of this Section. Each individual site development permit application shall demonstrate that compliance.

5.20.2. The University and the Town shall review opportunities for: (1) restoration or enhancement of riparian buffers; (2) coordination between wildlife or natural corridors along streams and essential utility lines, greenways; and (3) appropriate stream access.

21. Trees and Landscaping in Developed Areas
5.21.1. The developed area of the Carolina North Project shall include significant street, landscape and natural plantings and landscaped areas and tree protection measures. A portion of the tree and landscape areas may also have a stormwater management function at the Carolina North Project, including those located in roadways. The University shall use its best efforts throughout the development of the Carolina North Project to maintain or increase the total amount of tree canopy coverage on the Carolina North Tract.

5.21.2. The University shall design landscape areas to support the Carolina North Design Guidelines 2008 set forth in Exhibit L. Appropriate native and non-invasive species shall be used at the Carolina North Project. The developed area at the Carolina North Project shall be planned to support a low maintenance, low water use, low fertilizer use landscape with ‘best suited’ plant materials.

5.21.3. Landscape plans for individual site development permit applications shall identify existing and proposed tree canopy mix and percent coverage, the hierarchy of tree planting goals (working landscapes: young age, street trees: mid-age, permanent landscapes: mature age), and the landscape irrigation hierarchies. Priorities for landscape irrigation are, in order of priority: rainwater, reclaimed water, and potable water as last resort. Any use of potable water for landscape irrigation shall be consistent with applicable OWASA policies.

22. Sedimentation
5.22.1. Construction at the Carolina North Project shall comply with applicable soil and erosion control regulations and State oversight. The University shall incorporate erosion and sediment control measures for all land-disturbing activities. All individual construction projects at the Carolina North Project shall include erosion and sedimentation control measures. The University shall be responsible for implementing erosion and sedimentation control measures for all land disturbing projects.

5.22.2. The University shall develop a construction site inspection program and guidelines for sedimentation and erosion control at the Carolina North Project. The University shall provide a copy of the Carolina North Project erosion and sedimentation control guidelines to the Town’s stormwater staff and shall provide site inspection checklist(s) for Carolina North Project construction projects to the Town’s stormwater staff upon request. The guidelines shall provide
for appropriate regular monitoring and inspections based on the level of activity and weather conditions.

5.22.3. An erosion and sedimentation control plan shall be developed for projects between 20,000 square feet and one acre of disturbance as well as projects over one acre. All such projects shall be undertaken in a manner consistent with those plans. The Town and University may coordinate to provide follow up inspections in response to any complaints generated from sites at the Carolina North Project. Inspection checklists similar to those required by the NPDES construction permit for projects that disturb more than one acre shall be completed for projects disturbing between 20,000 square feet and one acre of land. Projects with one acre or more of land disturbance shall be subject to all applicable State permit requirements. The University shall provide to the Town's stormwater staff a courtesy copy of erosion and sedimentation control plans for projects at the Carolina North Project.

5.22.4. In response to erosion and sediment control complaints generated by the Carolina North Project, Town staff or its agents shall perform a cursory field inspection to confirm whether a problem exists. Town staff or its agent shall not enter the active construction site unless accompanied by University staff. If it appears that a problem exists, the Town staff shall notify the University. The Town and University will coordinate follow-up inspections to resolve identified problems.

23. Neighboring Lands, Compatibility, Buffers

5.23.1. Development at the Carolina North Project shall strive to be compatible with existing adjacent development and will be appropriately buffered. Development near existing neighborhoods shall respect buffers, height limits, lighting, drainage, noise impacts, and signage associated with private or corporate development.

5.23.2. The Perimeter Transition Area (PTA) at the borders of the Carolina North Project for the portion of the Project with buildings permitted by this Agreement shall be as identified in Exhibit G. Additional PTAs shall be established within any future development agreements that authorize building development adjacent to any additional existing neighborhoods.

5.23.3. The University shall conduct a meeting with opportunity for citizen participation and attendance by a Town staff representative for the purpose of discussing possible design features of new facilities prior to submission of each individual site development permit application for facilities in designated PTAs. The University shall distribute notice of the meeting to the Chair of the Town’s Community Design Commission and to all property owners within 1,000 feet of the PTA. This notice shall specify the date, time, location and purpose of the meeting. This notice shall be mailed or otherwise distributed no later than two weeks prior to the meeting. Minutes of the meeting and the meeting attendance list shall be made publicly available before presentation of individual site development permit applications in the PTA to the Town for approval. The PTA process shall establish appropriate standards at borders of the development to minimize impacts on adjacent property. These standards shall address: (1) screening mechanical equipment; (2) exterior lighting; (3) height limits; and (4) landscaping.

24. Noise

5.24.1. The Chapel Hill Noise Ordinance shall be applicable to the Carolina North Project during construction and occupancy of the Project.

5.24.2. Noise from construction is subject to the applicable noise ordinance. Individual site development permit applications for new construction shall demonstrate compliance with the ordinance during occupancy of the completed building.

5.24.3. The University shall take reasonable steps to apprise potential residents of housing within the Carolina North Project of the potential for campus-related noise.
5.24.4. Complaints regarding compliance with the noise ordinance within the Carolina North Project area shall be made to and handled by University Public Safety.

25. Lighting

5.25.1. Lighting at the Carolina North Project shall not have a negative effect on adjacent users, neighborhoods, the community, or other University uses of the Carolina North Tract. Lighting shall be energy efficient and appropriate for the program requirements and times of use.

5.25.2. The Town lighting standards in effect as of the Effective Date of this Agreement shall be applicable to the Carolina North Project. Each individual site development permit application shall demonstrate no increase in lighting foot-candle levels at the adjacent property line.

5.25.3. The University shall describe in each individual site development application how lighting for that portion of the Carolina North Project is designed with a basic strategy of:
1) A ‘dark skies’ approach for the Carolina North Project as a whole;
2) Streets lit to Town or DOT standards; and
3) Building code requirements regarding lighting met for new buildings.

5.25.4. New lighting within the Carolina North Project shall comply with the following:
1) All lighting, including that used in and around buildings, recreation areas, parking areas, walkways, roadways, and signs, shall be designed to minimize spillover light onto property outside of the Carolina North Project.
2) All lighting shall be designed to prevent glare that could impair vision and/or otherwise deteriorate normally accepted qualities and uses of property outside of the Carolina North Project.
3) Outdoor lighting, except sports and athletic field lighting, shall be mounted at heights no greater than fifteen (15) feet for non-cutoff lights; and no greater than thirty-five (35) feet for most cutoff lights.
4) Lighting for sports and athletic fields must include glare control features and must be designed so that the primary illumination is directed onto the playing area and immediate surroundings, and such that offsite illumination/glare is restricted.
5) Increases in illumination on property outside of the Carolina North Project shall not result in lighting levels in excess of 0.3 foot-candles, measured at ground level.
6) For property outside of the Carolina North Project where existing ambient lighting levels are in excess of 0.3 foot-candles, there shall be no increase in measurable lighting levels.

These lighting restrictions shall not apply to adjacent property outside of the Carolina North Project that is in the same ownership as property within the Carolina North Project.

26. Existing Conditions

5.26.1. Existing conditions on the Carolina North Tract as of the Effective Date of this Agreement are depicted in Exhibit H. Map 1 in Exhibit H depicts existing conditions on the Chapel Hill portion of the Carolina North Tract. Map 2 in Exhibit H depicts the existing trails on the Carolina North Tract. All existing uses of land that do not involve the use of a building can be continued as they exist as of the Effective Date of this Agreement and can be changed to any use permitted by this Agreement. Any existing building within the U-1 district can be used for the use in effect as of the effective date the property is zoned U-1 and can be changed to any use permitted pursuant to a development agreement as authorized by Section 3.5.5(f)(1) of the LUMO. Any existing building being used for a use permitted in this Agreement may be expanded to the extent that expansion is exempt from the Transportation Impact Analysis requirements of Section 5.8(g) of the LUMO. Any new construction, development, or site improvements associated with continuation of existing conditions shall be consistent with the terms of this Agreement.
27. Annual Report

5.27.1 The University shall submit to the Manager an Annual Report that includes the information required by this Agreement and that provides all necessary information for the Manager to assess the University's good faith compliance with the terms of this Agreement. This report shall form the basis for the Manager's periodic review of the Agreement as required by the LUMO and by G.S. 160A-400.27(a). This required report is generally referred to as the "Annual Report."

5.27.2. The initial Annual Report shall be filed on or before September 1, 2010 and shall report on activities from July 1, 2009 through June 30, 2010. Subsequent reports shall be filed on or before September 1 of each year and shall report on activities in the preceding fiscal year (the preceding July 1 through June 30 period).

5.27.3 The Annual Report shall include the specified items set forth in this Agreement and listed in this Section. The failure to include in this Section an item expressly required to be included by other sections of this Agreement shall not relieve the University of the responsibility to include that item in the Annual Report. The report may include such other items as deemed relevant by the University. The Manager may also request inclusion of other specific information or provide for its inclusion in the following year's Annual Report.

5.27.4. The Annual Report shall include the following specific information (parenthetical cross-referenced sections provide additional information on the contents of the information to be provided).

a. A summary of the amount of building floor space constructed in the previous year and cumulatively pursuant to this Agreement, all related infrastructure installed in the previous year, the status of University participation in the provision or financing of related public infrastructure, dedications and acquisitions of related infrastructure by the University, and a projected schedule for Project development in the forthcoming year. The report shall also identify for both the annual and cumulative totals the uses to which this space is devoted. (Section 4.14).

b. A summary of the number of housing units within the Carolina North Project, the estimated number of residents in that housing, and the estimated number of full time equivalent employees working on-site within the Carolina North Project area. These figures shall include a report on both the change in these numbers in the previous year and cumulative totals over the life of the Carolina North Project. (Section 5.4.2).

c. Any updated stormwater utility cost-sharing agreements. (Section 5.7).

d. The following information regarding parking, traffic, and transit: (1) Current status of transit planning; (2) coordination of development with transportation management plan; (3) a report on parking provided. (Sections 5.8.7, 5.8.10, 5.8.11).

e. An update of actions taken to address each Short Range Fiscal Plan. (Section 5.9.3).

f. A description of land uses and activities initiated within the limited development area that do not include the construction or use of a building (Section 5.5.2).

g. A description of land uses and activities initiated within the development area that do not include the construction or use of a building (Section 5.5.3).

h. A copy the biennial reports and any related information prepared pursuant to the University's American College and University Presidents Climate Commitment (ACUPCC) that has not been included in a previous Annual Report. (Section 5.10).

i. Information on water use, water reclamation, and progress towards meeting the goal set forth in this Agreement, as set forth in individual site development permit applications in the previous year. (Section 5.11.3).

j. A informational copy of any University Board of Trustee updates to the Carolina North Design Guidelines, with the most recently approved guidelines to be included in any subsequent application for a development agreement. (Section 5.12).

k. An update on public art policies, plans, activities, and implementation progress. (Section 5.12.11).
1. A report on all construction of greenways and trails at Carolina North, information about the current status of the design and funding of greenway connections at Carolina North, and periodic reports on pedestrian connections to adjacent neighborhoods. (Sections 5.16.1, 5.16.2, 5.16.4, 5.16.14, 5.16.15).

m. A description of general waste-management strategies at Carolina North consistent with Section 5.18 and the fiscal impacts on the Town resulting from any amendment of waste management strategies.

n. A description of all improvements made within stream buffers in the previous year. (Section 5.20.1).

o. A description of all improvements for new recreation areas. (Sections 5.15.4, 5.15.5).

p. An assessment of the environment impacts associated with the closing of the airport (Section 5.19.5).

5.27.5. The Manager shall take reasonable steps to make the Annual Report available to the public, including posting the report on the Town web site, holding a public information meeting on the report, and such other steps as may be useful in assuring the full and broad dissemination of the report. The Manager shall also take similar reasonable steps in securing full and adequate public comment in the preparation of the Periodic Compliance Report to the Council.

28. Schedule of Triggers and Thresholds for Actions

5.28.1. This section includes a listing of the triggers and thresholds for University submissions, reports, and mandated actions that are included within this Agreement. If a requirement does not appear in the schedule below, but is required elsewhere in this Agreement, the absence of the requirement in the schedule shall not relieve the University or the Town, as applicable, of the obligation to comply with that requirement.

5.28.2. The table included within this section lists the specific times, levels of development, or actions that trigger specific obligations or requirements under this Agreement. For each threshold, the table lists the action that is required and cross-references the section of this Agreement that establishes that obligation.

<table>
<thead>
<tr>
<th>Date/Trigger/Threshold</th>
<th>Item</th>
<th>Agreement Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. September 2009</td>
<td>a. Carbon reduction plan to be submitted by University</td>
<td>5.10.2</td>
</tr>
<tr>
<td>2. December 2009</td>
<td>a. Initial TIA update required, with SRTP, TMP, and cost-sharing agreement to follow</td>
<td>5.8.9, 5.8.10</td>
</tr>
<tr>
<td>3. Annually from Effective Date</td>
<td>a. Annual Report by University to Town required</td>
<td>4.14, 5.27</td>
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<td></td>
<td>b. Periodic Compliance Review by Town required</td>
<td>4.15</td>
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<td></td>
<td>c. Report on land uses not involving buildings in limited development area and development area</td>
<td>5.5.2, 5.5.3</td>
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<td></td>
<td>d. Short range fiscal plan required, with cost-sharing agreement</td>
<td>5.9.3</td>
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<td></td>
<td>e. Report on feasibility and cost-sharing for joint recreation areas at Carolina North (with initial Annual Report)</td>
<td>5.15.4</td>
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<td></td>
<td>f. Report on examination of model for addressing greenway/pedestrian paths (with initial Annual Report)</td>
<td>5.16.1</td>
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<td></td>
<td>g. Report on Carolina North-Main campus greenway/bike path connection (with initial Annual Report)</td>
<td>5.16.2</td>
</tr>
<tr>
<td>4. Biennial from Effective Date</td>
<td>a. Carbon reduction report required (initial report within two years of initial site development permit)</td>
<td>5.10.3</td>
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<tr>
<td>5. Three years from Effective Date</td>
<td>a. Updated stormwater utility cost-sharing required, with capital component to be added with initial update (and updated every three years thereafter)</td>
<td>5.7.2</td>
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<td></td>
<td>b. Periodic assessment of overall effectiveness of Agreement (with mutually agreed upon schedule for subsequent assessments)</td>
<td>4.16</td>
</tr>
<tr>
<td>6. Innovation Center zoning compliance permit or occupancy</td>
<td>a. Various specified transportation improvements required</td>
<td>5.8.13</td>
</tr>
<tr>
<td>7. Prior to initial site development permit approval (SDP)</td>
<td>a. Record conservation easement (prior to initiation of construction under initial SDP)</td>
<td>5.5.1</td>
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<td></td>
<td>b. Submit overall stormwater management concept plan (submitted with application for initial SDP)</td>
<td>5.6.2</td>
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<td></td>
<td>c. Guidelines for internal street, bicycle, pedestrian, and greenway ownership and maintenance required (prior to approval of initial SDP)</td>
<td>5.8.3</td>
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<td></td>
<td>d. Transportation management plan (submitted with application for initial SDP)</td>
<td>5.8.11</td>
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<td></td>
<td>e. Identification and installation of individual transportation improvements necessitated by that development (included as condition on each SDP)</td>
<td>5.8.14</td>
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<td></td>
<td>f. $50,000 for pedestrian island on Piney Mt. Rd. (prior to issuance of initial SDP)</td>
<td>5.8.20</td>
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<td></td>
<td>g. Right turn lanes at Carolina North entrance (prior to occupancy of building with initial SDP)</td>
<td>5.8.22</td>
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<td></td>
<td>h. Formula for police-fire-EMS facility cost-sharing required (prior to issuance of initial SDP)</td>
<td>5.13.3</td>
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<td></td>
<td>i. General plan for additional greenways, with maintenance plan to be submitted (submitted with application for initial SDP)</td>
<td>5.16.4</td>
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<td></td>
<td>j. Submission of as-built surveys regarding construction and stormwater management (at completion of each building)</td>
<td>5.6.5, 5.6.6</td>
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<tr>
<td>8. Prior to initial site development permit approval with housing</td>
<td>a. Plan for providing housing preferences required</td>
<td>5.4.3</td>
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<td></td>
<td>b. Plan for maintenance of housing affordability required</td>
<td>5.4.4</td>
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<tr>
<td>9. Concurrent with initial building on Martin Luther King, Jr. Blvd.</td>
<td>a. Install greenway along Martin Luther King, Jr. Blvd</td>
<td>5.16.10</td>
</tr>
<tr>
<td>10. Prior to Individual site development permit application in Perimeter Transition Area</td>
<td>a. Meetings regarding screening mechanical equipment, lighting, height limits, and landscaping</td>
<td>5.23.3</td>
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<td>11. Airport deactivation</td>
<td>a. Temporary trail from Estes Dr. Extension to Homestead Rd. required (within one year of deactivation)</td>
<td>5.16.9(a)</td>
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<tr>
<td></td>
<td>b. Assess environmental impacts and remediation needs (and report in next Annual Report)</td>
<td>5.19.5</td>
</tr>
<tr>
<td>12. To be determined</td>
<td>a. Elementary school site to be provided per agreement with school system</td>
<td>5.14.2</td>
</tr>
<tr>
<td>13. 400,000 SF of total building floor space at Carolina North</td>
<td>a. Transportation mode split survey (or with TIA updates)</td>
<td>5.8.11</td>
</tr>
<tr>
<td>14. 800,000 SF of total building floor space at Carolina North</td>
<td>a. Housing must meet and maintain specified percentage of total floor space at Carolina North</td>
<td>5.4.1, 5.4.2</td>
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<td></td>
<td>b. No large cogeneration/utility plant may be built prior to this point</td>
<td>5.10.4</td>
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<td>c. First greenway improvement required</td>
<td>5.16.9</td>
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<td></td>
<td>d. TIA update (or Dec. 2015, whichever is first) required, with subsequent updates at mutually agreed schedule</td>
<td>5.8.9</td>
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<td>e. Short range transit plan and transportation management plan required (after each TIA update)</td>
<td>5.8.10</td>
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<td></td>
<td>f. Updated cost-sharing and investment plan for transit required (within 12 mo. of SRTP update)</td>
<td>5.8.10</td>
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<td></td>
<td>g. Various specific transportation improvements</td>
<td>5.8.14 to 5.8.23</td>
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<td></td>
<td>h. Specified mix of uses</td>
<td>5.3.2</td>
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<tr>
<td></td>
<td>i. Cost sharing agreement re joint facility for police, fire, and emergency management</td>
<td>5.13.3</td>
</tr>
<tr>
<td>15. 1.5 M SF of total building floor space at Carolina North</td>
<td>a. Initial facility for police, fire, EMS required</td>
<td>5.13.4</td>
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<td></td>
<td>b. Second greenway improvement required</td>
<td>5.16.9</td>
</tr>
<tr>
<td>16. 2 M SF of total building floor space at Carolina North</td>
<td>a. Maximum floor area at Carolina North that can be served by small utility plant</td>
<td>5.10.4(e)</td>
</tr>
<tr>
<td>17. 2.25 M SF of total building floor space at Carolina</td>
<td>a. Third greenway improvement required</td>
<td>5.16.9</td>
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<td>North</td>
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<tr>
<td>18. 3 M SF of total building floor space at Carolina North</td>
<td>a. Maximum floor space at Carolina North without a new development agreement 5.1.1</td>
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<td>b. Fourth greenway improvement to be made 5.16.9</td>
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<tr>
<td>19. 4 M SF of total building floor space at Carolina North</td>
<td>b. Projection for additional fire, police, EMS facility required 5.13.5</td>
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<tr>
<td>20. 2050</td>
<td>a. Achieve carbon neutrality for Carolina North Project by this date 5.10.2</td>
<td></td>
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<tr>
<td>21. 7/1/2059</td>
<td>a. No buildings in limited development area prior to this date 5.5.2(b)</td>
<td></td>
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<tr>
<td>22. 7/1/2109</td>
<td>a. No buildings in area 6B (on Exhibit E) prior to this date 5.5.2(b)</td>
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</tbody>
</table>
IN WITNESS WHEREOF, the parties hereby set their hands and seals, effective the date first above written.

Town of Chapel Hill
By: __________________________
Title: TOWN MANAGER

The University of North Carolina at Chapel Hill
By: __________________________
Title: Chancellor

=================================================================================================
State of North Carolina
County of Orange

I, the undersigned, a Notary Public of the County and State aforesaid, do hereby certify that
H. HOLDEN THORP personally came before me this day and acknowledged that he or she is
Chancellor of The University of North Carolina at Chapel Hill and acknowledged, on behalf of
The University of North Carolina at Chapel Hill, the due execution of the foregoing instrument. Witness my
hand and official stamp or seal, this the 9th day of July, 2009.

My Commission Expires: 8/20/2011
Sue M. James Notary Public

=================================================================================================
State of North Carolina
County of Orange

I, the undersigned, a Notary Public of the County and State aforesaid, do hereby certify that
ROGER L. STANCIL personally came before me this day and acknowledged that he or she is
MANAGER of the Town of Chapel Hill and acknowledged, on behalf of the Town of Chapel Hill,
the due execution of the foregoing instrument. Witness my hand and official stamp or seal, this the 9th day of July, 2009.

My Commission Expires: OCTOBER 11, 2011
SABRINA M. OLIVER Notary Public
EXHIBITS INCORPORATED BY REFERENCE

EXHIBIT A. Boundary Map of the Carolina North Tract
EXHIBIT B. Boundary Map of the Portion of the Carolina North Tract within the Long-Range Plan of Development for Carolina North
EXHIBIT C. Boundary Map of the Portion of the Carolina North Project with Buildings Permitted by this Agreement
EXHIBIT D. Site Plan for the Portion of the Carolina North Project Proposed for Development Pursuant to this Agreement
EXHIBIT E. Map: Conservation Areas
EXHIBIT F. Map: General Location of Greenways and Paved Paths
EXHIBIT G. Map: Perimeter Transition Areas
EXHIBIT H. Map: A. Existing Conditions on the Chapel Hill Portion of the Carolina North Tract
B. Existing Trails on the Carolina North Tract
EXHIBIT I. Map: Utility Plant and Lines Siting
EXHIBIT J. U-1 Site Development Permit Application
EXHIBIT K. American College and University Presidents' Climate Commitment
EXHIBIT L. Design Guidelines for Carolina North
EXHIBIT A. Boundary Map of the Carolina North Tract

Carolina North Tract (approximately 947 acres)
Approximately 304 acres in Carrboro jurisdiction (area west of dashed line)
Approximately 643 acres in Chapel Hill jurisdiction (area east of dashed line)

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT B. Boundary Map of the Portion of the Carolina North Tract within the Long-Range Plan of Development for Carolina North

Boundary of Area within the Carolina North Tract Showing Location of Building Development Anticipated within Fifty Years
Approximately 228 Acres

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT C. Boundary Map of the Portion of the Carolina North Project with Buildings Permitted by this Agreement

 Carolina North Plan
 Early to Mid Stage

Boundary of Area Proposed for Building Development Pursuant to this Agreement
Approximately 133 acres

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT D. Site Plan for the Portion of the Carolina North Project Proposed for Building Development Pursuant to this Agreement

Site Plan for Initial Phase of Carolina North Project

Up to three million square feet of building development on approximately 133 acres

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT E. Map: Conservation Areas

Note: Composite Map – Weighted Analysis from Ecological Assessment, with smoothed boundaries and upland hardwood borders

Approximate acreage:

<table>
<thead>
<tr>
<th>Area</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6A</th>
<th>(6B)</th>
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</thead>
<tbody>
<tr>
<td>Acres</td>
<td>12</td>
<td>42</td>
<td>19</td>
<td>24</td>
<td>9</td>
<td>205</td>
<td>(53)</td>
</tr>
</tbody>
</table>

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT F. Map: General Location of Greenways and Paved Paths

Carolina North Plan
Optional Locations for Greenways

Note: The dashed lines indicate the general location of potential greenways. The circled area indicates the general location of a crossing. All will require future field study.

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
Carolina North Plan
Early to Mid Stage

Perimeter Transition Area: '100' from property line toward building face, projects must demonstrate compliance with Carolina North Design Guidelines, screen mechanical and service areas, and comply with applicable standards from the Development Agreement.

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT H. Map 1. Existing Conditions on the Chapel Hill Portion of the Carolina North Tract

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT H. Map 2. Existing Trails on the Carolina North Tract

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT I. Map: Utility Plant and Line Siting

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
EXHIBIT J. U-1 Site Development Permit Application

Contact:
Address:
Phone Number:
E-mail:
Project Name:
Application Number:
Submittal Date:
Project Number:
Project Location:
Project Sub-Basin:
Tax/Map/Block/Lot
(TMML)#:
Parcel Identification
Number (PIN):
Land Use:
Is the Project in a Perimeter Transition Area? : Yes ___ No ___
If yes, include PTA meeting minutes and copy of notice map and mailing list with application

Information Requirements for Site Development Permit Applications
Each application for a Permit shall include the following information, in a format specified by the Town Manager (X copies or sets of all information unless noted below):

1. Receipt (one copy) of Permit Application Fee ($XX).
2. Area map - Identify location of project on approved Phase Plan.
3. An Existing Site Plan.
4. A Site Plan showing building footprints, access drives, pedestrian circulation (with connections to existing pedestrian networks), parking areas, and clearing limits.
5. A Grading Plan.
6. A soil erosion control plan for projects over 20,000 square feet of disturbance
7. A copy of the erosion and sediment control permit from the NC Division of Land Resources for projects disturbing one acre of more.
8. A courtesy copy of erosion/sedimentation control plans
9. A Utility Plan showing how all utilities will be provided to buildings and letters of approval from each applicable utility (one copy of each letter).
10. A Construction Management Plan, consistent with the University’s “Construction Management Guidelines” contained in the August 7, 2001 Addendum, to be approved by the Town Manager prior to commencement of construction, indicating measures to be taken during construction in the following areas:
   a. Traffic Management/Control Plan:
      i. A traffic management/Control plan shall be submitted which will provide for the safe and orderly movement of motorized and non-motorized vehicles on any public streets (maintained and operated by the Town or the NCDOT) on which normal traffic flow will be disrupted (lane closures, street closures, sidewalk closures, etc.) during construction, including a detour plan as may be necessary.
      ii. The submittal of a Site Development Plan shall include a construction traffic routing map that identifies the local street network that will be impacted by construction traffic associated with this proposed addition. The routing plan shall minimize, and where practical, prohibit construction traffic on local streets. The plan shall also provide for the safe and continued use of bicycle, pedestrian, and greenway corridors during construction.
iii. The Traffic management plan shall be prepared in accordance with the latest version of Manual on Uniform Traffic Control Devices (MUTCD) and applicable NCDOT Standards.

iv. All signs shall be made of high retro-reflectivity material and, if night time closures are necessary, signs shall include beacons.

v. The traffic management plan shall be sealed by a Professional Engineer licensed in the State of North Carolina.

vi. A permit must be obtained from the Town Manager for land closures, sidewalk closures, and street closures.

vii. The Traffic Management Plan shall state that closures and night time work on public streets must be approved by the Town Manager. This form must be completed and submitted to the Town for approval along with the relevant traffic control plan. The Contractor must notify the Town Engineering, Public Works, Police, Fire, and Transportation Departments, E911, and affected residents at least 3 business days prior to the commencement of approved night work and/or approved street closure.

viii. The University is responsible for repairing damaged pavement, markings, signs and signal equipment as necessary.

ix. The University's contractor shall coordinate with the Town Public Works Department (969-5100) for traffic signal system underground cable conflicts.

b. Pedestrian Management Plan:
   i. A pedestrian detour plan shall be submitted which will provide for the safe and orderly movement of pedestrians if any public sidewalks and/or designated pedestrian routes on public rights-of-way and/or easements are disrupted or closed to normal pedestrian use.
   ii. The pedestrian detour plan shall be prepared in accordance with the latest version of the MUTCD and sealed by a professional engineer licensed in the State of North Carolina.
   iii. All signs shall be made of high retro-reflectivity material and if a night time detour is required, signs shall include beacons.

c. Pedestrian Safety:
   i. Detailed information on how the Pedestrian Management Plan will provide for the safe and continued use of bicycle, pedestrian, and greenway corridors during construction.

d. Pedestrian Security:
   i. Detailed information on pedestrian security measures including the placement of security phones and lighting. The plan shall also include additional information on security for pedestrian bridges during evening hours.

e. Construction Traffic Management Plan:
   i. A construction traffic control plan shall be submitted which will provide for the safe and orderly movement of construction traffic to and from the construction site and staging area. The plan must identify the location and size of staging areas and material storage areas which would affect construction traffic routes.
   ii. The plan shall indicate location(s) where construction equipment will be parked (if offsite) and where construction personnel will park, including a routing plan for equipment and personnel going to and from the work site.
   iii. The plan shall indicate graphically and describe how emergency vehicle access to and around the project site will be provided both during and after completion of construction.
   iv. The plan shall include measures to minimize construction traffic impacts on school bus traffic and access to schools in the vicinity of the project.

f. Construction Management Plan Enforcement:
   i. Each Construction Management Plan shall describe how the University will enforce the requirements of the Construction Management Plan. In particular, the plan must describe how the University intends to enforce and ensure that pedestrian, bicycle, and greenway corridors will remain open and safe during construction periods.
g. Construction Management Contact Information:
   i. Each construction site will include visible signage listing a telephone number and a
      University representative available to answer questions and respond to concerns about
      pedestrian safety and security. A detail of the proposed sign, including number of signs
      and general locations, shall be submitted with each Site Development Permit application.

10. Stormwater Management:
    Every application for a Site Development Permit shall include:
    a. A signed and sealed letter from a Professional Engineer, licensed in North Carolina, certifying
       that the stormwater management measures associated with the Site Development Permit
       application meet or exceed the approved stormwater management performance standards
       for Carolina North. Stormwater management and treatment practices shall comply with all
       applicable federal and State regulations, and revisions thereof.
    b. Plans, signed and sealed by a North Carolina licensed Professional Engineer, showing
       grading, regulatory floodplains, stream buffers and RCDs, plantings, erosion control, and
       stormwater runoff control best management practice(s) designs and details, in accordance
       with the performance criteria.
    c. A stormwater design report, signed and sealed by a North Carolina licensed Professional
       Engineer, that includes the following
       1. A narrative description of existing and proposed site conditions, stormwater impacts, and
          proposed stormwater management measures
       2. A summary table of pre-development and post-development impervious cover by
          drainage area
       3. Maps showing the pre-development and post-development impervious cover
       4. A table indicating the stormwater runoff volumes and peak discharge (rates) for the
          specified design storms at the following three conditions: pre-development; post-
          development without stormwater management; and post-development with stormwater
          management
       5. Copies of all hydrologic and hydraulic calculations and routings
       6. Maps indicating the existing and proposed drainage divides on the site and the drainage
          to each stormwater management measure
       7. Inspection, operations, and maintenance plans for the proposed stormwater management
          structures.
    d. A note indicating the University is responsible for maintenance of stormwater facilities as
       agreed upon in the Carolina North Development Agreement for facilities on University-owned
       property.

11. Noise: Every application for a Site Development Permit shall include a signed and sealed letter
    from a Professional Engineer, licensed in the State of North Carolina and with demonstrable
    expertise in acoustical design and attenuation practices, certifying that any increase in
    measurable noise above existing pre-Development Plan noise levels on property outside the U-1
    Zoning District will not exceed the levels allowed in the Town Noise Ordinance as established at
    the time each Site Development Permit application is approved by the Town. This noise
    restriction shall not apply to property outside of the U-1 Zoning District that is in the same
    ownership as property within the U-1 Zoning District.

12. Lighting Plan: Every application for a Site Development Permit shall include a lighting plan,
    sealed by a Professional Engineer licensed in the State of North Carolina and with demonstrable
    expertise in lighting design and mitigation strategies, that shows the following:
    a. existing and proposed lighting fixture types and locations
    b. isolux contour diagram and grid points with the measured and calculated pre-development
       and post-development foot-candles at grade on property where lighting impacts are
       expected.
    c. a description of how lighting meets the goals of ‘dark skies’ lighting and complies with the
       lighting standards of the Development Agreement.
d. A demonstration that there is no increase in lighting foot-candle levels at the adjacent property line as a result of the project.

e. Demonstration that increases in illumination on property outside of the Carolina North Project do not result in lighting levels in excess of 0.3 foot-candles, measured at ground level.

f. Confirmation that, for property outside of the Carolina North Project where existing ambient lighting levels are in excess of 0.3 foot-candles, there is no increase in measurable lighting levels.

These lighting restrictions shall not apply to adjacent property outside of the Carolina North Project that is in the same ownership as property within the Carolina North Project.

13. Fire Protection and Safety:
   a. Fire Flow Report sealed by a registered Professional Engineer (NC) demonstrating compliance with Town Standards.
   b. A Fire Protection plan showing the following:
      i. Location of fire hydrants, present and proposed
      ii. Location of fire department connections to sprinkler/standpipe systems
      iii. If building has both sprinkler and standpipe, show which FDC feeds which system
      iv. Road access to fire protection systems
      v. Emergency access to the structure on at least two sides
      vi. Unobstructed 20 ft. emergency access lanes
      vii. Fencing around construction site with 20 ft. opening swing or slide gates
      viii. Temporary standpipe locations if building is 40 feet or higher
      ix. Any areas which are proposed to be inaccessible during construction or demolition
      x. Maintain compacted soil/gravel to withstand weight of fire department vehicles at 75,000 pounds vehicle, all weather road standards.

14. Engineering Construction Permit: If any part of a University project lies within a public right-of-way on Town streets, all documents required for an Engineering Construction Permit (ECP) must be submitted as part of the Site Development Permit application process. An ECP must be obtained from the Town prior to start of work on the right-of-way.

15. Energy and Conservation Goals:
   a. Permit applications shall include energy performance models and the LEED checklist with projected points to qualify at Silver level.
   b. Permit applications shall describe how potable water consumption and reclaimed strategies are incorporated into the project.

16. Landscape: Plans indicating grading, and limits of construction, existing and proposed tree canopy mix and percent coverage, and other proposed plantings. Plans should also show how the proposed project relates to the overall master plan for Carolina North.
   a. Identify planting materials, proposed irrigation and maintenance techniques for each type of landscape proposed
   b. Applications should include any proposed trails, greenways or recreation facilities and connections to adjacent related facilities to be constructed as part of the project and describe the design standards applied to those elements.

17. Solid Waste: Describe the solid waste management responsibilities for the project both during the construction phase and after the building is occupied.

18. Design Guidelines: Describe how the project meets the design standards applicable to Carolina North

Post-Construction: Upon completion of construction, the University shall provide commissioning reports, as-built drawings to the Town, signed and sealed by a North Carolina-registered Professional Land
Surveyor, showing building footprints, driveways, stormwater drainage/conveyance piping, stormwater management structures, and all other impervious surfaces and totals.
We, the undersigned presidents and chancellors of colleges and universities, are deeply concerned about the unprecedented scale and speed of global warming and its potential for large-scale, adverse health, social, economic and ecological effects. We recognize the scientific consensus that global warming is real and is largely being caused by humans. We further recognize the need to reduce the global emission of greenhouse gases by 80% by mid-century at the latest, in order to avert the worst impacts of global warming and to reestablish the more stable climatic conditions that have made human progress over the last 10,000 years possible.

While we understand that there might be short-term challenges associated with this effort, we believe that there will be great short-, medium-, and long-term economic, health, social and environmental benefits, including achieving energy independence for the U.S. as quickly as possible.

We believe colleges and universities must exercise leadership in their communities and throughout society by modeling ways to minimize global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality. Campuses that address the climate challenge by reducing global warming emissions and by integrating sustainability into their curriculum will better serve their students and meet their social mandate to help create a thriving, ethical and civil society. These colleges and universities will be providing students with the knowledge and skills needed to address the critical, systemic challenges faced by the world in this new century and enable them to benefit from the economic opportunities that will arise as a result of solutions they develop.

We further believe that colleges and universities that exert leadership in addressing climate change will stabilize and reduce their long-term energy costs, attract excellent students and faculty, attract new sources of funding, and increase the support of alumni and local communities.

Accordingly, we commit our institutions to taking the following steps in pursuit of climate neutrality:

1. Initiate the development of a comprehensive plan to achieve climate neutrality as soon as possible.
   a. Within two months of signing this document, create institutional structures to guide the development and implementation of the plan.
   b. Within one year of signing this document, complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year thereafter.

(continued...)

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c. Within two years of signing this document, develop an institutional action plan for becoming climate neutral, which will include:
   i. A target date for achieving climate neutrality as soon as possible.
   ii. Interim targets for goals and actions that will lead to climate neutrality.
   iii. Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.
   iv. Actions to expand research or other efforts necessary to achieve climate neutrality.
   v. Mechanisms for tracking progress on goals and actions.

2. Initiate two or more of the following tangible actions to reduce greenhouse gases while the more comprehensive plan is being developed.
   a. Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council’s LEED Silver standard or equivalent.
   b. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
   c. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.
   d. Encourage use of and provide access to public transportation for all faculty, staff, students, and visitors at our institution.
   e. Within one year of signing this document, begin purchasing or producing at least 15% of our institution’s electricity consumption from renewable sources.

3. Make the action plan, inventory, and periodic progress reports publicly available by providing them to the Association for the Advancement of Sustainability in Higher Education (AASHE) for posting and dissemination.

In recognition of the need to build support for this effort among college and university administrations across America, we will encourage other presidents to join this effort and become signatories to this commitment.

Signed,

[Signature]

President/Chancellor Signature

[Signature]

President/Chancellor Name

[Signature]

College or University

Date
EXHIBIT L. Carolina North Design Guidelines

The Carolina North Design Guidelines 2008 were adopted by The University of North Carolina at Chapel Hill Board of Trustees on November 19, 2008. The Guidelines are reprinted beginning on the following page.
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Building Design Guidelines .................... 37
Process ............................................. 49

November 19, 2008
Aerial photograph of the easternmost part of the existing site

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
Introduction

Carolina North will serve the mission of the University of North Carolina at Chapel Hill by creating a world-class research and learning campus in the heart of Chapel Hill. It affords a unique opportunity to expand the on-campus graduate student experience, as well as new options for public-private partnerships. The 2007 Carolina North Plan identifies a 250-acre footprint for University growth over the next fifty years.

These guidelines advocate for the continued evolution of the best of Carolina’s building traditions. The following topics should be addressed and integrated in the design of each individual project: performance and sustainability, orientation, height, massing, composition, materials, and site furnishings.

By definition, a campus is a collection of interrelated buildings and supporting facilities arranged around an open space network. Establishing an open space network immediately creates distinct places in the early phases of development. The open space network supports campus-wide design issues such as identity, open space hierarchy and variety, connectivity and accessibility, and integrated site planning for infrastructure. The open space network defines four campus districts:

- Campus Frontage – establishes identity with a stone wall, trees, and green areas
- Entry Drive – brings the community into campus
- Central Green Way – connects town and campus to the forest
- Working Landscape – integrates open space with surrounding forest and supports sustainability goals

Building at Carolina North will happen over generations, much the way it has on main campus, but initially, decisions about development of the campus will be made within the context of the open space network. Each new building will be subject to extensive review and judged on its own merits, Carolina traditions, the evolving context at Carolina North, and its ability to meet program needs and performance goals. The result will be much like the main campus, a rich architectural palette unified by the brick walks, low stone walls, and consistent appearance of the grounds.
Photograph of existing Horace Williams Airport runway

Carolina North Parcel Boundaries
Parcel boundaries define discrete areas within the 250 acres planned for development

This map is not a certified survey and has not been reviewed by a local government agency for compliance with any applicable land development regulations.
Purpose

Carolina North will serve the mission of the University of North Carolina at Chapel Hill by creating a world-class research and learning campus in the heart of Chapel Hill. It affords a unique opportunity to expand the on-campus graduate student experience, as well as new options for public-private partnerships. The implementation of this campus is a timely response to the surge in main campus development in the last decade, and reflects a trend toward public-private partnerships and economic development related to University research efforts and innovations. The plan identifies a 250-acre footprint for University growth and development over the next fifty years.
Carolina North will support the mission of the University

Facilitate new collaborations inside the University
As Carolina North takes shape, existing University programs will migrate to the new campus and additional programs will be established there. Facilities at Carolina North will include innovative prototypes, create additional opportunities for on-going efforts, and establish new adjacencies that are expected to be the catalyst for groundbreaking interdisciplinary collaborations.

Create and strengthen strategic relationships outside the University
Carolina North also presents a unique opportunity for partnerships outside the University. The interaction between the University and the private sector is a growing source of research funding, collaboration, and innovation. The University will be able to attract new funding sources, stimulate economic growth, and create jobs for North Carolina by providing a setting to encourage public-private partnerships that spur innovation and economic growth.

Provide new space for research and education
Main campus is nearing its responsible capacity, and its few remaining building sites are constrained by existing development. As a result, Carolina North is expected to accommodate uses with complex or extensive programs needs, such as corporate partnerships or wet lab based research, and respond to enrollment growth.
Site selection considers the value of programmatic adjacencies. Certain programs benefit from being near to each other and certain uses are more compatible. For example, programs that rely on technical space, such as wet labs, might find benefit in a shared facility so that specialized equipment can be efficiently utilized and redundancy avoided.

At the same time, it is important to leave opportunities for future program growth. As an example, Polk Place was already well-defined by a number of buildings in the early 1900's, but it was not complete until Dey Hall was built in 1962. Similarly, building sites across the Carolina North campus will remain undeveloped in anticipation of needs that can only be imagined today.

Carolina North must maintain flexibility to respond to changing needs. The plans for the campus are not expected to be fully realized for at least fifty years. In that time, pedagogy and technology will change substantially. Similarly, there is the possibility that the University might incorporate additional or new disciplines into its academic programs.
Campus-wide Design Guidelines

DESIGN GUIDELINES BY LANDSCAPE DISTRICT

Building at Carolina North will happen over generations, much the way it has on main campus. At the outset, establishing a landscape structure immediately creates distinct places in the early phases of development. The open space network defines four distinct campus districts:

- Campus Frontage – establishes identity with a stone wall, trees, and green areas
- Entry Drive – brings the community into campus
- Central Green Way – connects town and campus to the forest
- Working Landscape – integrates open space with surrounding forest and supports sustainability goals

Open Space Network
The open space network defines four distinct campus districts:
Campus Frontage, Entry Drive, Central Green Way, and Working Landscape

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Campus Frontage

Carolina North will rely on touchstone elements from the main campus and the Chapel Hill region to establish a strong, visible presence on Martin Luther King, Jr. Boulevard. The most striking of these will be the Chatham-stone wall common on campus and around town. The stone wall will be complemented by a brick sidewalk on the east side and a double row of canopy trees typical of the main campus. All three will run parallel to Martin Luther King, Jr. Boulevard from Municipal Drive south to Airport Drive. A parkway (landscaped area between the sidewalk and street) will be planted with non-turf grass and canopy shade trees to buffer pedestrians from the traffic.

Improvements to Martin Luther King, Jr. Boulevard could also include a central planted median where the continuous turn lane is today. The median would offer traffic-calming benefits and a midpoint landing for pedestrian crossings. The improvements will allow for the possible addition of transit and bicycle lanes. The parkway and median (if implemented) will be planted with a diverse mix of indigenous deciduous trees, including ornamental species for seasonal color and interest. Trees will be irregularly placed to create a natural feel. The parkway and the median will be low maintenance and require no irrigation. To the extent possible, both areas will capture stormwater run-off from nearby impervious surfaces. The combination of these simple elements will create an elegant public identity for the campus.
Carolina North will rely on elements from main campus and Chapel Hill to establish a strong presence on Martin Luther King Jr. Boulevard.

Cross-section of Campus Frontage
Campus buildings along Martin Luther King, Jr. Boulevard will be densely developed and include mixed-use activities to support interaction between campus and town:

- **Building height** will be approximately six stories. Height should be balanced with appropriate massing, texture, and articulation of the first two to four stories to establish a rich pedestrian experience and human scale at the street level.

- **A major campus crossroads** will be created at the intersection of Martin Luther King, Jr. Boulevard and the Central Green Way; design and height (approximately eight stories) of adjacent buildings should respond to this prominent location.

- **Building massing and geometry** will be straightforward and address the street and the community.

- **Building setbacks** will be uniform from Martin Luther King, Jr. Boulevard with approximately 85% of the street facing elevations built to the parcel boundary.

- **Building stepbacks** will be integrated to provide sun and views into midblock areas, and allow for green roofs, roof gardens, and solar energy collection.
Campus Frontage Precedents

These examples illustrate design elements, such as height, massing, setbacks, stepbacks, and streetscape, that will define the character of the Campus Frontage.

Carrington Hall,
University of North Carolina at Chapel Hill

Johns Hopkins University

George Washington University

FedEx Global Education Center,
University of North Carolina at Chapel Hill
Entry Drive

The Entry Drive will be an especially active part of the campus. The streetscape will include larger active outdoor areas on the southern facing sidewalk, making it usable for a greater number of days throughout the spring, fall, and winter. This extra room will accommodate outdoor seating and gathering spaces. The northern facing sidewalk will be more modest, but will comfortably accommodate a heavy volume of pedestrian activity.

The landscape will incorporate stormwater management features to capture run-off from adjacent impervious surfaces. These features will be planted with low-maintenance, native species that not only contribute to the quality of the streetscape, but also support stormwater management goals. While the function of these features will be consistent, the aesthetic detail of these features will vary in response to the design of surrounding buildings.
Cross-section of Franklin Street in downtown Chapel Hill

Cross-section of the Entry Drive at Carolina North
A median will be included for the first several hundred feet at the north and south ends of the Entry Drive. The median will encourage incoming traffic to slow down and organize outgoing traffic. Planted with street trees, it will allow pedestrians a place to stand if unable to cross all lanes of traffic at once.

The entry drive will be a transit route with a prominent stop near the intersection with the Central Green Way. A plaza at this intersection will be a natural campus gathering place; adjacent buildings should respond directly to this space and its prominence.

Campus buildings along the Entry Drive will be densely developed to support a vibrant, mixed-use campus center:

- **Building setbacks** will be uniform with approximately 85% of the street facing elevations built to the parcel boundary.
- **Building stepbacks** will be integrated to provide sun and views into midblock areas, and allow for green roofs, roof gardens, and solar energy collection.
- **Entries and street level design** will reinforce pedestrian activity and visual interest. Building programs will include active uses such as retail services, cafes, galleries, and recreation on the ground level to create a lively and pedestrian-oriented street environment. Windows and doors will face the street and be visually open. Multiple entrances will promote interaction. Canopies, colonnades, and archways should be integrated to support retail services and amenities. Buildings may have multiple primary entries; primary entries must accommodate universal access. Doors should be wood or metal with glazing.

![Diagrammatic Massing of Entry Drive](image1)

*Diagrammatic Massing of Entry Drive*

Buildings along the Entry Drive will support a vibrant, mixed-use campus center.

![Diagrammatic Massing of Entry Drive](image2)

*Diagrammatic Massing of Entry Drive with Landscape*

Street level design will reinforce pedestrian activity.
Entry Drive Precedents

These examples illustrate street level design elements that will support a vibrant, mixed-use campus center.

University of Pennsylvania

Johns Hopkins University

Harvard Square

The Pit, University of North Carolina at Chapel Hill
The Central Green Way will be the largest and most dramatic open space at Carolina North
Central Green Way

The Central Green Way will be the largest and most dramatic open space at Carolina North. Because of its scale and unusual character, the Central Green Way will be a landmark campus space.

The north and south edges of the Central Green Way will be defined by canopy shade trees. A clear view will be maintained the length of the Central Green Way from Martin Luther King, Jr. Boulevard in the east to the Carolina North Forest in the west. Other landscape features will include: lawns to accommodate uses such as recreation, areas of Working Landscape (see following section) that will contribute to holistic stormwater management for the site, and smaller courtyards and gardens near buildings. The Central Green Way will also serve as a transit corridor for east-west movement.

Cross-section of Central Green Way

Cross-section of Polk Place
The buildings that define the Central Green Way will have direct access to transit and will be densely developed to create a critical mass of activity and interdisciplinary adjacencies:

- **Building height** will be approximately eight stories with the tallest buildings along the transit corridor. Height should be balanced with appropriate massing, details, and articulation at the street level.

- **Building setbacks** on the south side of the Central Green Way will be uniform with approximately 85% of the street facing elevations built to the parcel boundary. Building setbacks will be more varied on the north side of the Central Green Way with approximately 70% of the street-facing elevations built to the parcel boundary; massing will incorporate courtyards and gardens to maximize the benefits of solar exposure.

- **Building setbacks** will be integrated to provide sun and views into the Central Green Way and midblock areas, and allow for green roofs, roof gardens, and solar energy collection.

- **Bridges** may be needed to provide necessary connectivity between buildings, but should reinforce the open space network. Bridges between buildings will not cross the Central Green Way or campus streets.
Central Green Way Precedents
These examples illustrate design elements, such as height, massing, setbacks, and stepbacks, that will define the character of the Central Green Way.

University of Maryland, Baltimore
Caudill Laboratories, University of North Carolina at Chapel Hill
George Washington University
Johns Hopkins University
Working Landscapes connect the existing natural areas to the developed area of the campus.

Color and texture will vary with the seasons.
**Working Landscapes**

The master plan prioritizes already disturbed land for the development of Carolina North; this area is adjacent to existing natural areas including the Carolina North Forest. The plan takes advantage of this relationship by building landscapes that connect the existing natural areas with the developed area of the campus.

Many of the larger natural areas internal to the site and along its edges are characterized as Working Landscapes. They provide utilitarian functions beyond the aesthetic and social benefits of open space and landscaping. These functions may include stormwater, shallow groundwater recharge, native plant nurseries, native habitat for targeted species, and ecological research and learning opportunities. Carolina North’s commitment to sustainability offers a unique opportunity to feature Working Landscapes as a prominent and defining element of public space.

- **Character** will be rustic with native grasses and other native plants.
- **Seasonal variety** will be emphasized in this area. While color and texture will vary with the seasons, quality of the overall appearance will be consistent.
- **Scale** of campus development will step down near Working Landscapes. Adjacent buildings and grounds will include elements that support the functions of these areas.
- **Built structures** within Working Landscapes will be limited, but might include support facilities (pump houses, research stations, etc.) and simple bridges or boardwalks for circulation and observation.
Campus Identity

The campus is expected to exhibit the character of Carolina and Chapel Hill while having its own personality. To accomplish this, the campus will employ touchstone features of the main campus and incorporate new elements to define it.

Campus sidewalks will be paved with brick. Low stone walls will also be a typical campus feature. These simple elements can be combined to establish a unique identity for the campus that is rooted in the local culture and values of Carolina.

Seasonal changes in the landscape are expected of a high-performance campus. The landscape will be dominated by native plants that will vary in color and texture, but quality will be consistent throughout the year.

As the campus develops over time, sites will be identified as appropriate for other landmarks, such as iconic indoor and outdoor spaces, gathering areas, signature buildings, and public art.
Seasonal changes in the landscape are expected of a high-performance campus
Open Space Hierarchy and Variety

The open space network will encompass a number of other outdoor spaces. These spaces will vary in character, scale, and function. They will accommodate informal play and organized recreation as a part of daily life. The range of open spaces will accommodate an event of several hundred people as easily as an impromptu gathering of a few. The open space network will create connectivity between destinations on and adjacent to the campus.
Connectivity and Accessibility

The open space network will be an integrated component of campus infrastructure. The open space network and streets will support the community's transportation network for pedestrians, bicycles, and transit. It also will make connections with the recreational trails and natural areas of the Carolina North Forest and local greenways.
Clarity of route is an essential quality of a successful pedestrian campus. Paths should follow direct and desire-based routes. The University is committed to making all buildings and areas physically accessible to all faculty, staff, students, and visitors. Regulatory compliance with the latest editions of the Americans with Disabilities Act (ADA) and the North Carolina State Building Code will be required as a minimum goal. Universal design principles that provide equal access to building entrances will be encouraged.

Generally, the campus streets will be organized in a grid pattern. Campus streets will be pedestrian-oriented, as narrow as possible, and designed to include shade trees. They will provide access for daily users in addition to service access for building maintenance, deliveries, and other essential functions. Campus streets will also incorporate stormwater management features that can accommodate run-off from adjacent impervious surfaces.

*The open space network will support the community's multi-modal transportation network*
Integration

The open space network has been planned in concert with utilities infrastructure. Buildings, open space, transit, parking, stormwater management, utility infrastructure, and energy technologies were integrated at a conceptual level. The location and alignment of utility corridors have been considered in light of the open space network to eliminate conflict and increase ease of access.
Parcel Boundaries

Parcel boundaries define discrete areas within the 250 acres planned for development. These parcels do not represent building footprints, but rather potential building sites. Development in each parcel should include all of the support functions and activities that buildings will require, such as open space, building entry and service, and site specific infrastructure.
<table>
<thead>
<tr>
<th>Parcel ID</th>
<th>Acres</th>
<th>Potential Use</th>
<th>Jordan Lake Determination</th>
<th>Site Features</th>
<th>Challenges</th>
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</table>
**Land Use**

The combination of University programs and supporting activities will result in a transit-oriented, mixed-use campus. Multiple uses across the campus create a dynamic environment; the mix of uses will be realized as the campus develops over time. Housing for graduate students, researchers, and faculty will be located across the campus; on-campus residents will help reduce traffic trips and promote 24-hour activity.
Building Design Guidelines

While the main campus is an important touchstone, these guidelines do not advocate replicating historic buildings and open spaces. Rather, they suggest the continued evolution of the best of Carolina's traditions. The following set of topics should be addressed and integrated in the design of any individual project on the Carolina North campus.

Definition of Terms

High-Performance Buildings

A high-performance building is defined by the US Department of Energy as a building with energy, economic, and environmental performance that is substantially better than standard practice. Because it is energy efficient, it saves money and natural resources. It is a healthy place for its occupants to live and work and has a relatively low impact on the environment.

Solar South

Solar south is different from magnetic south. Magnetic south can be determined with a compass. Solar south is dictated by the geographic location and latitude of a site. The solar south angle takes into consideration the sun's path from sunrise to sunset and is the alignment that allows the full potential of the sun's energy and position to be used. At Carolina North, solar south is 8 degrees east of magnetic south.

Georgia Institute of Technology
Design and Operations Performance

The campus as a whole and its composite elements are expected to achieve a high level of design and operations performance. The following is a synopsis of the site development recommendations and high-performance building standards for Carolina North:

1. Climate, Culture, and Place
   - Respond to climate, culture, and place in planning and building
   - Sustain, restore, and mimic the structure, function, and beauty of an indigenous North Carolina Piedmont forest in areas identified for conservation and development
   - Account for existing and potential natural capital of the site to inform the design process and associated conservation and development strategies
   - Respect surrounding neighborhoods

2. Carbon Footprint Reduction
   - Design, construct, maintain, and operate Carolina North in pursuit of carbon neutrality
   - Coordinate with American College and University Presidents Climate Commitment action plan and other University initiatives
3. **Conservation, Efficiency, and Reliability**
   - Provide highly efficient buildings and distribution systems
   - Optimize operations
   - Provide reliability and functionality of systems
   - Treat waste as a resource

4. **Collaboration, Education, and Outreach**
   - Increase human potential
   - Encourage collaboration
   - Provide campus-wide information regarding individual building energy use, distribution system energy flows, and general performance
   - Provide education and training on central systems, building systems, and transportation for employees and campus users
   - Integrate research, education, and outreach in both built and non-built conditions
Orientation

Building orientation impacts performance characteristics, and should be integrated into the overall form and design aesthetic. For example, sun shading and screening respond to the angle and direction of the sun, resulting in distinct elevations with consistent elements to unify design. Building orientation should also address other aspects of performance, such as incorporating daylight into the interior lighting plan.

A building’s relationship to the adjacent streets and open space is just as important. Buildings should be sited to create outdoor spaces. Generally, all buildings should be sited perpendicular or parallel to the spaces they define.

Building entry and arrival require particular attention. With extensive variety in the open space network, the design of each building’s elevations will vary in kind. Many buildings will have multiple entry points. Service access should be considered in the context of building orientation. Where possible, buildings should share mid-block service points.
**Height**

Building height at Carolina North will range from approximately two to eight stories. Building height will vary in response to program and site capacity. In general, buildings with fewer stories will be located at the perimeter of the site to maintain a scale similar to that of the closest residential neighbors. Along the thoroughfares that border the campus there will be mid-size buildings that respect the scale and character of existing development in Chapel Hill. The tallest buildings will be in the campus core where there is direct access to transit. The campus core will be densely developed to create a critical mass of activity and interdisciplinary adjacencies.
Massing

A building’s massing is defined by a combination of its footprint, height, and overall shape (setbacks, setbacks, roof form). Massing reflects and reinforces the overall scale of the open space that a building fronts and steps up or steps down to adjust to context and topography.

Generally, building footprints will be simple, efficient, and rectangular; they will respond to the street network and east-west textured blocks which maximize southern exposure. To accommodate a wide range of program needs, the parcel boundaries provide room for a variety of building footprint sizes. The massing of extremely large buildings should be broken down into a composition of well-scaled parts.

By articulating the lower portion of a building’s vertical surface, such that it appears to be distinct from the rest of the building, the perceived scale of a building can be made more comfortable. Building design should be clearly articulated in the first two to four stories to establish human scale at the street level. The number of stories before a building’s first stepback will vary with the composition of the building, including the total number of stories.

Buildings will have a variety of roof forms — pitched or flat. Buildings with small footprints and the fewest number of stories are most appropriate to have pitched roofs, while larger, taller buildings are more apt to have flat roofs. High-performance features such as green roofs and solar collectors should be carefully integrated.

Articulating a building’s roofline helps to provide a visual termination to an elevation and further helps to control its overall scale. Buildings should incorporate clearly articulated eaves, cornices, or parapets into their design. This can be achieved by a change in plane and/or a change in material.
Massing Precedents

These examples illustrate overall massing elements including scale, roof form, and street level design features.

George Washington University  
Caudill Laboratories, University of North Carolina at Chapel Hill

Rams Head Center, University of North Carolina at Chapel Hill  
Cambridge, Massachusetts
Composition Precedents
Examples illustrate the integration of individual architectural features into the overall proportion and composition of building elevations.

Synace University

Student Academic Services Buildings,
University of North Carolina at Chapel Hill

Carrington Hall,
University of North Carolina at Chapel Hill

University Park at Massachusetts Institute of Technology
Composition

To accommodate program demands, many of the buildings at Carolina North will be tall in height, large in footprint, and consequently, large in scale. The scale of these buildings can be controlled with thoughtful composition and proportions.

Well designed elevations have hierarchical patterns and rhythms that are visually stimulating and contribute to the liveliness of a street or open space. Openings (doors, windows, loggia) can help to reduce the perceived scale of a building by dividing a continuous wall surface into smaller, more comprehensible parts.

Program needs and design and operations performance should be integrated into building design but never at the expense of beauty. Proportion of the overall building, the elevation, or an individual component such as a sunscreen, window, door, or cornice, should be fully integrated.

Component elements of building elevations should be legible. Building elements should balance innovation and function. Building efficiency or style should not be achieved at the expense of practical concerns such as maintenance and renovation.

Entries will be clearly expressed and created by a hierarchy of openings. Terraces, porches, and other transitional devices should be considered.

Main entrances will be proportional to the entire elevation. Consideration should be given to shade and overhead cover. Buildings may have multiple primary entries; primary entries must accommodate universal access. Doors should be wood or metal with glazing.

Windows should be operable where technically feasible and integrated into the building’s energy strategy. Window frames should be wood or metal, colored to be compatible with other exterior materials. Clear glass will be preferred; any use of colored glass should be subtle. No reflective glass should be used.
Materials

The campus will incorporate a variety of materials as it strives to be “a new model of sustainable community.” Buildings and the open spaces that they define will rely heavily on natural materials, such as brick, stone, and glass. The campus will incorporate high-performance materials and components that will be chosen because of their innovation, efficiency, or composition from renewable resources. Use of locally-sourced materials will support the sustainability goals of the campus and incorporate cultural and vernacular influences into the design of the campus.

Building form will be innovative to achieve high-performance goals. For example, buildings will employ screening and shading to optimize solar benefits. Familiar materials will be assembled and detailed in new ways, creating a rich texture that is reminiscent of the main campus.
Site Furnishings

Generally, site furnishings at Carolina North will be in keeping with those used on the main campus. The existing University signage standards will be used to provide building and parking information to campus visitors. Other site furnishings that will be consistent across the University include benches, trash receptacles, and bicycle storage racks.

Site furnishings will deviate from the current University standards when it is necessary to realize design and/or operations performance efficiencies. For example, alternate lighting standards have been identified for Carolina North. The fixture recommended for Carolina North is similar to the main campus fixture in color and scale. This fixture is preferred for its simple style, ease and versatility of installation, simplicity of maintenance, ready availability, and performance efficiency. This fixture uses less energy than the main campus standard and minimizes light pollution.
Process

The University has a long-established design review and approval process that will guide development at Carolina North. This thorough process evaluates site selection, designer selection, and project design. The process engages individuals from across the University, including:

- Board of Trustees
- Board of Trustees Building and Grounds Committee
- Chancellor's Buildings and Grounds Committee
- Facilities Planning & Construction
- Design Review Committee
- Project User Group

The design process for any building or open space on campus should start with a comprehensive look at campus context and Carolina traditions. This first step should include an analysis of the site: its history, views and vistas, topography, vegetation, massing, architectural character, pedestrian and vehicular traffic, infrastructure, and service. This analysis should lead to a primary goal of all building projects creating clear, simple open spaces and quadrangles that connect to other existing or proposed spaces.
ACKNOWLEDGEMENTS

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Carolina North Steering Committee
Board of Trustees
Board of Trustees Building and Grounds Committee
Chancellor's Buildings and Grounds Committee
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