

## **Public Comments regarding Project J-012214-22 (UNC Hospitals-RTP)**

### **Submitted by Duke University Health System, Inc.**

Duke University Health System, Inc. (“Duke”) submits these comments regarding the application of UNC Hospitals (“UNC”) to develop 34 beds at its proposed hospital location in RTP (“UNC-RTP”) in Durham County (J-012214-22).

A review of the application demonstrates that it does not conform to all statutory and regulatory criteria. In addition, this application is subject to a competitive binding need determination and, even if it were otherwise conforming to the criteria and approvable, does not better meet the need for the beds under review.

These comments are not intended to reflect an exhaustive list of all issues with this application, but instead identify some of the key deficiencies Duke has identified at this time.

#### Background/UNC-RTP 2021 Application

In 2021, UNC Hospitals filed an application to develop a new hospital in RTP in Durham County with 40 beds and 2 operating rooms (J-12065-21). Although the Agency made the initial determination to approve that application, the approval is under appeal and UNC is not entitled to a certificate of need for the facility. UNC’s original approval has been appealed. For all the reasons set forth in Duke’s comments filed on June 1, 2021, regarding J-12065-21 (attached to these comments), UNC’s application was not conforming with all applicable criteria and was not comparatively superior to Duke’s own application for beds and operating rooms in the same review.

The current application in fact calls into question the feasibility even of UNC’s 2021 application. In its original application, UNC projected a service state date of July 1, 2026. Now only a year later, it has deferred the proposed opening date of the facility until at least 2029. While it is true that the timeline may be delayed by appeal, that delay has been much less than one year at this point, and does not warrant a three year delay in development. Similarly, given that the facility has yet to be started, there is no basis for adding three years to the timetable simply by virtue of including additional beds within the facility.

This projected delay – before the project is even underway – reflects UNC’s history of long delayed hospital projects. UNC Healthcare’s new hospital in Holly Springs, Wake County, received CON approval in 2014 and was originally projected to be completed in February 2017. Instead, according to the progress reports filed for that project, it did not even begin construction until at least 2018, and only opened in November 2021. Meanwhile, the approved beds were considered part of the bed inventory in Wake County and artificially depressed the need for additional bed capacity, depriving other providers the opportunity to develop beds and depriving patients of necessary healthcare options. Similarly, UNC does not appear ready and willing to meet the critical need for bed capacity generated by Duke University’s utilization at its quaternary care facility.

As set forth further below, however, even if UNC-RTP were properly approved for its project as originally proposed, its current proposal to increase the scope and cost is not supported by reasonable assumptions and should be denied.

### **Criterion 3**

The application does not conform with Criterion 3.

#### Patient Origin Projections

UNC does not reasonably project the population to be served. It projects that 85% of patients will come from Durham County, despite a proposed location at the southern edge of the county. As set forth in UNC's own application, in-migration for every other hospital in Durham County exceeds 50%. This utilization pattern reflects that the "market" for hospital services in this area is not strictly constrained by county lines, but instead reflects the reality of a major metropolitan area. UNC's patient origin projections appear to be designed to increase the "percentage of service area residents served" in an anticipated comparative analysis rather than to reflect actual patient utilization patterns.

#### Inpatient Utilization Projections

UNC's utilization projections are similarly flawed. It is notable that UNC relies on the exact same data presented in its last application to support the increased bed complement in the 2022 application, without providing any basis for its much more aggressive projections now. It simply claims that instead of reaching 75% of the system's existing share of Durham County days at the new facility, it will reach 110% by the third project year.

UNC uses the same baseline historical utilization data (2017-2019). It does not project any increase in its referral network, which includes only 26 providers based in Durham County. And yet, simply by delaying its project an additional 3 years, it now projects that its utilization at this facility will increase to a level sufficient to support the proposed beds. Duke previously identified key issues with the projections in the 2021 application in its public comments, which are attached to these comments and incorporated by reference. However, even if the original projections were found to be reasonable, UNC provides no basis for its increased share assumptions in this application.

At page 63 of its application, UNC states that the entire UNC system provided 8984 "selected service days" (out of a total of 13,487 patient days including all specialties) for patients from Durham County, which provides the reference point for projected utilization at UNC-RTP. UNC projects that in FY 32 it will serve 16,038 patient days only at UNC-RTP (Form C Assumptions page 8). UNC is silent whether its share projects assume any shift from other UNC facilities in the 2022 application, but in its response to comments for its 2021 application, UNC stated that the UNC-RTP volume did not include any shift of volume from the other UNC facilities that currently serve patients from Durham County. Therefore, these 16,000+ patients would be projected to be purely incremental to the UNC system.

Thus, with these projections, UNC necessarily assumes that a new, 74-bed facility with limited services by itself will have a greater share of Durham County patients than the entire UNC system currently

experiences with 4 separate hospital facilities, with a total of more than 1300 beds, offering a comprehensive array of services across all specialties, and which include facilities closer to patients in many parts of Durham County as set forth below. In fact, even one of the identified “South Region” zip codes UNC-RTP projects to serve is closer to UNC-Chapel Hill than to UNC-RTP.

Durham Zip Code	Miles to UNC-RTP (27709)	Miles to UNC-Chapel Hill	Miles to UNC-Hillsborough
“South”			
27703	7.4	18.1	22.2
27713	4.5	10.6	18
27707	8.7	8.5	13.2
“Central/West”			
27708	10.6	11.3	11.9
27705	16.1	11.1	8.2
27701	9.3	13.3	15.3
“North”			
27704	13.1	19.7	18.1
27712	18.6	22.4	16.4
27503	23.2	25.9	18.9

To get to these projected volumes, UNC makes a series of unreasonable assumptions.

*Potential Days of Care*

First, UNC defines its “potential” days of care from which it projects its share too broadly. In Section Q, Form C Assumptions and Methodology pages 2-3, UNC states UNC-RTP is not expected to provide higher acuity services on a frequent basis, and will have to transfer patients needing intensive care to another facility. UNC excludes the following high acuity services from the potential days of care to be served by the facility.

High Acuity Services Excluded from UNC-RTP		
Cardiac EP	Trauma: Burns	Surgery: Transplant
Cardiac Cath	Trauma: Head Injuries	Surgery: Tracheostomy
Surgery: Lung Transplant	Trauma: Orthopedics (Medical)	Tracheostomy (ENT Only)
Surgery: Thoracic	Trauma: Orthopedics (Surgical)	Neurosurgery: Brain
Amputation	Trauma (General Surgical)	Neurosurgery: Peripheral and Cranial Diseases
Hematology (Medical)	Surgery: Bariatric/Obesity	Neurosurgery: Trauma
Oncology (Medical)	Surgery: Cardiac	Neonate with Major Problems
Radiation Oncology	Surgery: Hepatobiliary/Pancreatic	Obstetrics: Antepartum Care/High-Risk Pregnancies
Trauma: Body Injuries		

Source: UNC-RTP application, Section Q page 4

However, it is not clear whether the days excluded from the potential days of care include intensive care in other service lines such as pediatrics, neurology or cardiology; UNC acknowledges that it will not provide intensive care services. Moreover, even if it excluded intensive care services (which it does not state), “selected service days” may still reflect patients who were originally admitted for intensive care and then are moved to “step-down” care; such patients would not be transferred to a different facility upon leaving intensive care and would not generate “potential days of care” for UNC-RTP. The potential days of care that form the basis for UNC-RTP’s assumptions are thus fundamentally overstated.

#### *Growth/Share Projections*

UNC-RTP’s growth and share projections to generate bed utilization are similarly flawed:

- First, UNC acknowledges that its system volume of “potential days” from Durham County was essentially flat from 2018 to 2019 (application, p 64). Its share of surgical days decreased (Form C Assumptions p. 6):

#### **UNC Health Share of UNC Hospitals-RTP Potential Days of Care for Durham County Residents**

	<b>CY17</b>	<b>CY18</b>	<b>CY19</b>	<b>CAGR</b>
Medicine	8.2%	8.7%	8.5%	<b>1.8%</b>
Surgery	13.0%	11.6%	11.7%	<b>-5.1%</b>
Obstetrics	14.9%	16.7%	15.3%	<b>1.3%</b>
Total	10.2%	10.5%	10.1%	<b>-0.5%</b>

Source: Section Q, Form C Assumptions and Methodology, page 5

Accordingly, UNC’s historical utilization trends do not support a more than doubling of its total share of these Durham County patients (including existing facilities and UNC-RTP) simply by virtue of opening a new facility at the end of the county.

- Even if UNC could reasonably project that the system would increase its share over the next decade, there is no basis for concluding that the increased share would be served at the new facility, as opposed to existing hospitals with a broader range of services. UNC appears to believe that it will capture all of the aggressive share projections at the new facility, in addition to any volume that would continue to be served at other UNC facilities in the Triangle.

Moreover, any claim now – contrary to what UNC stated in connection with its 2021 application – that some or all of this volume will instead shift from other UNC facilities is not supported. As set forth above, for much of Durham County, either UNC’s main hospital campus in Chapel Hill or its Hillsborough campus would be closer and more accessible than the proposed facility in the far southern part of the county. Patients would not be likely to shift to the new facility from a Combined with the more comprehensive services provided at those facilities as well as at UNC Rex in Wake County, the relative accessibility of UNC’s existing and proposed facilities to the patients of Durham County does not support UNC-RTP’s projected share at the new facility.



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Despite this scarcity of referring physicians, UNC nonetheless projects that it will serve nearly 20% of “potential” OB days from Durham County at UNC-RTP – all without shifting any volume from any other UNC facility. This projection is therefore not adequately supported.

The result of these unreasonable assumptions is a projection that UNC-RTP, a 74-bed facility with a limited scope of services, will have a greater share of Durham County “potential days of care” than all of UNC’s existing facilities currently provide, without any shift of volume from other UNC facilities. This would more than double the UNC System’s share of the identified “potential days of care.” This result is not supported by the information provided by the applicant and is unreasonable.

**UNC Hospitals-RTP Share  
of UNC Hospitals-RTP Potential Days of Care for Durham County Residents**

	<b>FY 30</b>	<b>FY 31</b>	<b>FY 32</b>	<b>UNC Health 2017-2019 Average</b>
Percentage of Historical UNC Health Average Share	75%	100%	110%	
Medicine	6.3%	8.5%	9.3%	8.5%
Surgery	9.1%	12.1%	13.3%	12.1%
Obstetrics	11.7%	15.6%	17.2%	15.6%
Percentage of Durham/Caswell Beds	5.1%	5.1%	5.1%	

Form C Assumptions p. 7; total Durham County beds = 1062 DUH + 316 DRH + 74 proposed UNC-CH

### Other Utilization Projections

While this project is submitted in response to a need determination of acute care beds making those projections the most critical, UNC’s other projections reflect similar defects in assumptions.

#### *Surgical Utilization*

As set forth above, the UNC system’s share of potential surgical days declined from 2017 to 2019. Without any documented support from surgeons based in Durham County nor documentation of volumes by specialty, zip code, or current site of service, UNC projects a significant increase of surgical volume even beyond its 2021 application.

UNC-RTP’s 2021 application already reflected ambitious projections for inpatient surgical utilization, assuming that it would serve a volume equivalent to 75% of its current share of identified “potential days.” Now, without adding any licensed operating rooms, nor increasing the scope of services, UNC-RTP is projected to serve 110% of that current (declining) share, again without apparent shift from any other facility. Its resulting share of identified Durham County patient surgical patient days of 13.3% is unreasonable, as UNC-RTP will have 2 licensed operating rooms, out of a total of 68 hospital shared/inpatient ORs in the county.

### *Emergency Department Utilization*

UNC projects that the new facility will serve 13.9% of all ED visits from Durham County. For a hospital with fewer than 6% of the total beds in the county, located at the very southern edge of the county, and offering a limited scope of services excluding trauma, cardiac catheterization, or intensive care services, this assumption is patently unreasonable; patients needing those services will be taken to other facilities. As set forth above, UNC-RTP will have to transfer patients to another facility for intensive care services, even within the service lines that it proposes to provide. Therefore, its projections as to the admission rate from the ED are not reasonable.

This is also reflected in the self-contradictory assumptions that UNC makes:

- The hospital's projected percentage of Durham County ED visits is higher than the percentage of the hospital's projected "potential days of care" for surgery or medicine.
- Yet, inpatient admissions as a percentage of ED visits is projected to remain constant with 2019 levels (61.4%), and UNC Hospitals is projected to have have a constant percentage of ED Admissions as a percent of Durham County ED Visits consistent with 2019 levels (14%).
- Meanwhile, total Durham County ED visits are projected to decrease consistent with historical utilization trends (p. 14)

It does not add up how UNC's ED share (which is not, apparently, shifted from other UNC facilities, since it is directly tied to its calculation of inpatient days which are not identified as shifting) and resulting utilization will reach UNC's aggressive projections. This does not adequately demonstrate the need for additional ED bays to serve a declining ED volume in the county.

### *Other Services*

The utilization of all other services are projected based on inpatient utilization, and is therefore affected by the flaws in the assumptions for inpatient services.

To the extent that these utilization projections are unreasonable and not supported, they raise questions about the financial feasibility of the project as well.

### **Criterion 5**

This application does not conform with Criterion 5. The capital cost set forth in this application more than doubles the project cost of the hospital as proposed and approved in 2021. This is not reasonable, given that the original project cost was represented as reasonable and feasible to cover the land, site preparation, and construction of a facility with 40 beds and 2 operating rooms, as well as an emergency department and imaging space. The current project would add 34 beds but no additional licensed operating rooms. More than doubling the cost when the site acquisition and preparation work would be the same, the beds themselves are not doubled, and no operating rooms are added, is unreasonable. The additional capital cost of the project is \$279,306,169, which equates to more than \$8 million per additional bed.

**Criterion 6**

Criterion 6 requires that “The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities.” UNC-RTP fails to address this criterion entirely. This is not simply a cost overrun for the same service components; UNC-RTP is increasing acute care beds, procedure rooms, observation beds, and equipment. It has provided no demonstration that this expansion will not result in unnecessary duplication of existing or approved health service capabilities or facilities. Any attempt to address this criterion for the first time in responsive comments would constitute an amendment to UNC’s application.

**Criterion 12**

As set forth above, this project is doubling the original project cost, and UNC does not demonstrate that this huge “cost, design, and means of construction proposed represent the most reasonable alternative.” Moreover, this project does not reflect a feasible or cost-effective site plan and therefore does not conform to Criterion 12.

UNC has not identified a viable site for the project. As set forth in the comments filed by Duke in the 2021 review, UNC’s primary site is located in a zone subject to restrictive covenants of the Research Triangle Foundation (see attachments to 2021 comments). Those covenants do not include healthcare as a permitted use, and no exception has ever been made. The RTF Board has never been presented with a proposal by UNC for this site, and the president of the Research Triangle Foundation previously notified the CON Section in connection with the 2021 application that RTF had not considered a zoning change for UNC. Even if it had believed the site was available at the time of filing the 2021 application, UNC does not have a reasonable basis now for contending that this site will ever be available to develop as a hospital.

Perhaps recognizing that the site is not available (and having previously identified an alternate site that may be unusable due to a major DOT project), UNC has now identified yet another site as a potential alternative. However, as to this third site:

- UNC does not identify the purchase price, or any documentation that the project could be accomplished at the projected cost due to significant site preparation requirements. It has no roads or utilities, and there is no evidence that the land could support a multi-story facility of the kind proposed.
- The site is not accessible by any public transportation.
- It is in an industrial area and is not near any housing, especially low-income housing.
- The site is literally on the Wake County line, undermining any claim that this is an effective site to support a community hospital for the residents of Durham County.

UNC may contend that it can simply continue to look for an appropriate site in Durham County for a hospital after gaining approval. However, unlike more discrete health services that might be accommodated in a variety of existing medical office buildings, hospital construction is a major undertaking – more than \$500 million in this case. Project costs vary widely depending on the cost of



the land, the site preparation work needed, and other factors. The very feasibility of the project is tied to a specific identified site. Without a viable site, UNC's application cannot be approved.

### **Criterion 13**

UNC has not provided payor mix information in response to Criterion 13, despite significantly changed utilization projections across a variety of service lines. Payor mixes for inpatient services necessarily differ significantly among medical, surgical, and obstetrics services: for example, OB services do not typically include Medicare patients, while medical patients do. To the extent that each of these services constitutes a different percentage of total patients than in the 2021 application, the payor mix from UNC's 2021 application should have been updated to reflect those new projections. Without payor mix projections for this project, UNC's application cannot be found conforming with Criterion 13.

### **Comparative Analysis**

UNC has filed this application subject to a need determination for which there is a competing application filed by Duke University Hospital ("DUH"). DUH has applied for approval to develop all 68 beds in the need determination, and is the more effective alternative to meet the needs for inpatient bed capacity in Durham/Caswell Counties.

As set forth above, UNC's projections, including utilization, patient origin, and payor mix are either fundamentally flawed or entirely missing in the 2022 application. As a result, the application cannot be approved. Moreover, even if it were otherwise approvable, this application is not the most effective alternative to meet the Durham/Caswell bed need for the following reasons:

- As to scope of services, UNC-RTP is proposing a limited scope of services without intensive care, while DUH is proposing to add bed capacity to its quaternary care facility with a full range of inpatient services. There is existing bed capacity at the non-quaternary care hospitals in Durham County and the need for additional beds was generated solely by the deficit at DUH. Moreover, as both applications propose to add beds to existing or approved facilities, UNC's application will not increase competition even as to those limited services.
- As to timing, UNC is seeking to develop 34 of the beds needed based on Duke University Hospital's utilization, but will not put them into service until at least 2029 (See Application, Section P). DUH has proposed to put the beds needed in Durham/Caswell Counties into service in 2023. DUH can implement the beds immediately by equipping rooms in existing space without expensive construction. Given the critical need for these services, this difference in timing is fundamental to the relative effectiveness of each project.
- As to geographic accessibility, UNC-RTP's facility is not as geographically accessible to patients in Durham/Caswell Counties as DUH. UNC-RTP purports to develop a "community hospital" to serve Durham County, but is proposing a site far from the population center in Durham County and at the very edge of the county. As set forth below, only two Durham zip codes are closer to the UNC-RTP site than to DUH. For patients in the majority of Durham zip codes (and for all of Caswell County), DUH is significantly closer and more accessible.

<b>Durham Zip Code</b>	<b>Miles to UNC-RTP (27709)</b>	<b>Miles to DUH (27710)</b>
27703	7.9	9.6
27713	4.0	9.6
27707	8.3	5.1
27708	10.6	1.3
27705	15.6	4.4
27701	8.4	3.8
27704	13.2	8.4
27712	18.3	10.3
27503	22.8	13.8

With its limited scope of services, extraordinarily long development timetable, and its location on the edge of the county, UNC-RTP's project is not designed to address the immediate and critical bed capacity needs in Durham/Caswell Counties, and cannot be the most effective alternative.

**COMPETITIVE COMMENTS ON**  
**2021 DURHAM COUNTY ACUTE CARE BED & OR NEED DETERMINATIONS**  
**SUBMITTED BY DUKE UNIVERSITY HEALTH SYSTEM, INC.**

**June 1, 2021**

**OVERVIEW**

Four applicants submitted CON applications in response to the need identified in the 2021 SMFP for four (4) additional ORs in Durham County: CON Project ID# J-012070-21 Duke University Hospital (DUH), CON Project ID# J-012075-21 Duke Ambulatory Surgery Center Arrington (Arrington ASC), CON Project ID# J-012052-21 Southpoint Surgery Center, and CON Project ID# J-012065-21 UNC Hospitals RTP(UNC RTP).

Two applicants submitted CON applications in response to the need identified in the 2021 SMFP for 40 additional acute care beds in Durham County: CON Project ID# J-012069-21 DUH and CON Project ID# J-012065-21 UNC RTP.

Based on previous batch reviews that included acute care beds and ORs during the same review cycle, e.g., Mecklenburg County acute care beds and ORs 2019 & 2020, DUHS anticipates the Durham County competitive review for acute care beds and ORs will similarly be combined into one set of Agency Findings. Therefore, this document includes separate comparative reviews for acute care beds and ORs, respectively, along with an independent analysis of each competing application against applicable statutory review criteria found in G.S. 131E-183(a) and the regulatory review criteria found in 10A NCAC 14C.

These comments are submitted by DUHS in accordance with N.C. Gen. Stat. § 131E-185(a1)(1) to address the representations in the applications, including a comparative analysis and a discussion of the most significant issues regarding the applicants' conformity with the statutory and regulatory review criteria ("the Criteria") in N.C. Gen. Stat. §131E-183(a) and (b). Other non-conformities in the competing applications may exist and DUHS reserves the right to develop additional opinions, as appropriate upon further review and analysis.

<b>Section</b>	<b>Comments Begin on page #</b>
Comparative Analysis: Acute Care Beds	<b>2</b>
Comparative Analysis: Operating Rooms	<b>11</b>
Comments Specific to UNC Hospitals-RTP Project ID No. J-012065-21-21	<b>22</b>
Comments Specific to Southpoint Surgery Center Project ID No. J-012052-21	<b>35</b>

### **COMPARATIVE ANALYSIS FOR ACUTE CARE BEDS**

The Healthcare Planning and Certificate of Need Section developed a list of suggested comparative factors for competitive batch reviews. The following factors are suggested for all reviews regardless of type of services or equipment proposed:

- Conformity with Statutory and Regulatory Review Criteria
- Scope of Services
- Historical Utilization
- Geographic Accessibility (Location within the Service Area)
- Access by Service Area Residents
- Access by Underserved Groups: Charity Care
- Access by Underserved Groups: Medicaid
- Access by Underserved Groups: Medicare
- Competition (Access to a New or Alternate Provider)
- Projected Average Net Revenue per Patient
- Projected Average Total Operating Cost per Patient

The following summarizes the competing applications relative to the suggested comparative factors.

#### **Conformity to CON Review Criteria**

Two CON applications have been submitted seeking to develop acute care beds in Durham County. The applicants each propose to develop 40 acute care beds. Based on the 2021 SMFP’s need determination, only 40 acute care beds can be approved. Only applicants demonstrating conformity with all applicable Criteria can be approved, and only the application submitted by DUHS demonstrate conformity to all Criteria:

#### **Conformity of Applicants**

<b>Applicant</b>	<b>Project I.D.</b>	<b>Conforming/ Non-Conforming</b>
Duke University Hospital	J-012069-21	Yes
UNC Hospitals-RTP	J-012065-21	No

The DUH application is based on reasonable and supported volume projections and adequate projections of cost and revenues. As discussed below, the UNC-RTP application contains errors and flaws which result in one or more non-conformities with statutory and regulatory review Criteria. Therefore, the DUH application is the most effective alternative regarding conformity with applicable review Criteria.

**Scope of Services**

Generally, the application proposing to provide the greatest scope of services is the more effective alternative with regard to this comparative factor.

DUH is an existing acute care hospital which provides numerous types of medical services. UNC-RTP is a proposed new separately licensed hospital; however, it will not provide as many types of medical services as DUH, a Level I trauma center, tertiary and quaternary care academic medical center.

These facts are especially important in light of the reason that the need exists for additional bed capacity in the services area, namely, because of the high utilization at Duke University Hospital. Notably, the utilization at Duke Regional Hospital and North Carolina Specialty Hospital, which provide more community based and local services, is lower, and each hospital has a surplus of bed capacity available to meet the needs of local patients needing community hospital care. The service area’s acute care bed demand is predicated on the highly specialized services offered specifically at Duke University Hospital and that is not proposed by UNC-RTP.

Therefore, DUH is the more effective alternative with respect to this comparative factor and UNC-RTP is a less effective alternative.

**Geographic Accessibility**

There are currently 1,388 existing and approved acute care beds, allocated between three existing hospitals in the Durham/Caswell County Service Area, as illustrated in the following table. For information purposes, all of the existing and approved acute care beds are located in Durham County.

<b>Durham County Acute Care Hospital Campuses</b>		
<b>Facility</b>	<b>Location (City)</b>	<b>Existing/Approved Beds</b>
Duke Regional Hospital	Durham	316
Duke University Hospital	Durham	946 (+102)
North Carolina Specialty Hospital	Durham	18 (+6)

DUH proposes to develop 40 additional acute care beds at its existing facility in Durham. UNC-RTP identified two parcels for its proposed facility: Parcel Numbers 154107 and 154112. As described later in this document, UNC-RTP fails to document it can develop an acute care hospital on either of the proposed sites. Therefore, UNC-RTP cannot be an effective alternative.

DUHS notes that, in the context of geography, Durham County is ranked 84 out of 100 with respect to land area. In other words, 83 of North Carolina’s 100 counties have greater land areas compared to Durham County. The principal cities of Durham County include Durham and Raleigh; however, Raleigh is primarily located in Wake County. Durham County towns include Chapel Hill and Morrisville; however, Chapel Hill is primarily located in Orange County and Morrisville is primarily located in Wake County. Research Triangle Park is not a city, rather it has a special Durham postal substation - Research Triangle

Park, NC 27709. It exists in a special county district, serviced by Durham utilities.<sup>1</sup> Therefore, the city of Durham is the principal municipality for the acute care bed service area. DUH’s proposal to develop additional acute care beds in Durham (city) will enhance access for residents from throughout the acute care bed service area. It should be noted that the primary proposed site for UNC Hospitals is not proximate to any significant residential neighborhoods or developments. Therefore, patients at the proposed facility would necessarily be driving from other parts of the Triangle in which acute care services are already offered.

**Historical Utilization**

Generally, the applicant with the higher historical utilization is the more effective alternative with regard to this comparative analysis factor. However, UNC-RTP is not an existing facility and, thus, has no historical utilization.

DUHS and UNC offer acute care bed services at multiple locations within Durham County and adjacent Orange County, respectively. As shown in the following table, DUHS has the highest projected system-wide deficit of acute care beds in this competitive review. While projected system-wide deficit of acute care beds is not a factor in whether or not an applicant can demonstrate conformity with applicable statutory and regulatory review criteria, a higher projected system-wide deficit of acute care beds can, in certain situations, indicate higher historical utilization than a projected system-wide surplus of acute care beds.

<b>Historical Acute Care Bed Utilization (Table 5A of 2021 SMFP)</b>					
<b>Facility</b>	<b>FY19 Acute Care Days</b>	<b>ADC</b>	<b># of Acute Care Beds*</b>	<b>Utilization</b>	<b>Proj. (Surplus)/Deficit</b>
DUHS System	365,168	1,000	1,262	79.3%	40
UNC System	249,002	682	817	83.5%	14

\* Existing acute care beds during FFY 2019 only

DUH is an existing facility and, as a new facility, UNC-RTP has no historical utilization. Further, while both DUHS and UNC offer acute care bed services at multiple locations within Durham and Orange County, respectively, DUHS has the highest projected system-wide deficit of acute care beds in this competitive review.

In this situation, DUHS’s projected system-wide deficit of 40 acute care beds does indicate a higher historical utilization level than UNC’s system-wide deficit of 14 acute care beds. Therefore, with regard to historical utilization, DUHS is the more effective alternative than UNC-RTP.

**Competition (Patient Access to a New or Alternative Provider)**

Generally, the application proposing to increase competition in the service area is the more effective alternative regarding this comparative factor. There are 1,388 existing and approved acute care beds located in the Durham/Caswell County service area. DUHS currently controls 1,364 of the 1,388 acute care beds in the service area, or 98.3 percent. UNC-RTP is affiliated with UNC, which does not currently

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<sup>1</sup> <https://www.discoverdurham.com/blog/research-triangle-park-overview/>

control existing or approved acute care beds in the Durham/Caswell service area.<sup>2</sup> However, as described later in this document, the application submitted by UNC-RTP does not conform to all statutory review criteria. Thus, UNC-RTP cannot be an effective alternative for this comparative.

### **Access By Service Area Residents**

On page 32, the 2021 SMFP defines the service area for acute care beds as “the acute care bed service area in which the bed is located. The acute care bed service areas are the single and multicounty groupings shown in Figure 5.1.” Figure 5.1, on page 36, shows Durham/Caswell County as a multi-county acute care bed service area. Thus, the service area for this review is Durham/Caswell County. Facilities may also serve residents of counties not included in their service area. In more typical bed reviews, the application projecting to serve the highest percentage of Durham & Caswell County residents is the more effective alternative with regard to this comparative factor since the need determination is for 40 additional acute care beds to be located in the Durham/Caswell County service area. For information purposes, DUHS and UNC propose to develop new acute care beds in Durham County.

However, the acute care bed need determination methodology is based on utilization of all patients that utilize acute care beds in the Durham/Caswell County service area and is not based solely on patients originating from Durham and Caswell Counties. In this case, in fact, the percentage of historical patients originating from the service area is relatively small. This is because Durham County hosts DUH, a Level I trauma center, tertiary and quaternary care academic medical center, and it is the utilization at that academic medical center that generated the need for additional capacity.

Considering these facts and the Agency’s determination in the 2020 Mecklenburg County Acute Care Bed Review, DUHS believes that in this specific instance, attempting to compare the applicants based on the projected acute care bed access of Durham/Caswell County residents has little value in reflecting comparative value to patients.

### **Access By Underserved Groups**

Underserved groups are defined in G.S. 131E-183(a)(13) as follows:

“Medically underserved groups, such as medically indigent or low income persons, Medicaid and Medicare recipients, racial and ethnic minorities, women, and handicapped persons, which have traditionally experienced difficulties in obtaining equal access to the proposed services, particularly those needs identified in the State Health Plan as deserving of priority.”

For access by underserved groups, applications are compared with respect to three underserved groups: charity care patients (i.e., medically indigent or low-income persons), Medicare patients and Medicaid patients. Access by each group is treated as a separate factor.

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<sup>2</sup> For information purposes, UNC Hospitals, a 900-bed public academic teaching hospital and tertiary and quaternary care medical center, is located in adjacent Orange County (which is adjacent to Durham County) and only 15 minutes from the proposed UNC-RTP site. UNC Hospitals also attracts a statewide patient population.

The Agency may use one or more of the following metrics to compare the applications:

- Total charity care, Medicare or Medicaid patients
- Charity care, Medicare or Medicaid admissions as a percentage of total patients
- Total charity care, Medicare or Medicaid dollars
- Charity care, Medicare or Medicaid dollars as a percentage of total gross or net revenues
- Charity care, Medicare or Medicaid cases per patient

The above metrics the Agency uses are determined by whether or not the applications included in the review provide data that can be compared as presented above and whether or not such a comparison would be of value in evaluating the alternative factors.

*Projected Charity Care*

The following table compares projected charity care in the third full fiscal year following project completion for the applicants.

**Projected Charity Care – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Charity Care per Patient	Form F.2b	% of Gross Revenue
	Total Charity Care	Patients		Gross Revenue	
DUH	\$117,155,479	40,788*	\$2,872	\$3,645,530,143	3.2%
UNC-RTP	\$10,493,509	2,238	\$4,689	\$119,988,055	8.7%

\*Adult inpatient services only. Excludes pediatric inpatient services.

In Section L, page 77, DUHS states it defines charity care as free or discounted care provided to persons in medical need who are unable to financially afford or pay for their care, and who do not qualify for public or private assistance.

UNC does not define charity care in Section L, nor is the method for projecting charity care established by the application form. On page 117, UNC states the estimated number of charity care patients at UNC Hospitals-RTP is based on the FY 2019 and 2020 combined percentage of UNC Health Durham County self-pay and Medicaid patients that received services with no payment applied to the projected number of self-pay and Medicaid patients at UNC Hospitals-RTP. However, in the assumptions immediately following Forms F.2 and F.3 (page 162), UNC states projected charity care is the difference between projected gross and projected net revenue for self-pay patients. The assumptions on pages 117 and 162 are not consistent. UNC’s projection of charity care as a percent of gross revenue (8.7%) is exceedingly high, especially for a small community hospital as proposed by UNC-RTP compared to the services provided at UNC Hospitals in Chapel Hill. Further, conflicting assumptions regarding how charity care is projected make it impossible to determine whether the applicants project charity care based on similar assumptions. Therefore, one cannot make a valid comparison of charity care in this acute care bed batch review.



*Projected Medicare*

The following table compares projected access by Medicare patients in the third full fiscal year following project completion for all the applicants in the review.

**Projected Medicare Revenue – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Medicare Rev. per Patient	Form F.2b	% of Gross Revenue
	Total Medicare Revenue	Patients		Gross Revenue	
DUH	\$1,930,001,447	40,788	\$47,318	\$3,645,530,143	52.9%
UNC-RTP	\$60,881,892	2,238	\$27,204	\$119,988,055	50.7%

Due to differences in the acuity level of patients and the level of care (tertiary and quaternary care academic medical center vs. community hospital) at each facility, a comparison of average Medicare revenue per patient is inconclusive. However, a comparison of Medicare revenue as a percentage of gross revenue may provide a measure of access by Medicare patients for each facility. DUH projects Medicare revenue will comprise 52.9% of gross revenue during Project Year 3. UNC-RTP projects Medicare revenue will comprise 50.7% of gross revenue during Project Year 3. Thus, DUH is the most effective alternative with respect to Medicare Gross Revenue as a Percentage of Total Gross Revenue.

*Projected Medicaid*

The following table compares projected access by Medicaid patients in the third full fiscal year following project completion for all the applicants in the review.

**Projected Medicaid Revenue – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Medicaid Rev. per Patient	Form F.2b	% of Gross Revenue
	Total Medicaid Revenue	Patients		Gross Revenue	
DUH	\$396,406,070	40,788	\$9,719	\$3,645,530,143	10.9%
UNC-RTP	\$18,865,906	2,238	\$8,430	\$119,988,055	15.7%

Due to differences in the acuity level of patients and the level of care (tertiary and quaternary care academic medical center vs. community hospital) at each facility, a comparison of average Medicaid revenue per patient is inconclusive. UNC-RTP projects Medicaid revenue will comprise 15.7% of gross revenue during Project Year 3. However, the application submitted by UNC-RTP does not conform to all statutory review criteria. Thus, UNC-RTP cannot be an effective alternative for this comparative.

**Projected Average Net Revenue per Patient**

The following table shows the projected average net revenue per patient in the third year of operation for each of the applicants, based on the information provided in the applicants’ pro forma financial statements (Section Q). Generally, the application proposing the lowest average net revenue is the more effective alternative regarding this comparative factor since a lower average may indicate a lower cost to the patient or third-party payor.

**Projected Average Net Revenue per Patient – 3rd Full FY**

Applicant	Form C.1b	Form F.2b	Average Net Revenue per Patient
	Patients	Net Revenue	
DUH	40,788	\$1,152,860,372	\$28,265
UNC-RTP	2,238	\$47,304,482	\$21,137

Due to differences in the acuity level of patients and the level of care (quaternary care academic medical center and community hospital) at each facility, a comparison of projected revenue net revenue per patient is inconclusive.

**Projected Average Operating Expense per Case**

The following table shows the projected average operating expense per patient in the third full fiscal year following project completion for each facility. Generally, the application projecting the lowest average operating expense per patient is the more effective alternative with regard to this comparative factor to the extent it reflects a more cost-effective service in reviews in which each applicant is offering comparable services.

**Projected Average Operating Expense per Patient – 3rd Full FY**

Applicant	Form C.1b	Form F.2b	Average Operating Expense per Patient
	Patients	Operating Expense	
DUH	40,788	\$1,510,709,079	\$37,038
UNC-RTP	2,238	\$42,521,459	\$19,000

Due to the differences in the relative acuity level of patients and the level of care (quaternary care academic medical center and community hospital) at each facility, a comparison of projected operating expense per patient is inconclusive.

**Summary**

The following table lists the comparative factors and states which application is the more effective alternative.

<b>Comparative Factor</b>	<b>DUH</b>	<b>UNC-RTP</b>
Conformity with Review Criteria	Yes	No
Scope of Services	<b>Most Effective</b>	Less Effective
Geographic Accessibility	<b>More Effective</b>	Not Approvable
Historical Utilization	<b>Most Effective</b>	Less Effective
Enhance Competition	<b>More Effective</b>	Not Approvable
Access by Service Area Residents	Not Evaluated	Not Evaluated
<b>Access by Underserved Groups</b>		
Projected Charity Care	Inconclusive	Inconclusive
Projected Medicare	Inconclusive	Inconclusive
Projected Medicaid	Inconclusive	Inconclusive
Projected Average Net Revenue per Case	Inconclusive	Inconclusive
Projected Average Operating Expense per Case	Inconclusive	Inconclusive

For each of the comparative factors previously discussed, DUH’s application is determined to be the most or more effective alternative for the following factors:

- Conformity with Review Criteria
- Scope of Services
- Geographic Accessibility
- Historical Utilization
- Enhance Competition

UNC-RTP’s application fails to conform with all applicable statutory and regulatory review criteria, thus, it cannot be approved. In addition, UNC-RTP’s application fails to measure more favorably for the aforementioned comparative factors.

With regard to acute care beds, the application submitted by DUH is comparatively superior and should be approved as submitted.

### COMPARATIVE ANALYSIS FOR OPERATING ROOMS

The Healthcare Planning and Certificate of Need Section developed a list of suggested comparative factors for competitive batch reviews. The following factors are suggested for all reviews regardless of type of services or equipment proposed:

- Conformity with Statutory and Regulatory Review Criteria
- Scope of Services
- Historical Utilization
- Geographic Accessibility (Location within the Service Area)
- Access by Service Area Residents
- Access by Underserved Groups: Charity Care
- Access by Underserved Groups: Medicaid
- Access by Underserved Groups: Medicare
- Competition (Access to a New or Alternate Provider)
- Projected Average Net Revenue per Case
- Projected Average Total Operating Cost per Case
- Patient Access to Lower Cost Surgical Services

The following additional factors are suggested for operating room proposals.

- Patient Access to Lower Cost Surgical Services
- Multispecialty versus Specialty (ASFs only, thus not applicable to this review)

The following summarizes the competing applications relative to the suggested applicable comparative factors.

#### **Conformity to CON Review Criteria**

Four CON applications have been submitted seeking to develop ORs in Durham County. The applicants collectively propose to develop 12 additional ORs in Durham County. Based on the 2021 SMFP’s need determination, only 4 ORs can be approved. Only applicants demonstrating conformity with all applicable Criteria can be approved, and only the applications submitted by DUHS demonstrate conformity to all Criteria:

#### **Conformity of Applicants**

Applicant	Project I.D.	Conforming/ Non-Conforming
DUH	J-012070-21	Yes
Arrington ASC	J-012075-21	Yes
UNC-RTP	J-012065-21	No
SSC	J-012052-21	No

The DUH and Arrington ASC applications are based on reasonable and supported volume projections and adequate projections of cost and revenues. As discussed below, the UNC-RTP and SSC applications contains errors and flaws which result in one or more non-conformities with statutory and regulatory review Criteria. Therefore, the DUH and Arrington ASC applications are equally effective alternatives and more effective than the applications submitted by UNC-RTP and SSC.

**Scope of Services**

The following table shows each applicant’s projected scope of services (surgical specialties) to be provided at the proposed facilities. Generally, the application proposing to provide the greatest scope of services is the more effective alternative regarding this comparative factor.

<b>Facility Type:</b>	<b>Hospital</b>	<b>ASC</b>	<b>Hospital</b>	<b>ASC</b>
<b>Surgical Specialty</b>	<b>DUH</b>	<b>Arrington ASC</b>	<b>UNC-RTP</b>	<b>SCC</b>
Cardiothoracic	X		*	
Cardiovascular	X		*	
Gastroenterology	X		X	
General Surgery	X		X	10.0%
Gynecology	X	5.5%	X	
Obstetrics	X		X	0.6%
Open Heart	X			
Ophthalmology	X	42.7%	X	2.5%
Oral Surgery	X		X	1.2%
Orthopedic	X	47.3%	X	73.9%
Otolaryngology	X		X	8.6%
Neurology/Spine	X		*	
Pain Management	X		X	
Pediatrics	X			
Plastic Surgery	X	4.5%	X	1.6%
Podiatry	X		X	
Pulmonary	X			
Thoracic	X			
Urology	X		X	
Vascular	X		X	0.1%

\*UNC excludes 25 “high acuity services” from the proposed scope of inpatient acute care at UNC-RTP, for example Neurosurgery, Oncology, Thoracic Surgery . See Section Q, page 3 of UNC-RTP application. One would assume the respective surgical specialties associated with UNC-RTP’s identified “high acuity services” also are excluded from projected surgical utilization.

DUH is an Academic Medical Center offering specialized tertiary and quaternary services and a full continuum of emergency, medical, and surgical services. In line with that status, DUH provides access to a broader range of specialties compared to the proposed services to be offered by UNC-RTP.

Regarding this factor, generally speaking the Agency has previously considered the application proposing to provide the greatest scope of services is the more effective alternative regarding this comparative factor. However, some surgical specialties cannot be performed in freestanding ASCs, for example, open heart surgery and obstetrics. Additionally, while many outpatient surgical services can be performed in an OR located at an ASF, not all of them are appropriate for an OR located at an ASF. Therefore, comparing hospital vs ASC proposals may be of little value for this comparative.

**Patient Access to Lower Cost Surgical Services**

ORs can be licensed as part of a hospital or an ASF. Many outpatient surgical services can be appropriately performed in either a hospital-based OR (either shared inpatient/outpatient ORs or dedicated ambulatory surgery ORs) or in an OR located at an ASF. However, the cost for that same service can be higher if performed in a hospital-based OR or, conversely, less expensive if performed in an OR located at an ASF. While many outpatient surgical services can be performed in an OR located at an ASF, not all of them are appropriate for an OR located at an ASF, and inpatient surgical services must be performed in a hospital-based OR.

The following table identifies the existing and approved inpatient, outpatient/dedicated ambulatory, and shared inpatient/outpatient ORs in Durham County.

	<b>Total ORs*</b>	<b>IP ORs</b>	<b>% IP of Total ORs</b>	<b>OP ORs</b>	<b>% OP of Total ORs</b>	<b>Shared ORs</b>	<b>% Shared of Total ORs</b>
Durham County ORs	96	8	8.3%	21	21.9%	67	69.8%

Source: 2021 SMFP

\*Includes existing and approved ORs and excludes dedicated C-Section and designated trauma ORs.

Durham County is unique in that its surgical utilization is predominantly attributed to DUH which is a tertiary and quaternary care academic medical center teaching hospital. The number and percentage of inpatient and shared ORs in Durham County is necessary to support inpatient utilization at DUH. DUH is a tertiary and quaternary referral center that serves patients from all over North Carolina, the Southeast, and beyond. DUH is ranked nationally in numerous specialties by US News and World Report and is ranked as the best hospital in the state. The growth in DUH utilization which drove the need determination for additional acute care beds and ORs reflects these existing state and regional referral patterns. This dynamic is evident upon review of the ratio of ORs to population in Durham County compared to the most populous counties in the state.

	Population	ORs	Population/OR
Mecklenburg	1,138,138	194	5,867
Wake	1,117,556	125	8,940
Guilford	539,491	90	5,994
Forsyth	382,388	109	3,508
Cumberland	333,323	35	9,524
<b>Durham</b>	<b>324,586</b>	<b>96</b>	<b>3,381</b>

Sources: North Carolina Office of State Budget & Management, 2021 SMFP

As compared to the six most populous counties in North Carolina, Durham County has the lowest ratio of population to OR. In other words, Durham County residents maintain comparatively enhanced access than the five most populous counties in the state.

According to the [2020 Ambulatory Surgery Patient Origin Report](#) (2019 Data) that provides data by patient county of residence, 77.2 percent of Durham County residents obtain ambulatory surgery in Durham County. Thus, the vast majority of service area residents remain in Durham County for ambulatory surgery.

The table below shows the percentage of total Durham County surgical cases that were outpatient surgeries in FY2019, based on data reported in the 2021 SMFP.

Facility	Type of ORs	IP Cases	OP Cases	Total Cases	IP%	OP %
Arrington ASC	ASF	--	--	--	--	--
DASC	ASF	--	6,079	6,079	--	100.0%
DUH	Hospital/Shared	18,733	22,139	40,872	45.8%	54.2%
DRH	Hospital/Shared	3,991	3,555	7,546	52.9%	47.1%
SCC	ASF	--	--	--	--	--
NCSH	Hospital/Shared	1,588	4,128	5,716	27.8%	72.2%
Totals		24,312	35,901	60,213	<b>40.4%</b>	<b>59.6%</b>

Source: 2021 SMFP

As the table above shows, 40.4 percent of the total Durham County surgical cases in FY2019 were inpatient surgical cases. Based on FY2019 data, inpatient surgery accounts for approximately 27 percent of all surgical utilization in North Carolina. Thus, consistent with previous discussion, Durham County performs a comparatively higher percentage of inpatient surgical utilization compared to the state as a whole. This fact is directly attributable to DUH's status as tertiary and quaternary care academic medical center teaching hospital.

Durham County currently has two existing ASFs (DASC and Arrington ASC) and a third approved ASF under development (SSC). Therefore, there are multiple points of access to lower cost surgical services in Durham County.

Based on the fact that 1) 40.4 percent of Durham County's FY2019 surgical cases were inpatient surgery cases, 2) that surgical utilization is predominantly attributed to the presence of DUH, which is a tertiary and quaternary care academic medical center teaching hospital, and 3) the presence of three existing and approved ASFs in Durham County, a comparison of patient access to lower cost ambulatory surgery services may be of little value in this Durham County OR comparative analysis.

### **Geographic Accessibility**

The existing and approved Durham County ORs (Duke University Hospital, Duke Regional Hospital, DASC, Arrington ASC, NCSH, and SSC) are located within five miles of each other in the city of Durham. Durham is a city in and the county seat of Durham County. The city is approximately 108 square miles.

DUHS proposes to develop two additional ORs at Arrington ASC, which is located in Triangle Township in southern Durham. SSC proposes to develop four additional ORs at its approved ASF at 7810 NC 751 Hwy, Durham, in Triangle Township, in southern Durham. DUHS proposes to add two additional hospital-based ORs at Duke North Pavilion, 2400 Pratt Street, Durham, two blocks north of DUH. Each proposal will develop incremental ORs within the Durham city limits. Both the Triangle and Durham Townships have existing and/or approved ambulatory surgical services available. Therefore, with regard to geographic access, generally speaking, the proposals are equally effective.

UNC-RTP identified two parcels for its proposed facility: Parcel Numbers 154107 and 154112. Research Triangle Park is not a city, but it has a special Durham postal substation - Research Triangle Park, NC 27709. It exists in a special county district, serviced by Durham utilities.<sup>3</sup> As described later in this document, UNC-RTP fails to document it can develop an acute care hospital on either of the proposed sites. Therefore, UNC-RTP cannot be an effective alternative.

### **Historical Utilization**

Generally, the application submitted by the applicant with the highest utilization of its available surgical services is the more effective alternative with regard to this comparative factor.

DUH is the only existing facility with at least one complete fiscal year of historical utilization proposing to develop ORs. Neither SSC nor UNC-Rex are existing facilities and as such have no historical utilization.

NCSH is a member of SSC. NCSH currently provides surgical services at its existing hospital in Durham. Further, while both DUHS and NCSH offer surgical services within Durham County, DUHS has the highest projected system-wide deficit of ORs out of any applicants in this competitive review. While a projected system-wide deficit or surplus of ORs is not a factor in whether or not an applicant can demonstrate conformity with applicable statutory and regulatory review criteria, a projected system-wide deficit of ORs can, in certain situations, indicate higher historical utilization than a projected system-wide surplus of ORs. In this specific situation, DUHS's projected system-wide deficit of 2.49 ORs does indicate a higher historical utilization level than NCSH's system-wide deficit of only 1.04 ORs.

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<sup>3</sup> <https://www.discoverdurham.com/blog/research-triangle-park-overview/>



Therefore, with regard to historical utilization, the DUH and Arrington ASC applications are more effective alternatives, and UNC-RTP and SSC are less effective alternatives.

### **Competition (Patient Access to a New or Alternative Provider)**

Generally, the application proposing to increase patient access to a new provider in the service area is the more effective alternative with regard to this comparative factor.

DUHS acknowledges its status as an existing provider of surgical services in Durham County. SSC proposes to develop additional four ORs at its approved ASF in Durham. In Section A, page 5 of its previously approved application, the applicant states that North Carolina Specialty Hospital, LLC has ownership of SSC. In Section A.9, page 8 of its previously approved application, the applicant states that SSC will have an operating agreement with Surgery Partners which has ownership in NCSH. Therefore, though SSC is approved to develop a new ambulatory surgical facility; it does not constitute a new provider of surgical services for Durham County and its proposed project will not enhance patient access to a new or alternate provider.

Neither DUHS nor SSC propose access to a new provider of surgical services in Durham County. Therefore, with regard to introducing a new provider of surgical services in Durham County, generally speaking, the applications are equally effective.

As described later in this document, UNC-RTP fails to document it can develop an acute care hospital with four ORs on either of the proposed sites. Therefore, UNC-RTP cannot be an effective alternative.

### **Access by Service Area Residents**

On page 50, the 2021 SMFP defines the service area for ORs as "...the service area in which the room is located. The operating room service areas are the single or multicounty groupings as shown in Figure 6.1." Figure 6.1, on page 55, shows Durham County as a single county OR service area. Thus, the service area for this facility is Durham County. Facilities may also serve residents of counties not included in their service area. Generally, the application projecting to serve the highest percentage of Durham County residents is the more effective alternative with regard to this comparative factor since the need determination is for 4 additional ORs to be located in Durham County.

However, the OR need determination methodology is based on utilization of all patients that inpatient and ambulatory surgical services in the Durham County service area and is not based on patients originating from Durham County. Further, Durham County is an urban county and the sixth most populous county in the state. Durham County hosts a large academic health care system plus numerous smaller healthcare groups.

Considering these facts and the Agency's determination in the 2020 Mecklenburg County OR Review, DUHS believes that in this specific instance, attempting to compare the applicants based on the projected OR access of Durham County residents has little value.

### **Access By Underserved Groups**

Underserved groups are defined in G.S. 131E-183(a)(13) as follows:

*“Medically underserved groups, such as medically indigent or low income persons, Medicaid and Medicare recipients, racial and ethnic minorities, women, and handicapped persons, which have traditionally experienced difficulties in obtaining equal access to the proposed services, particularly those needs identified in the State Health Plan as deserving of priority.”*

For access by underserved groups, applications are compared with respect to three underserved groups: charity care patients (i.e., medically indigent or low-income persons), Medicare patients and Medicaid patients. Access by each group is treated as a separate factor.

The Agency may use one or more of the following metrics to compare the applications:

- Total charity care, Medicare or Medicaid patients
- Charity care, Medicare or Medicaid admissions as a percentage of total patients
- Total charity care, Medicare or Medicaid dollars
- Charity care, Medicare or Medicaid dollars as a percentage of total gross or net revenues
- Charity care, Medicare or Medicaid cases per OR

Which of the above metrics the Agency uses is determined by whether or not the applications included in the review provide data that can be compared as presented above and whether or not such a comparison would be of value in evaluating the alternative factors.

*Projected Charity Care*

The following table compares projected charity care in the third full fiscal year following project completion for the applicants.

**Projected Charity Care – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Charity Care per Case	Form F.2b	% of Gross Revenue
	Total Charity Care	Surgical Cases		Gross Revenue	
DUH	\$96,180,322	43,857	\$2,193	\$2,912,069,681	3.3%
Arrington ASC	\$1,009,053	6,943	\$145	\$96,057,222	1.1%
UNC-RTP*	\$11,230,929	2,238	\$5,018	\$156,537,382	7.2%
SSC	\$345,474	6,803	\$51	\$54,837,066	0.6%

Sources: Forms C and F.2 for each applicant

\*UNC does not provide separate financial projections for inpatient surgical services. Projected financial information is for all inpatients, including those who do not utilize surgical services.

In Section L, page 77, DUHS states it defines charity care as free or discounted care provided to persons in medical need who are unable to financially afford or pay for their care, and who do not qualify for public or private assistance.

UNC does not define charity care in Section L. On page 117, UNC states the estimated number of charity care patients at UNC Hospitals-RTP is based on the FY 2019 and 2020 combined percentage of UNC Health Durham County self-pay and Medicaid patients that received services with no payment applied to the projected number of self-pay and Medicaid patients at UNC Hospitals-RTP. However, in the assumptions immediately following Forms F.2 and F.3 (page 162), UNC states projected charity care is the difference between projected gross and projected net revenue for self-pay patients. The assumptions on pages 117 and 162 are not consistent. UNC's projection of charity care as a percent of gross revenue (7.2%) is exceedingly high, especially for a small community hospital as proposed. Conflicting assumptions regarding how charity care is projected make it impossible to determine whether the applicants project charity care based on similar assumptions.

Further, even if the applicants had provided pro forma financial statements in a manner that would allow the Agency to compare reasonably similar kinds of data, differences in the acuity level of patients at each facility, the level of care (specialty ASF, community hospital, and quaternary care academic medical center) at each facility, and the number and types of surgical services proposed by each of the facilities would make any comparison of little value.

*Projected Medicare*

The following table compares projected access by Medicare patients in the third full fiscal year following project completion for all the applicants in the review.

**Projected Medicare Revenue – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Medicare Rev. per Case	Form F.2b	% of Gross Revenue
	Total Medicare Revenue	Surgical Cases		Gross Revenue	
DUH	\$1,302,112,452	43,857	\$29,690	\$2,912,069,681	44.7%
Arrington ASC	\$46,112,874	6,943	\$6,642	\$96,057,222	48.0%
UNC-RTP*	\$73,550,330	2,238	\$32,864	\$156,537,382	47.0%
SSC	\$24,304,014	6,803	\$3,573	\$54,837,066	44.3%

Sources: Forms C and F.2 for each applicant

\*UNC does not provide separate financial projections for inpatient surgical services. Projected financial information is for all inpatients, including those who do not utilize surgical services.

Based on the differences in presentation of pro forma financial statements, one cannot make a valid comparison for purposes of evaluating which application was more effective with regard to this comparative factor. UNC does not provide separate financial projections for surgical services. While DUH provides financial information for surgical services, UNC’s projected financial information is for all inpatients, including those who do not utilize surgical services.

Due to differences in the acuity level of patients at each facility, the level of care (specialty ASF, community hospital, and quaternary care academic medical center) at each facility, and the number and types of surgical services proposed by each of the facilities would make any comparison of little value.

*Projected Medicaid*

The following table compares projected access by Medicaid patients in the third full fiscal year following project completion for all the applicants in the review.

**Projected Medicaid Revenue – 3rd Full FY**

Applicant	Form F.2b	Form C.1b	Avg Medicaid Rev. per Case	Form F.2b	% of Gross Revenue
	Total Medicaid Revenue	Surgical Cases		Gross Revenue	
DUH	\$423,316,953	43,857	\$9,652	\$2,912,069,681	14.5%
Arrington ASC	\$3,766,802	6,943	\$543	\$219,738,783	1.7%
UNC-RTP*	\$21,436,582	2,238	\$9,578	\$219,738,784	9.8%
SSC	\$3,161,607	6,803	\$465	\$219,738,785	1.4%

Sources: Forms C and F.2 for each applicant

\*UNC does not provide separate financial projections for inpatient surgical services. Projected financial information is for all inpatients, including those who do not utilize surgical services.

Based on the differences in presentation of pro forma financial statements, one cannot make a valid comparison for purposes of evaluating which application was more effective with regard to this comparative factor. UNC does not provide separate financial projections for surgical services. While DUH provides financial information for surgical services, UNC’s projected financial information is for all inpatients, including those who do not utilize surgical services.

Additionally, due to differences in the acuity level of patients at each facility, the level of care (specialty ASF, community hospital, and quaternary care academic medical center) at each facility, and the number and types of surgical services proposed by each of the facilities would make any comparison of little value.

**Projected Average Net Revenue per Surgical Case**

The following table shows the projected average net surgical revenue per surgical case in the third year of operation for each of the applicants, based on the information provided in the applicants’ pro forma financial statements (Section Q). Generally, the application proposing the lowest average net revenue is the more effective alternative regarding this comparative factor since a lower average may indicate a lower cost to the patient or third-party payor.

**Projected Average Net Revenue per Patient – 3rd Full FY**

Applicant	Form C.1b	Form F.2b	Average Net Revenue per Case
	Surgical Cases	Net Revenue	
DUH	43,857	\$865,679,841	\$19,739
Arrington ASC	6,943	\$39,153,846	\$5,639
UNC-RTP*	2,238	\$61,765,209	\$27,598
SSC	6,803	\$18,909,333	\$2,780

Sources: Forms C and F.2 for each applicant

\*UNC does not provide separate financial projections for inpatient surgical services. Projected financial information is for all inpatients, including those who do not utilize surgical services.

Based on the differences in presentation of pro forma financial statements, one cannot make a valid comparison for purposes of evaluating which application was more effective with regard to this comparative factor. UNC does not provide separate financial projections for surgical services. While DUH provides financial information for surgical services, UNC’s projected financial information is for all inpatients, including those who do not utilize surgical services.

Additionally, due differences in the acuity level of patients and the level of care (quaternary care academic medical center and community hospital) at each facility, a comparison of projected revenue net revenue per case is inconclusive.

**Projected Average Operating Expense per Case**

The following table shows the projected average operating expense per patient in the third full fiscal year following project completion for each facility. Generally, the application projecting the lowest average operating expense per patient is the more effective alternative with regard to this comparative factor to the extent it reflects a more cost-effective service which could also result in lower costs to the patient or third-party payor.

**Projected Average Operating Expense per Patient – 3rd Full FY**

Applicant	Form C.1b	Form F.2b	Average Operating Expense per Case
	Case	Operating Expense	
DUH	43,857	\$1,182,568,353	\$26,964
Arrington ASC	6,943	\$28,247,694	\$4,069
UNC-RTP*	2,238	\$56,803,980	\$25,382
SSC	6,803	\$15,467,192	\$2,274

Sources: Forms C and F.2 for each applicant

\*UNC does not provide separate financial projections for inpatient surgical services. Projected financial information is for all inpatients, including those who do not utilize surgical services.

Based on the differences in presentation of pro forma financial statements, one cannot make a valid comparison for purposes of evaluating which application was more effective with regard to this comparative factor. UNC does not provide separate financial projections for surgical services. While DUH provides financial information for surgical services, UNC’s projected financial information is for all inpatients, including those who do not utilize surgical services.

Additionally, due differences in the acuity level of patients and the level of care (quaternary care academic medical center and community hospital) at each facility, a comparison of projected operating expense per case is inconclusive.

**Summary**

The following table lists the comparative factors and states which application is the more effective alternative.

<b>Comparative Factor</b>	<b>DUH</b>	<b>Arrington ASC</b>	<b>UNC-RTP</b>	<b>SSC</b>
Conformity with Review Criteria	Yes	Yes	No	No
Scope of Services	<b>Most Effective</b>	Less Effective	Not Approvable	Not Approvable
Geographic Accessibility	<b>Equally Effective</b>	<b>Equally Effective</b>	Not Approvable	Not Approvable
Access to Lower Cost Surgical Services	Less Effective	<b>Most Effective</b>	Not Approvable	Not Approvable
Historical Utilization	<b>More Effective</b>	<b>More Effective</b>	Less Effective	Less Effective
Enhance Competition	<b>Equally Effective</b>	<b>Equally Effective</b>	Not Approvable	Not Approvable
Access by Service Area Residents	Not Evaluated	Not Evaluated	Not Evaluated	Not Evaluated
Access by Underserved Groups				
Projected Charity Care	Inconclusive	Inconclusive	Inconclusive	Inconclusive
Projected Medicare	Inconclusive	Inconclusive	Inconclusive	Inconclusive
Projected Medicaid	Inconclusive	Inconclusive	Inconclusive	Inconclusive
Projected Average Net Revenue per Case	Inconclusive	Inconclusive	Inconclusive	Inconclusive
Projected Average Operating Expense per Case	Inconclusive	Inconclusive	Inconclusive	Inconclusive

UNC-RTP's application fails to conform with all applicable statutory and regulatory review criteria, thus, it cannot be approved. In addition, UNC-RTP's application fails to measure more favorably for the aforementioned comparative factors.

SSC's application fails to conform with all applicable statutory and regulatory review criteria, thus, it cannot be approved. In addition, SSC's application fails to measure more favorably for the aforementioned comparative factors.

With regard to ORs, the applications submitted by DUH and Arrington ASC are comparatively superior and should be approved as submitted.



**COMMENTS SPECIFIC TO UNC HOSPITALS-RTP (UNC-RTP)  
PROJECT ID No. J-012065-21**

**Criterion 1** *“The proposed project shall be consistent with applicable policies and need determinations in the State Medical Facilities Plan, the need determination of which shall constitute a determinative limitation on the provision of any health services, health service facility, health service beds, dialysis stations, operating rooms, or home health offices that may be approved.”*

**POLICY GEN-3: BASIC PRINCIPLES** states:

*“A certificate of need applicant applying to develop or offer a new institutional health service for which there is a need determination in the North Carolina State Medical Facilities Plan shall demonstrate how the project will promote safety and quality in the delivery of health care services while promoting equitable access and maximizing healthcare value for resources expended. A certificate of need applicant shall document its plans for providing access to services for patients with limited financial resources and demonstrate the availability of capacity to provide these services. A certificate of need applicant shall also document how its projected volumes incorporate these concepts in meeting the need identified in the State Medical Facilities Plan as well as addressing the needs of all residents in the proposed service area.”*

UNC-RTP fails to conform with Criterion 1 and Policy GEN-3 because the application is not conforming to all other applicable statutory and regulatory review criteria and thus, is not approvable. The applicant does not adequately demonstrate that the proposal is its least costly or most effective alternative to meet the need. See discussion regarding criteria 3, 4, 5, 6, 12, and 18a. Therefore, the application is not conforming to this criterion and cannot be approved.

**Criterion 3** *“The applicant shall identify the population to be served by the proposed project and shall demonstrate the need that this population has for the services proposed, and the extent to which all residents of the area, and, in particular, low income persons, racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups are likely to have access to the services proposed.”*

**Patient Origin**

On pages 39-41, UNC provides projected patient origin for the proposed service components and the proposed UNC-RTP facility. UNC projects 90 percent of patients to be served by the proposed new acute care hospital will be residents of Durham County. UNC states on page 38, “[p]rojected patient origin for UNC Hospitals-RTP is based on the patients proposed to be served as identified in Form C Assumptions and Methodology. As detailed in the Form C Assumptions and Methodology, Durham County residents are expected to comprise 90 percent of projected UNC Hospitals-RTP utilization and the remaining 10 percent of patients are assumed to originate from outside of the county as immigration.”

As the foundation for its patient origin projections, “UNC Hospitals projects that the proposed facility’s share in FY 2029...will be equivalent to just 75 percent of the CY 2017 to 2019 average UNC Health share by service.”<sup>4</sup>

However, UNC’s share assumption and resulting projections are not reasonable based on the information provided in the DHSR 2020 Patient Origin and 2020 Facility reports for acute care inpatient services. The facility report shows that 4,180 Durham County residents sought acute care inpatient services outside Durham County in FY2019. Of these patients, 2,934 Durham County residents were acute care inpatients at UNC Health Care facilities in FY2019, or approximately 70 percent (2,934 ÷ 4,180).

**Durham County Acute Care Inpatient Admissions Served at UNC Health Care Facilities, FY2019**

<b>UNC Facility</b>	<b>Durham County Acute Care Inpatient Admissions</b>	<b>% of Total</b>
<b>UNC Hospitals</b>	<b>2,557</b>	<b>87.2%</b>
UNC REX Hospital	357	12.2%
Johnston Health	10	0.3%
UNC Lenoir	3	0.1%
Wayne UNC	3	0.1%
Nash UNC	2	0.1%
UNC Rockingham	1	0.0%
Pardee UNC Health	1	0.0%
Onslow Memorial Hospital	0	0.0%
Caldwell UNC Health	0	0.0%
Chatham Hospital	0	0.0%
Total UNC Health Care Durham Co. Acute Care IP Admissions	2,934	100.0%
Total Out-Migrating Durham Co. Acute Care IP Admissions	4,180	

The facility report shows that of the 2,937 Durham County residents who were UNC Health Care patients outside Durham County, 2,557 were patients at UNC Hospitals, or over 87 percent (2,557 ÷ 2,934).<sup>5</sup> UNC Hospitals is a 900-bed public academic teaching hospital and tertiary and quaternary care medical center.

The assumption that 75 percent of UNC Health’s share of the identified potential days of care in Durham County will now seek care at the proposed UNC-RTP facility is highly specious. Patient origin data from FY2019 prove less than 13 percent of the total number of Durham County patients seeking care at a UNC Health Care facility went anywhere other than UNC Hospitals in Chapel Hill/Hillsborough. As stated on page 53 of UNC’s application, “UNC Medical Center in Chapel Hill and UNC REX Hospital in Raleigh are both less than 15 miles away from the location of the proposed new hospital.” Thus, despite having equivalent geographic access to UNC Hospitals and UNC REX Hospital, UNC Health Care patients from

<sup>4</sup> UNC-RTP application, Section Q page 5

<sup>5</sup> 61 percent of all out-migrating Durham County patients sought care at UNC Hospitals (2,557 ÷ 4,180)

Durham County overwhelmingly elect to utilize UNC Hospitals, most likely to access the highly specialized services offered at UNC Hospitals. There is no reason to assume three-fourths of selected UNC Health Care patients from Durham County will now elect to seek care at the proposed UNC-RTP facility that will not offer the same scope of services of either UNC Hospitals or even UNC Rex.

Consequently, the assumptions and methodology for the number of Durham County patients to be served at UNC-RTP is flawed. UNC does not provide data to adequately support its assumption related to the number of Durham County patients served by the proposed UNC-RTP facility.

### **No Need for a New Community Hospital in Durham County**

UNC describes the need for its proposed new 40-bed acute care hospital based, in part, on the absence of *“a hospital that is designed and operated to serve the local community, which can also expand and add services as patient needs grow and evolve.”*<sup>6</sup> UNC is equivocally incorrect in stating *“Durham County does not have a full service Community Hospital.”*<sup>7</sup> In fact, Duke Regional Hospital (DRH) is owned by Durham County and has been operated as a community hospital since 1976. As plainly stated on its website, DRH provides *“outstanding medical care with compassionate, personalized service in a **comfortable community hospital setting**. Duke Regional Hospital has 369 inpatient beds and offers a comprehensive range of medical, surgical and diagnostic services, including orthopedics, weight loss surgery, women's services, and heart and vascular services.”* DRH's vision is *“To be the best **community hospital**.”*<sup>8</sup> For information purposes, page 62 of DUH's acute care bed application (J-012069-21) also identifies DRH as a community hospital. Therefore, to the extent UNC's analysis of need is premised on lack of a full service community hospital located in Durham County, such presumption is unfounded. Furthermore, a review of acute care utilization and access to acute care beds nullifies UNC's purported need for what would be Durham County's second community hospital.

The 2021 SMFP acute care bed need methodology is based on utilization of all patients that utilize acute care beds in the Durham/Caswell County service area and is not based on patients originating from Durham and Caswell Counties. Indeed, according to the 2020 General Acute Care Inpatient Services Patient Origin Report based on patient origin by county of service, only 34.23 percent of acute care admissions in Durham County are residents of Durham County and 0.55 percent are residents of Caswell County.<sup>9</sup> This is because Durham County hosts DUH, a Level I trauma center, tertiary and quaternary care academic medical center. DUH is ranked nationally in numerous specialties by US News and World Report and is ranked as the best hospital in the state. The growth in DUH utilization which drove the need determination for additional acute care beds and ORs reflects these existing state and regional referral patterns. This dynamic is evident upon review of the ratio of acute care beds and ORs per population in Durham County compared to the most populous counties in the state.

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<sup>6</sup> UNC-RTP application, page 47

<sup>7</sup> UNC-RTP application, page 47

<sup>8</sup> <https://www.dukehealth.org/hospitals/duke-regional-hospital/about>

<sup>9</sup> [https://info.ncdhhs.gov/dhsr/mfp/pdf/por/2020/01-Destination\\_Acute-2020.pdf](https://info.ncdhhs.gov/dhsr/mfp/pdf/por/2020/01-Destination_Acute-2020.pdf)

<b>Ratio of Population to Acute Care Beds</b>			
<b>County</b>	<b>2021 Population</b>	<b>Acute Care Beds</b>	<b>Population/Bed</b>
Mecklenburg	1,138,138	2,490	457
Wake	1,117,556	1,547	722
Guilford	539,491	1,061	508
Forsyth	382,388	1,761	217
Cumberland	333,323	589	566
<b>Durham</b>	<b>324,586</b>	<b>1,388</b>	<b>234</b>

<b>Ratio of Population to Operating Rooms</b>			
<b>County</b>	<b>Population</b>	<b>ORs</b>	<b>Population/OR</b>
Mecklenburg	1,138,138	194	5,867
Wake	1,117,556	125	8,940
Guilford	539,491	90	5,994
Forsyth	382,388	109	3,508
Cumberland	333,323	35	9,524
<b>Durham</b>	<b>324,586</b>	<b>96</b>	<b>3,381</b>

Sources: North Carolina Office of State Budget & Management, 2021 SMFP

As compared to the six most populous counties in North Carolina, Durham County has the second-lowest ratio of population: acute care bed and the lowest ratio of population: OR. That is to say, Durham County residents maintain comparatively enhanced access than the five most populous counties in the state.

Notably, Forsyth County, which has the lowest ratio of population: acute care bed and the second lowest ratio of population: ORs, is also host to a nationally recognized, fully integrated academic medical center and health system (i.e., Wake Forest Baptist Health). Thus, this data supports the conclusion that acute care utilization in Durham County and corresponding bed need is driven by tertiary and quaternary care services and not community hospital services.

Moreover, specific to access to community hospital services, there is significant available acute care bed capacity at DRH. According to the 2021 SMFP, DRH had an average daily census (ADC) of 192 during FY2019, which equates to an occupancy rate of 60.6 percent. As set forth in the 2021 SMFP acute care bed need methodology, DRH has a projected surplus of 39 acute care beds. Accordingly, the need for 40 beds reflects the aggregated need for the Duke University Health System total, which further underscores the need to expand access at DUH to increase capacity for its quaternary/academic services, and not in a community hospital setting. UNC did not provide information that indicates the existing community hospital in Durham County is experiencing capacity constraints or is unable to provide adequate hospital services to the population in the acute care service area.

Considering these facts, UNC fails to demonstrate the need the population has for the proposed new 40-bed community hospital.

**No Geographic Need for an Additional Community Hospital in Durham County**

On page 47 of its application, UNC states “to facilitate data analysis and planning, UNC hospitals has divided Durham County into three regions.” In the context of attempting to demonstrate need for a new community hospital in Durham County, UNC’s geographic analysis is duplicitous and grossly exaggerated.

Durham County is ranked 84 out of 100 with respect to land area. That is, 83 of North Carolina’s 100 counties have greater land areas compared to Durham County. According to US Census data, Durham County maintains the 4<sup>th</sup> highest population density of North Carolina’s 100 counties. The principal cities of Durham County include Durham and Raleigh; however, Raleigh is primarily located in Wake County. Durham County towns include Chapel Hill and Morrisville; however, Chapel Hill is primarily located in Orange County and Morrisville is primarily located in Wake County. Research Triangle Park is not a city, rather it has a special Durham postal substation - Research Triangle Park, NC 27709. RTP exists in a special county district, serviced by Durham utilities.<sup>10</sup> Therefore, the city of Durham is the principal municipality for the acute care bed service area. Durham (city) already hosts a community hospital, i.e., DRH. As described previously, there is available acute care bed capacity at DRH. Based on these facts, the utility of dividing Durham County into three regions to demonstrate acute care bed need is useless.

Moreover, upon review of UNC’s analysis, it is evident the regions are jerrymandered to suit UNC’s position. As shown on page 50 of UNC’s application, the UNC-defined south region, where UNC proposes to develop UNC-RTP, hosts over 52 percent of Durham County’s total zip code population.

**Durham County Population by UNC-Defined Region**

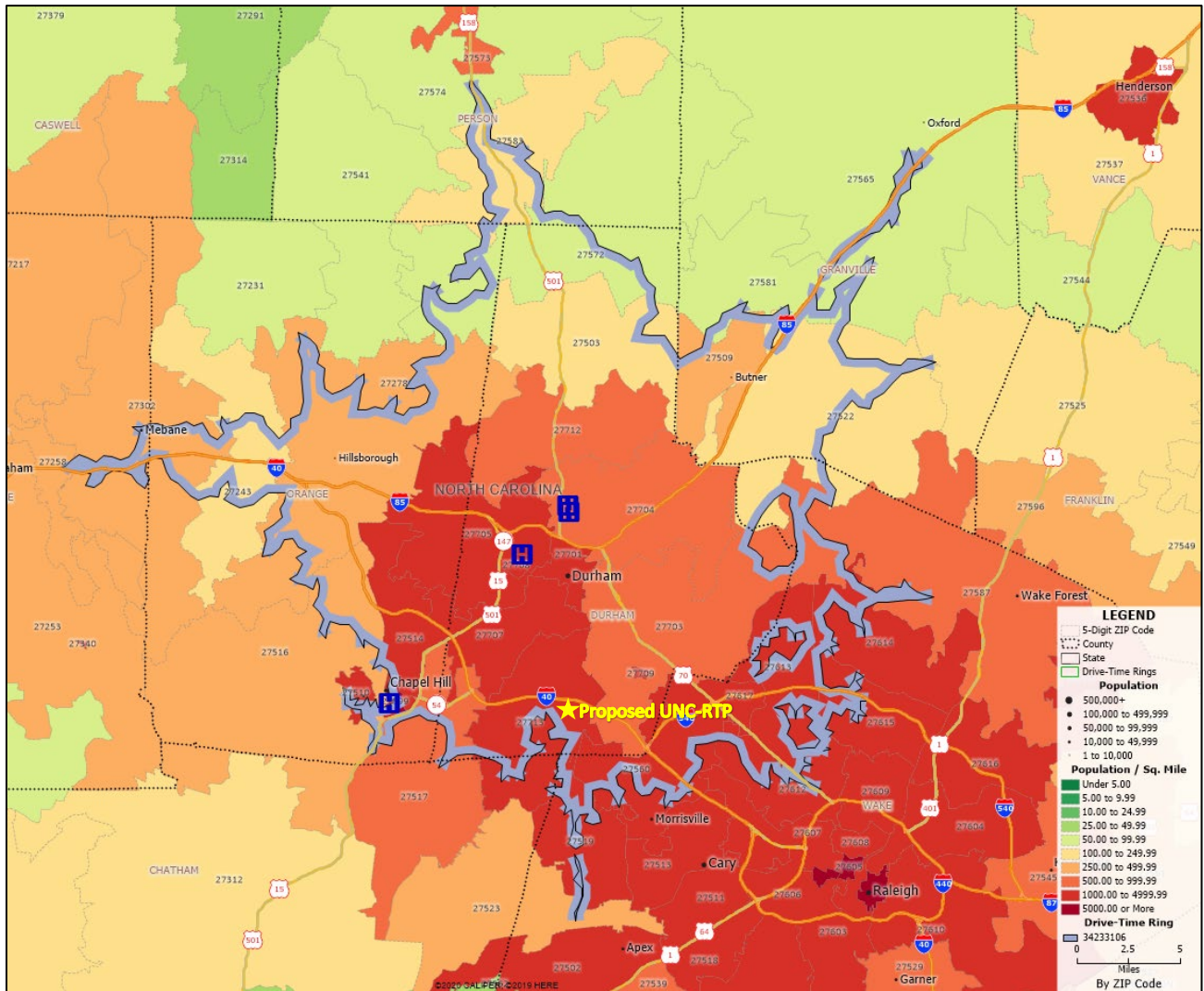
Region	2020 Population	% of Subtotal
South	165,824	52.6%
Central/West	80,152	25.4%
North	69,416	22.0%
<b>Subtotal</b>	<b>315,392</b>	

Source: UNC-RTP application, page 50

The notion that Durham County should be divided into three regions to assess need is bizarre. The city of Durham encompasses each of the purported regions identified by UNC. Moreover, residents from throughout Durham County currently have access to community hospital services at DRH, as well as urgent care and outpatient surgical services at other locations in the county, including the southern “region.” The following map depicts the 2021 Durham County population density by zip code layered with a 20-minute drive time from DRH.

<sup>10</sup> <https://www.discoverdurham.com/blog/research-triangle-park-overview/>

**2021 Population Density by Zip Code & 20-Minute Drive Time from DRH**



As the previous map clearly portrays, Durham County residents currently have access to community hospital services via DRH. Based on the facts previously described, UNC’s failed to demonstrate the need Durham County has for a new community hospital.

**Assumptions for Projecting Utilization at UNC-RTP**

Acute Days of Care

In Section Q, Form C Assumptions and Methodology, page 5, UNC states UNC-RTP’s FY2029 market share will be equivalent to 75 percent of UNC’s overall average acute care market share for the UNC-RTP potential days of care for Durham County residents during CY2017-CY2019. There are several problems with this assumption.

First, the average UNC market share of UNC-RTP potential days of care for Durham County residents during CY2017-CY2019 does not appropriately reflect the significant decrease in market share during CY2019. As shown in the following table from page 5 of UNC’s Form C assumptions and methodology, UNC experienced an overall decrease in market share during CY2019.

**UNC Health Share of UNC Hospitals-RTP  
Potential Days of Care for Durham County Residents**

	<b>CY17</b>	<b>CY18</b>	<b>CY19</b>	<b>CAGR</b>
Medicine	8.2%	8.7%	8.5%	<b>1.8%</b>
Surgery	13.0%	11.6%	11.7%	<b>-5.1%</b>
Obstetrics	14.9%	16.7%	15.3%	<b>1.3%</b>
Total	10.2%	10.5%	10.1%	<b>-0.5%</b>

Source: Section Q, Form C Assumptions and Methodology, page 5

UNC experienced a negative CAGR (i.e., loss) of more than five percent in its share of potential surgery days of care for Durham County residents, and an overall negative CAGR of 0.5 percent during CY2017-CY2019. However, UNC failed to provide any explanation for the decrease in market share during CY2019. UNC also failed to adequately demonstrate why it is reasonable to assume its market share of selected Durham County acute care days will not continue to decrease during future years.

Next, UNC assumes UNC-RTP will achieve 75 percent of the CY2017-CY2019 average UNC share of potential days of care for Durham County residents by service. However, as described previously, UNC’s share assumption and resulting projections are not reasonable based on the information provided in the DHSR 2020 Patient Origin and 2020 Facility reports for acute care inpatient services. The facility report shows that 4,180 Durham County residents sought acute care inpatient services outside Durham County in FY2019. Of these patients, 2,934 Durham County residents were acute care inpatients at UNC Health Care facilities in FY2019, or approximately 70 percent ( $2,934 \div 4,180$ ).

The facility report shows that of the 2,934 Durham County residents who were UNC Health Care patients outside Durham County, 2,557 were patients at UNC Hospitals, or over 87 percent ( $2,557 \div 2,934$ ). UNC Hospitals is a 900-bed public academic teaching hospital and tertiary and quaternary care medical center.

The assumption that 75 percent of UNC Health’s share of the identified potential days of care in Durham County will now seek care at the proposed UNC-RTP facility is highly specious. Patient origin data from FY2019 prove less than 13 percent of the total number of Durham County patients seeking care at a UNC Health Care facility went anywhere other than UNC Hospitals. As stated on page 53 of UNC’s application, *“UNC Medical Center in Chapel Hill and UNC REX Hospital in Raleigh are both less than 15 miles away from the location of the proposed new hospital.”* Thus, despite having equivalent geographic access to UNC Hospitals and UNC REX Hospital, UNC Health Care patients from Durham County overwhelmingly elect to utilize UNC Hospitals, most likely to access the highly specialized services offered at UNC Hospitals. There is no reason to assume three-fourths of selected UNC Health Care patients from Durham County will now elect to seek care at the proposed UNC-RTP facility.

On page 53 of its application, UNC states “numerous existing physician practices in Durham county are part of UNC Health or UNC Health Alliance, many of which are located in the south region.” However, UNC identified only five practices in Durham County. Please see the following table.

**UNC Health Physician Practices in Service Area**

Practice Name	# of Providers
UNC Family Medicine Center at Southpoint	10 Providers
UNC Family Medicine Center at Durham	9 Providers
Carolina Advanced Health	5 Providers
UNC Cardiology at Southpoint	1 Provider
Southpoint Family Medicine*	*
Southwest Durham Family Medicine	1 provider

\*Upon review of the respective websites, Southpoint Family Medicine is the same practice as UNC Family Medicine at Southpoint. UNC erroneously duplicated the practice using a different name.

Source: UNC-RTP application, page 53

Of the “significant number of physicians” referenced in its application, UNC only identified only 26 providers affiliated with UNC Health or UNC Health Alliance in Durham County. This is woefully insufficient to justify the assumption that 75 percent of UNC’s share of selected Durham County patients will utilize the proposed UNC-RTP facility.

For the foregoing reasons, the assumptions and methodology for the number of Durham County patients to be served at UNC-RTP is flawed. UNC does not provide data to adequately support its assumption related to the number of Durham County patients served by the proposed UNC-RTP facility.

ED Utilization Assumptions

In Section Q, Form C Assumptions and Methodology, page 9, UNC states “[a]ccording to Truven data, in CY 2019, 61.4 percent of Durham County resident acute care discharges within the services expected to be provided by UNC Hospitals-RTP were admitted through the ED. Consistent with that historical experience for the county, UNC Hospitals projects that 61.4 percent of its projected acute care discharges, as shown in the section above, will be admitted through the ED.”

UNC’s ED admission assumption and resulting projections are not reasonable based on the information provided in the DHSR 2020 Patient Origin and 2020 Facility reports for ED visits. The facility report shows that 114,428 Durham County residents sought ED services FY2019. Of these patients, 47,016 Durham County residents were ED patients at DRH in FY2019, or approximately 41 percent (41,486 ÷ 114,428). DRH is a community hospital located in Durham County. According to DRH’s 2020 License Renewal Application (see pages 5 and 8), 8,987 patients were admitted through the ED, or approximately 56 percent of its acute care discharges (8,987 ÷ 15,952). This is much lower compared to UNC’s assumption



that 61.4 percent of acute care discharges. UNC failed to provide any explanation regarding the reasonableness of its stated projection in light of actual data available for the existing community hospital in Durham County, i.e., DRH. Given the UNC's assumption Durham County resident acute care discharges exclude high acuity services, it is questionable that such a comparatively high percentage of UNC-RTP acute care patients will originate through the ED.

*Surgical Utilization Assumptions*

UNC's inpatient surgical utilization is premised on its acute care surgery days of care and resulting discharges. UNC projects that it will perform one inpatient surgical case for each inpatient surgery discharge. However, as previously described, UNC-RTP's projected acute care surgery days of care and discharges are unreasonable. UNC experienced a negative CAGR (i.e., loss) of more than five percent in its share of potential surgery days of care for Durham County residents during CY2017-CY2019. UNC failed to provide any explanation for the decrease in market share during CY2019. UNC also failed to adequately demonstrate why it is reasonable to assume its market share of selected Durham County acute care days will not continue to decrease during future years. The projected surgery days of care and discharges are unreliable. Therefore, the projected inpatient surgical cases are similarly unreliable and not supported.

UNC projects outpatient surgical utilization based on a ratio of 1.5 hospital-based outpatient surgical cases to inpatient surgical cases. However, inpatient surgical utilization is not based on reasonable and supported assumptions. Therefore, outpatient utilization is similarly unreliable.

For these reasons, UNC does not demonstrate that projected utilization is reasonable and adequately supported. If projected utilization is not reasonable and adequately supported, the applicant has failed to fulfill its burden of demonstrating the need it has to develop the project. Consequently, the UNC-RTP application does not conform to Criterion 3.

**Criterion 4** *"Where alternative methods of meeting the needs for the proposed project exist, the applicant shall demonstrate that the least costly or most effective alternative has been proposed."*

The UNC-RTP application does not conform to all other applicable statutory and regulatory review criteria and thus, is not approvable. An application that cannot be approved cannot be an effective alternative. The applicant does not adequately demonstrate that the proposal is its least costly or most effective alternative to meet the need. Therefore, the application is not conforming to this criterion and cannot be approved. See discussion regarding criteria 1, 3, 5, 6, 12, and 18a.

**Criterion 5** *"Financial and operational projections for the project shall demonstrate the availability of funds for capital and operating needs as well as the immediate and long-term financial feasibility of the proposal, based upon reasonable projections of the costs of and charges for providing health services by the person proposing the service."*

Based on the facts described in these written comments specific to Criterion 3 (incorporated herein by reference), these same facts result in the UNC-RTP application being non-conforming to Criterion 5.

UNC-RTP's assumptions regarding its payor mix and collection rate are also unreasonable. For example, it projects that more than 10% of patients will reflect workers' compensation and TRICARE, driven by an extraordinarily high and unexplained percentage of such patients receiving outpatient imaging. UNC-RTP also anticipates a collection percentage of 35.3%, which is unreasonably high especially in light of the high percentage of projected self-pay patients.

**Criterion 6** *"The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities."*

UNC-RTP did not demonstrate that the proposed additional OR would not duplicate existing or approved services health service capabilities or facilities. See discussion regarding Criterion 3.

**Criterion 12** *"Applications involving construction shall demonstrate that the cost, design, and means of construction proposed represent the most reasonable alternative, and that the construction project will not unduly increase the costs of providing health services by the person proposing the construction project or the costs and charges to the public of providing health services by other persons, and that applicable energy saving features have been incorporated into the construction plans."*

In Section K, page 107, UNC states that the project involves constructing 189,838 square feet of new space for the proposed UNC-RTP hospital. However, UNC does not adequately demonstrate that the cost, design, and means of construction represents the most reasonable alternative based on numerous issues associated with the viability of the primary and alternate sites.

#### Proposed Primary Site

In identifying the proposed site, UNC states on page 109 "[a] street address has not yet been assigned. The proposed facility will be located at the convergence of North Carolina Highway 54 and North Carolina Highway 147 (also referred to as the Triangle Expressway) on Parcel Numbers 154107 and 154112."

Page 110 of the application acknowledges the primary site would require rezoning to accommodate a hospital. However, the rezoning will require not only Durham County approval but also compliance with the applicable covenants and restrictions affecting Research Triangle Park to which the site is subject, attached to these comments. As set forth at p. 11, the Permitted Uses of this space do not include healthcare and would require the approval of the Research Triangle Foundation Board, which includes members representing all of the area universities as well as community leaders. To DUHS's knowledge, there has not been a vote of the Board approving any necessary changes, or even a formal application by UNC for such approval. Notably, the Board has historically denied all rezoning applications to allow for health care facilities. In fact, DUHS is informed and believes that UNC has previously asked for permission to put a healthcare facility on the RTP campus itself, which was denied. It is therefore far from certain that UNC's current plan will achieve the required approval to fundamentally change the permitted use of the identified site.

Moreover, even if the primary site were to receive the requisite approvals, the application makes clear that UNC has not properly accounted for other potential issues that could make the site non-viable or financially infeasible. For example, the application states that "a downstream sewer capacity study **will**

**be conducted** to ensure the downstream sewer system is not over capacity” (see application, p. 111, emphasis added), yet does not address what would happen if the system is over capacity.

When a primary site has not yet achieved the necessary zoning approval – and circumstances indicate that such rezoning is not necessarily likely, let alone guaranteed – it is essential that an applicant provide sufficient information about an alternative site. In this case, however, UNC’s alternative site is similarly not a feasible alternative for the proposed facility.

#### Alternate Site

UNC identified an alternative site at 1801-1807 US Highway 70. However, that site has even more fundamental obstacles to development than the primary site. While UNC represents that the alternative site would not require rezoning, according to the Durham GIS the vast majority of the land currently falls outside of the Durham City limits and is zoned RR (rural residential district <https://durham.municipal.codes/UDO/4.2.1> ) and RS-20 (residential suburban districts <https://durham.municipal.codes/UDO/4.2.2> ). The future Durham land use map outlines a potential for commercial rezoning (see <https://durhamnc.gov/DocumentCenter/View/1171/Future-Land-Use-Map-PDF>) but this tract is currently not zoned commercial and will require a rezoning process, which was not accounted for in the application. According to Durham municipal code, a hospital is not allowed in RR or RS zoned areas. <https://durham.municipal.codes/UDO/5.1.2>

The bigger issue, however, is that the alternate site will be rendered unavailable for the proposed use by a NCDOT project in planning stages regarding Highway 70 (U-5720) (see <https://www.ncdot.gov/projects/us-70-durham/Pages/default.aspx> and <https://connect.ncdot.gov/projects/planning/STIPDocuments1/NCDOT%20Current%20STIP.pdf>). This information was readily available at the time of the application. NCDOT representatives have recently expressly confirmed that this project, while previously suspended as currently stated on the DOT website, was restarted in March 2021 for finalization of alternatives, environmental impacts, and right of way purchase. While the specific intersection design that will impact this property has not been finalized, the only two alternatives under consideration both have the freeway going through the UNC proposed alternative site.

This four lane freeway project runs directly through UNC’s alternative site, consuming much of the property, bisecting the property into two smaller remaining parts and cutting off its current access , thus rendering it no more usable than its primary site for a hospital. In addition, a cursory review of the property reveals high voltage lines with large right of way setbacks, a creek, potential wetlands, a protected watershed area, and a proposed public greenway trail through the property; all of which would further affect UNC’s ability to develop the property for a hospital, even without the DOT project.

Based on the facts previously described regarding the primary and alternate sites, UNC cannot demonstrate that its proposal can be developed as described. Neither site is feasible for the proposed hospital. Therefore, UNC cannot demonstrate that the cost, design, and means of construction represent the most reasonable alternative for the proposal, and the application is accordingly non-conforming to Criterion 12.

**Criterion 18a** *“The applicant shall demonstrate the expected effects of the proposed services on competition in the proposed service area, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed; and in the case of applications for services where competition between providers will not have a favorable impact on cost-effectiveness, quality, and access to the services proposed, the applicant shall demonstrate that its application is for a service on which competition will not have a favorable impact.”*

Based on the facts which result in UNC-RTP being non-conforming with Criteria 1, 3, 4, 5, 6, and 12 it should also be found non-conforming with Criterion 18a.

**10A NCAC 14C .2103**

The UNC-RTP application does not conform to 10A NCAC 14C .2103 because projected surgical utilization is not based on reasonable and adequately supported assumptions. See discussion regarding projected utilization in Criterion 3.

**10A NCAC 14C .3803**

The UNC-RTP application does not conform to 10A NCAC 14C .3803 because projected acute care bed utilization is not based on reasonable and adequately supported assumptions. See discussion regarding projected utilization in Criterion 3.

**COMMENTS SPECIFIC TO SOUTHPOINT SURGERY CENTER (SSC)  
PROJECT ID No. J-012052-21**

**Criterion 1** *“The proposed project shall be consistent with applicable policies and need determinations in the State Medical Facilities Plan, the need determination of which shall constitute a determinative limitation on the provision of any health services, health service facility, health service beds, dialysis stations, operating rooms, or home health offices that may be approved.”*

**POLICY GEN-3: BASIC PRINCIPLES** states:

*“A certificate of need applicant applying to develop or offer a new institutional health service for which there is a need determination in the North Carolina State Medical Facilities Plan shall demonstrate how the project will promote safety and quality in the delivery of health care services while promoting equitable access and maximizing healthcare value for resources expended. A certificate of need applicant shall document its plans for providing access to services for patients with limited financial resources and demonstrate the availability of capacity to provide these services. A certificate of need applicant shall also document how its projected volumes incorporate these concepts in meeting the need identified in the State Medical Facilities Plan as well as addressing the needs of all residents in the proposed service area.”*

SSC fails to conform with Criterion 1 and Policy GEN-3 because the application is not conforming to all other applicable statutory and regulatory review criteria and thus, is not approvable. The applicant does not adequately demonstrate that the proposal is its least costly or most effective alternative to meet the need. See discussion regarding criteria 3, 4, 5, 6, and 18a. Therefore, the application is not conforming to this criterion and cannot be approved.

**Criterion 3** *“The applicant shall identify the population to be served by the proposed project and shall demonstrate the need that this population has for the services proposed, and the extent to which all residents of the area, and, in particular, low income persons, racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups are likely to have access to the services proposed.”*

SSC failed to demonstrate that its projected surgical utilization is based on reasonable and supported assumptions.

Growth of ambulatory surgical cases at NCSH

SSC’s methodology uses ambulatory surgical growth rates that are not reasonable and adequately supported. Step 1 of the NCSH and SSC methodology and assumptions in Section Q (CON-122) states NCSH OR utilization is based on the *“assumption of 2 percent annual growth due to population growth, high patient satisfaction, physician recruitment, the implementation of the hospital’s emergency department.”* While it is not explicitly described, the projected two percent growth rate presumably applies to both inpatient and outpatient surgical cases. Upon review of NCSH’s historical inpatient and outpatient surgical cases, the projected growth rate of two percent is inconsistent with its historical

inpatient and outpatient surgical growth rates. Table 2 summarizes inpatient and outpatient surgical cases performed at NCSH during FY2015-FY2018.

**North Carolina Specialty Hospital  
 Inpatient & Outpatient Surgical Cases, FY2015-FY2019**

	FY2015	FY2016	FY2017	FY2018	FY2019	2-YR CAGR	3-YR CAGR	4-YR CAGR
Inpatient	1,597	1,629	1,649	1,528	1,588	-1.87%	-0.85%	-0.14%
Outpatient	3,737	3,606	3,724	3,344	4,128	5.28%	4.61%	2.52%
Total	5,334	5,235	5,373	4,872	5,716	3.14%	2.97%	1.74%

Source: Hospital License Renewal Applications; CON-115

Inpatient surgical utilization at NCSH has been unstable during recent years. The 2-year, 3-year, and 4-year CAGRs each reflect negative growth rates. NCSH failed to explain in its application, as submitted, why it is reasonable to assume inpatient surgical utilization will increase by two percent annually despite an ongoing trend of decreasing utilization. Moreover, NCSH’s 2021 hospital license renewal application documents that NCSH had provided zero emergency department visits in the year ending September 30, 2020, so any reliance on increasing ED services to drive surgical volume is unwarranted.

Projected shift of ambulatory surgical cases from NCSH to SSC

DUHS acknowledges it is reasonable to project a shift of a percentage of ambulatory surgical cases from a hospital-based setting to a new freestanding ASC. However, the projected shifts are based on unrealistic overall growth projections as previously described. Additionally, SSC failed to provide any supporting information in its application as submitted to demonstrate the reasonableness of its annual projected percentage of ambulatory surgery cases that will shift from NCSH to SSC.

DUHS would note that SSC states on page 53 of its application, “[s]ince the time the previous application Project ID # J-11626-18 was submitted, NCSH has maintained the ongoing recruitment of additional surgical specialists. Project ID # J-11626-18 was issued its CON certificate on March 25, 2020. NCSH and Southpoint intend to recruit additional surgeons including a spine surgeon (who may be either a neurosurgeon or an orthopedic spine surgeon).” It is important to note that SSC’s methodology for projecting surgical utilization for previously approved project was premised upon the recruitment of 25 additional surgeons. CON does not regulate physician recruitment; thus, the timing of SSC’s CON certificate has no bearing on NCSH’s ability to recruit additional physicians. Page 47 vaguely describes “continued growth in the NCSH medical staff”; however, the SSC application lacks any detail of the specific progress of physician recruitment in comparison to the previously stated commitment of recruiting 25 additional surgeons.

For these reasons, SSC’s utilization projections are not reasonably and adequately supported. Therefore, the SSC application does not conform to Criterion 3.

**Criterion 4** *“Where alternative methods of meeting the needs for the proposed project exist, the applicant shall demonstrate that the least costly or most effective alternative has been proposed.”*

The SSC application is not conforming to all other applicable statutory and regulatory review criteria and thus, is not approvable. An application that cannot be approved cannot be an effective alternative.

The applicant does not adequately demonstrate that the proposal is its least costly or most effective alternative to meet the need. Therefore, the application is not conforming to this criterion and cannot be approved. See discussion regarding criteria 1, 3, 5, 6, and 18a.

**Criterion 5** *“Financial and operational projections for the project shall demonstrate the availability of funds for capital and operating needs as well as the immediate and long-term financial feasibility of the proposal, based upon reasonable projections of the costs of and charges for providing health services by the person proposing the service.”*

Based on the facts described in these written comments specific to Criterion 3 (incorporated herein by reference), these same facts result in the SSC application being non-conforming to Criterion 5.

**Criterion 6** *“The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities.”*

SSC did not adequately demonstrate that its proposal would not result in unnecessary duplication of surgical services in Durham County. Specifically, SSC did not adequately demonstrate in its application that the new ORs it proposes to develop are needed, and that it will not unnecessarily duplicate the existing and approved ORs in Durham County. See discussion regarding projected utilization in Criterion 3. Therefore, the SSC application is nonconforming to Review Criterion 6.

**Criterion 18a** *“The applicant shall demonstrate the expected effects of the proposed services on competition in the proposed service area, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed; and in the case of applications for services where competition between providers will not have a favorable impact on cost-effectiveness, quality, and access to the services proposed, the applicant shall demonstrate that its application is for a service on which competition will not have a favorable impact.”*

Based on the facts which result in SSC being non-conforming with Criteria 1, 3, 4, 5, and 6, it should also be found non-conforming with Criterion 18a.

#### **10A NCAC 14C .2103**

The SSC application does not conform to 10A NCAC 14C .2103 because projected surgical utilization is not based on reasonable and adequately supported assumptions. See discussion regarding projected utilization in Criterion 3.

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WAKE COUNTY, NC 343  
LAURA M RIDDICK  
REGISTER OF DEEDS  
PRESENTED & RECORDED ON  
08/29/2014 AT 14:29:23

BOOK:015768 PAGE:02175 - 02239

FOR REGISTRATION  
Willie L. Covington  
REGISTER OF DEEDS  
Durham County, NC  
2014 AUG 29 01:24:36 PM  
BK: 7559 PG: 1-64  
DECLARATION  
FEE: \$222.00  
INSTRUMENT # 2014026612



*Prepared by and return after recording to:*  
Michael G. Winters  
Ellis & Winters LLP  
Post Office Box 33550  
Raleigh, North Carolina 27636

WAKE AND DURHAM COUNTIES

NORTH CAROLINA

(CORRECTED)  
**AMENDED AND RESTATED CONDITIONS, COVENANTS,  
RESTRICTIONS AND RESERVATIONS  
AFFECTING THE RESEARCH TRIANGLE PARK**

THIS (CORRECTED) AMENDED AND RESTATED DECLARATION (this "Declaration") is made as of this 29<sup>th</sup> day of August, 2014, by The Research Triangle Foundation of North Carolina (successor in interest to the Pinelands Company, Inc.), hereinafter referred to as the "Foundation" and The Research Triangle Park Owners and Tenants Association, an unincorporated association, hereinafter referred to as the "Association," for the purpose of replacing and superseding that certain Amended and Restated Conditions, Covenants, Restrictions and Reservations Affecting the Research Triangle Park recorded in Book 7515, Page 459, in the Office of the Register of Deeds, Durham County, North Carolina Book, and Book 15698, Page 823 in the Office of the Register of Deeds, Wake County, North Carolina and, which declaration, although materially the same as this Declaration failed to include final revisions approved by the Foundation, the Association and its members as hereinafter described. Accordingly, the Foundation and the Association hereby record this Declaration in the place and stead of the previously recorded declaration described above, said previously recorded declaration being of no further force or effect as of the recording of this Declaration.



**BACKGROUND:**

The Foundation desires hereby to amend and restate the "Original Covenants," as hereinafter defined, in their entirety. The Association joins in the execution of this Declaration for the purpose of confirming that at a meeting of its members held on March 7, 2013, duly called for the purpose of considering amending and restating the Original Covenants, this Declaration was approved by at a favorable vote of at least a majority of the votes cast, as required in order to amend the Original Covenants.

NOW, THEREFORE, the Foundation, with the favorable votes of a majority of the Association, hereby amends and restates the Original Covenants in their entirety and provides that the provisions of this Declaration hereafter shall govern the rights and obligations of any person or entity now owning or hereafter acquiring an interest in The Research Triangle Park, as hereinafter defined. The Research Triangle Park hereafter shall be held, sold, conveyed, encumbered, used, occupied, developed and improved subject to the following covenants, conditions and restrictions, all of which are declared to be in furtherance of a plan for the development of The Research Triangle Park as a "Research and Production Service District" pursuant to the Act, as hereinafter defined, and which shall run with the land and be binding on all parties having any right, title or interest in The Research Triangle Park or any part thereof, their heirs, successors and assigns, and shall all inure to the benefit of each owner of any interest therein.

**AMENDED AND RESTATED DECLARATION**

**ARTICLE I**  
**DEFINITIONS**

When used in this Declaration, unless the context shall prohibit or require otherwise, the following words shall have all the following meanings, and all definitions shall be applicable to the singular and plural forms of any such term(s):

"Act" shall mean and refer to N.C. Gen. Stat. § 153A-311 *et seq.* which govern the establishment and maintenance of county research and production service districts, as such statutory provisions may be amended from time to time.

"Association" shall mean and refer to The Research Triangle Park Owners and Tenants Association.

"Appropriate Registry" shall mean, for all instruments affecting The Research Triangle Park in general or any Tract located in both counties, the Office of the Register of Deeds for Durham County, North Carolina, and the Office of the Register of Deeds for Wake County, North Carolina, and for instruments affecting a single Tract located in only one county, "Appropriate Registry" shall mean the Register of Deeds for the County in which the subject property is located.

“Approval of the Association” shall have the meaning set forth in of Article IV, Section 4 hereof.

“Foundation” shall mean and refer to The Research Triangle Foundation of North Carolina, a North Carolina non-profit corporation, successor in interest to the Pinelands Company, Inc.

“Improvements” shall mean and refer to any building or other improvement which may affect the appearance of The Research Triangle Park, including, but not limited to, any building, garage, driveway, wall, fence, parking area, walkway, antenna, greenhouse, curbing, paving, grading, landscaping, irrigation system, signage, or any temporary trailer.

“Individual Residential Tract” shall mean any Tract on which is located one (1) single family residential dwelling.

“Mortgagee” shall mean and refer to the holder of a mortgage, deed to secure debt, deed of trust, or other transfer or conveyance that encumbers a Tract for the purpose of securing the performance of an obligation.

“Original Covenants” shall mean and refer to the covenants, supplements and amendments described on Exhibit A, attached hereto and incorporated herein by reference.

“Occupant” shall mean and refer to any Person lawfully occupying any portion of The Research Triangle Park, including, without limitation, any Owner or Tenant, or any agent, contractor, employee, guest, invitee, licensee, lessee (or sublessee, as the case may be) of any Owner or Tenant.

“Owner” shall mean and refer to the owner(s) as shown on the real estate records of the Appropriate Registry, whether it be one or more Persons, of fee simple title to any Tract within The Research Triangle Park, but shall not mean any Mortgagee, its successors or assigns, unless and until such Mortgagee has acquired title pursuant to foreclosure or deed in lieu thereof; the term “Owner” may include the Foundation, but shall not mean or refer to any Tenant of an Owner. In addition, and notwithstanding the foregoing, with respect to any Tract that is subject to an Ownership Regime, the “owners’ association” formed thereby shall be the “Owner” hereunder with respect to such Tract for the purpose of providing any written consent or approval required to be obtained from the “Owner” of such Tract and for the purpose of receiving any notice required to be given to the “Owner” of such Tract, including, without limitation, for the purpose of obtaining the consents and approvals required pursuant to Sections 3 and 4 of Article X hereof.

“Ownership Regime” shall mean and refer to the ownership structure established pursuant to any declaration or covenants recorded in the Appropriate Registry that provide for an association of the owners of the property subject to such declaration or covenants and for the payment of assessments by the owners to such owners’ association, including, without limitation, any ownership structure established in accordance with the North Carolina Condominium Act

(Chapter 47C of the North Carolina General Statutes) or the North Carolina Planned Community Act (Chapter 47F of the North Carolina General Statutes). If the declaration or covenants that establish an Ownership Regime give the owners' association the right to cast on behalf of the Owners and Tenants of the property subject to the Ownership Regime any votes such Owners and Tenants otherwise would be entitled to cast hereunder, such votes will be calculated as if the property subject to the Ownership Regime had only one Owner. If the declaration or covenants establishing an Ownership Regime do not give the owners' association the right to cast on behalf of the Owners and Tenants of the property subject to the Ownership Regime any votes such Owners and Tenants otherwise would be entitled to cast hereunder, the membership and voting rights, if any, of each such Owner and Tenant shall be evaluated without regard to the existence of such ownership regime, and any "common property" or "common elements" of the ownership regime, whether owned directly by the owners' association or in common by the owners of the property subject to the ownership regime, shall be disregarded for the purpose of such evaluation.

"Person" shall mean and refer to a natural person, corporation, partnership, limited liability company, association, proprietorship, trust or any other legal entity.

"Tenant" shall mean and refer to any Person who has or Persons who have entered into a written agreement to lease from an Owner all or any portion of such Owner's Tract, but shall not mean or refer to a ground lessee of any Tract or portion of a Tract.

"The Research Triangle Park" shall mean and refer to all of the property described on Exhibit B, attached hereto and incorporated herein by this reference, together with any additions thereto pursuant to the terms of this Declaration.

"Tract" shall mean and refer to any portion of The Research Triangle Park, whether improved or unimproved, which may be independently owned, conveyed, developed and used for research and other purposes consistent with this Declaration.

## **ARTICLE II** **PROPERTY SUBJECT TO THIS DECLARATION**

Section 1. Property Subject to this Declaration. The Research Triangle Park shall be held, transferred, leased, subleased and occupied subject to the conditions, covenants, restrictions and reservations set forth herein. The Research Triangle Park consists of all of the property described in the "Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Research Triangle Foundation of North Carolina With Portions known as the Research Triangle Park and with Portions known as the Research Applications Park I and Research Applications Park II" recorded in Book 1035, Page 685, in the Office of the Register of Deeds, Durham County, North Carolina, and in Book 3679, Page 26, in the Office of the Register of Deeds, Wake County, North Carolina, SAVE AND EXCEPT therefrom all of the property described on Exhibit A to that certain Declaration of Removal of Territory From the Service District and Declaration of Covenants recorded in Book 6366, Page 315, in the Office of the Register of Deeds, Durham County, North Carolina, and in Book 13766, Page 1572, in the Office of the Register of Deeds, Wake County, North Carolina.

Section 2. Additions of Property to The Research Triangle Park. The Foundation reserves the right to subject to this Declaration any additional property that now or hereafter becomes a part of The Research Triangle Park's "Research and Production Service District" established pursuant to the Act (the "Service District"). Any such addition shall be effective upon the filing of a supplement to this Declaration in the Appropriate Registry, which supplement shall be executed by or on behalf of the Foundation and the Owner(s) of the property, if not owned by the Foundation, and shall make reference to this Declaration and describe the added property with particularity.

Section 3. Withdrawals of Property from The Research Triangle Park. The Foundation reserves the right to withdraw from this Declaration any property subject to this Declaration that has been removed from the Service District. Any such withdrawal shall be subject to the Approval of the Association and shall be effective upon the filing of a supplement to this Declaration in the Appropriate Registry, which supplement shall be executed by or on behalf of the Foundation and the Owner(s) of the property, if not owned by the Foundation, and shall make reference to this Declaration and describe the withdrawn property with particularity.

### **ARTICLE III PURPOSE**

The properties described in Article II above are subject to the conditions, covenants, restrictions and reservations hereby declared for the following purposes:

- (a) To establish The Research Triangle Park as an area accommodating research, scientifically-oriented production, technology, education, and associated commercial, residential or institutional purposes or other permitted operations and activities which can benefit from proximity to and collaboration with North Carolina State University, the University of North Carolina at Chapel Hill, and Duke University (the "Founding Universities"), with the express purpose of furthering the development of the State of North Carolina.
- (b) To develop The Research Triangle Park with a harmonious and aesthetically pleasing character which will ensure that it is a continuing asset to The Research Triangle area and to the State of North Carolina.
- (c) To ensure adequate and reasonable development of The Research Triangle Park.
- (d) To ensure proper, desirable use and appropriate development and improvement of each Tract within The Research Triangle Park.
- (e) To protect the Owners and Tenants against improper and undesirable use of surrounding Tracts that may depreciate the value of their properties.

(f) To encourage the erection and maintenance of Improvements that are of a consistently high quality and style, and that are appropriately located to enhance the appearance of The Research Triangle Park.

(g) To ensure and maintain proper setbacks from streets and adequate open spaces between structures.

(h) In general, to provide for a high type and quality of Improvements within The Research Triangle Park.

#### **ARTICLE IV THE ASSOCIATION**

Section 1. Formation. The Association was formed pursuant to the Original Covenants. The Association shall provide the mechanism through which the Owners and Tenants, in accordance with the terms of this Declaration, may contribute to the administration of the covenants, conditions and restrictions contained herein. The Association may enact bylaws or other procedures to govern the conduct of its affairs.

Section 2. Membership and Voting Rights. Every Owner of a Tract in Research Triangle Park that is used in whole or in part for any Permitted Use described in Article VI, Section 1 herein shall be a member of the Association. Any Owner of a Tract that is used exclusively for one or more ancillary uses pursuant to Article VI, Section 2 (including residential uses) and any Owner of an Individual Residential Tract shall not, by virtue of such ownership, be a member of the Association. In all instances the voting rights, if any, of an Owner who is a Member of the Association shall be limited as set in Article IV, Section 3 below, and membership in the Association, in and of itself, shall not entitle an Owner to a vote with respect to Association matters. In addition, any Tenant entitled to vote pursuant to Section 3 below shall be a member of the Association. The Foundation shall only be a member with respect to the Tract on which its headquarters is located, and with respect to any Tract on which the Foundation develops Improvements or owns Improvements for any purpose other than a ground lease. Neither the Foundation nor its affiliate, The Triangle Service Center, Inc., shall have voting rights, except pursuant to the Foundation's membership rights with respect to the Tract on which its headquarters is located, and for any Tract on which the Foundation or Triangle Service Center develops Improvements or owns Improvements other than for a ground lease.

Section 3. Voting Rights. The voting rights of the members of the Association shall be as follows:

(a) The Owner or Owners of each Tract whose use complies with the Permitted Uses of Article VI, Section 1, and whose Improvements have been completed and such Improvements have received a certificate of occupancy, shall be entitled to cast two (2) votes for each acre of land contained in the Tract and not leased, and one (1) vote for each acre of land contained in the Tract that is leased to one or more Tenants. In calculating the acreage of a Tract for the purpose of this Section 3, the acreage of any natural area preserve property assigned to or allocated to a Tract shall be included in the total acreage of that Tract, and the total acreage of each Tract shall be rounded to the

nearest whole acre (*i.e.*, acreage between 2 and 2.5 is rounded to 2 and acreage equal to or greater than 2.5, but less than 3 is rounded to 3).

(b) If an Owner of a Tract leases the Improvements on that Tract to a single Tenant whose use complies with the Permitted Uses of Article VI, Section 1, that Tenant shall be entitled to cast one (1) vote for each acre of land in the Tract;

(c) If an Owner of a Tract leases the Improvements on that Tract to more than one Tenant whose use complies with the Permitted Uses of Article VI, Section 1, for the purpose of determining any votes such Tenants are entitled to cast, the acreage of the Tract shall be apportioned among all Tenants based on the number of square feet leased by the Tenant relative to the total leased square footage, and each Tenant shall be entitled to cast one (1) vote for each acre of land so apportioned to that Tenant.

(d) The votes that otherwise would be allocated hereunder to the Owners of a Tract that has been subjected to an Ownership Regime shall be cast on behalf of such Owners by the owners' association established pursuant to such Ownership Regime. The Association shall be entitled to conclusively rely on any oral or written representation and any certificate and written statement of any Person purporting to be an officer of such an owners' association, except to the extent that at the time given the officers of the Association have actual knowledge that such Person is not an officer of the owners' association or that the representation, certificate or statement given is false. Any votes cast by an Ownership Regime may be apportioned as directed by the Ownership Regime. A Tenant of all or any portion of a Tract to which one (1) acre or more of land is apportioned shall be entitled to vote in accordance with the provisions of subsections (b) and (d) of this Section 3.

(e) If a ground lessee leases or subleases any portion of its leasehold estate to a Tenant or Tenants whose use complies with the Permitted Uses of Article VI, Section 1, the Tenant or Tenants who occupy the Improvements are deemed to be the voting Tenant(s) with votes to be allocated consistent to subparagraphs (b) and (c) of this Section 3, unless the Tenants otherwise agree in a writing submitted to and approved by the Association. The ground lessee of any Tract shall be entitled to the votes that would otherwise be assigned to the Owner of that Tract. In the event the ground lessor is the Foundation, The Triangle Service Center, Inc., or another entity that would not be eligible for the votes of an Owner, the ground lessee shall nevertheless be entitled to the votes of an Owner as if the ground lessee owned the Tract in fee.

(f) For the purpose of participating as a member of the Association and for the purpose of exercising voting rights of the Association, the person in charge of the facilities or operations located on the Tract subject to this Declaration shall be deemed to have the authority to act for and on behalf of the person, firm or corporation which is the actual Owner or Tenant hereunder.

(g) Notwithstanding anything to the contrary contained herein, in the event the Owner's or Tenant's use of Improvements on a Tract are partially Permitted Uses pursuant to Article VI, Section 1 and partially ancillary uses pursuant to Article VI,

Section 2, the acreage eligible for votes by the Owner or Tenant shall be calculated by dividing the square footage within the portion of the Improvements used for Permitted Uses pursuant to Article VI, Section 1 by the total square footage of Improvements on the Tract and multiplying the resulting percent by the total acreage on the Tract.

Except through an Ownership Regime, no Owner or Tenant of a Tract containing less than one acre of land shall be entitled to a vote, and no Tenant whose proportionate voting right would result in its having less than one (1) vote shall be entitled to any vote.

Section 4. Membership Vote. Except as otherwise expressly provided herein, the decisions, approvals, consents and other actions of the Association shall require the affirmative vote of at least a majority of the votes cast by the voting members of the Association at a meeting of the Association duly called for the purpose, singularly or among other, of conducting such vote (the "Approval of the Association").

Section 5. United States Government Exempt. Should the United States Government be either an Owner or a Tenant, it shall not be entitled to membership or voting rights in the Association. The United States Government shall not be bound by the bylaws of the Association or any regulations adopted by the Association. Notwithstanding the preceding, upon conveyance, transfer, termination or other surrender of the ownership or tenancy rights of the United States Government, any subsequent Owner or Tenant, who would otherwise be eligible for membership or voting rights for that Tract, shall be a member in the Association and have voting rights as determined by this Article IV.

#### **ARTICLE V** **ARCHITECTURAL REVIEW**

Section 1. Board of Design. The Board of Design shall be composed of five (5) members, three (3) of whom are appointed by the Association and two (2) of whom are appointed by the Foundation. The members of the Board of Design need not be members of the Association or their employees or representatives. Each member shall serve a one year term. The Board of Design shall promulgate bylaws and operating procedures for the conduct of its affairs. Such bylaws shall provide for reasonable notice to each Board of Design member prior to any meeting, shall provide that three (3) members of the Board of Design shall constitute a quorum and that actions of the Board of Design will be by majority vote of those members in attendance at any meeting at which there is a quorum present.

Section 2. Standards and Guidelines. The establishment of strict objective requirements relating to design, appearance, size and location of buildings and other structures would make it difficult to take full advantage of the individual characteristics of each Tract and of technological advances and environmental values. In order to implement the purposes of these covenants, however, the Board of Design may, but shall not be obligated to, establish and amend from time to time objective standards and guidelines for The Research Triangle Park or specified areas within The Research Triangle Park. Any such standards or guidelines proposed by the Board of Design shall be submitted to the Association for approval. If approved by the Association such standards and guidelines shall be binding on the Owners and Tenants of The Research Triangle

Park or the affected portions thereof with respect to any Improvements thereafter erected and may include, without limitation, the following:

(a) Architectural Standards and Construction Specifications which may establish, define, and expressly limit those standards and specifications which will be approved for the construction or alterations of Improvements within The Research Triangle Park or a specified area thereof.

(b) Parking Guidelines which may establish standards and specifications for adequate vehicular circulation areas, including areas for the parking of automobiles and trucks off public or private streets.

(c) Uniform Sign Standards which may establish standard design, distribution and location criteria for all signs, as well as the maximum number, maximum area and maximum height of signs and signs which shall be prohibited within The Research Triangle Park.

(d) Lighting Guidelines may regulate the erection, maintenance and operation of lighting fixtures within The Research Triangle Park, including but not limited to the location, size, color, design and hours of operations of such fixtures.

(e) Landscape Guidelines which may establish approved standards, methods, and procedures for landscape management within The Research Triangle Park.

Notwithstanding anything to the contrary contained herein, any Improvements existing at the time of adoption of standards and guidelines shall be "grandfathered" and shall not be subject to application of the standards and guidelines except to the extent such Improvements are modified at a future date.

Section 3. Controls. Except as otherwise provided herein to the contrary, no Improvement shall be erected, constructed or placed and no Improvements shall be altered (by addition or deletion) in such a way as to change the exterior appearance of such Improvements, on any portion of The Research Triangle Park, until the plans and specifications therefor, in such form and detail as the Board of Design may require pursuant to policies and procedures from time to time adopted and promulgated by it, shall have been submitted to and approved in writing by the Board of Design in accordance with the procedures set forth below. Maintenance, repairs, and replacements that do not alter the exterior appearance of a Tract, seasonal landscaping, maintenance or renovation of existing landscaping and the removal and/or replacement of dead or diseased trees or shrubs shall not require the prior approval of the Board of Design.

Notwithstanding the preceding, any Improvements that have been approved by the Board of Design prior to the date of recordation of this Declaration shall be deemed approved and shall not be subject to any additional review or approval, except to the extent the plans and specifications for such Improvements are modified from the time of initial approvals.



(a) Plan Review – Any Improvement that is required to be submitted to the Board of Design pursuant to this Section shall not be commenced until building plans, specifications, exterior color or finish, plot plan (showing the proposed location of such building or structure, any roof-mounted equipment, drives, and parking areas) and landscaping plan shall have been approved in writing by the Board of Design. The Board of Design shall review such plans and specifications and shall in writing approve, suggest modifications to, or reject such plans.

(b) Submission of Plans and Specifications - Any Owner desiring to obtain approval for the construction or alteration of Improvements located or to be located within The Research Triangle Park shall submit to the Board of Design plans and specifications therefor. The plans and specifications submitted to the Board of Design shall contain such detail and information as the Board of Design may from time to time specify, and, as directed by such Board, may be required to include:

(i) Preliminary or final architectural plans for the proposed building or buildings.

(ii) A site plan for traffic engineering analysis, showing location and design of buildings, driveways, driveway intersections with streets, parking areas, loading areas, maneuvering areas and sidewalks.

(iii) A grading plan and a planting plan, including screen walls and fences, for analysis of adequacy of visual screening, erosion control and landscape architectural design.

(iv) A site plan showing utilities and utility easements, including any waste disposal fields.

(v) An estimate of the maximum number of employees contemplated for the proposed development and timing of shifts during which they would work.

(vi) Plans for all signs to be erected, including details of a sign's location, design, color and lighting.

(vii) A description of proposed operations in sufficient detail to describe any noise, odor, glare, vibration, smoke, dust, gases, hazard of fire and explosion, radiation, radioactivity, electrical radiation, liquid wastes, or other performance characteristic that may impact neighboring Tracts.

(viii) Engineering and architectural plans for the solution of any problem indicated by item (vii) above.

(ix) Any other information reasonably required in order to ensure compliance with requirements contained herein.

(c) Notice to Adjoining Property Owners of Submitted Plans – Upon receipt of plans and specifications pursuant to this Section 3, the Board of Design shall give

written notice of such submission to the members of the Association that are Owners and Tenants of property located within five hundred (500) yards of the property lines of the Tract that is the subject of the plans and specifications; provided, however, that with respect to Owners of property that has been subjected to an Ownership Regime, the Board of Design shall provide such notice to the owners' association formed pursuant to the Ownership Regime rather than to the individual Owners. The notice shall only generally state the proposed improvement or alteration and the date of the meeting at which the Board of Design will review the plans and specifications.

(d) Resubmission of Plans and Specifications – If the Board of Design rejects any submission, it shall provide, on the written request of the Owner making such submission, a general written statement of the reasons for rejection and shall suggest reasonable efforts (at no cost to the Association) to aid the submitting Owner in preparing a proposal that would be acceptable to the Board of Design upon resubmission of revised plans and specifications.

Section 4. No Liability. Neither the Board of Design, the Association nor the Foundation, shall be liable in damages to anyone submitting plans and specifications to the Board of Design for approval, or to any Owner or Tenant within The Research Triangle Park, by reason of a mistake in judgment, negligence or nonfeasance arising out of or in connection with the approval or disapproval or failure to act. Every Person who submits plans to the Board of Design for approval agrees, by submission of such plans and specifications, and every Owner and Tenant within The Research Triangle Park agrees, by acquiring title thereto or interest therein, that it will not bring any action or suit against the Board of Design, the Association or the Foundation to recover such damages.

Section 5. Reimbursement of Expenses. The Board of Design may require reimbursement from any applicant for any out-of-pocket cost or expenses incurred by or on behalf of the Board of Design. Such reimbursement shall be paid to the Board of Design within ten (10) days after invoice.

## **ARTICLE VI LAND USE REGULATIONS**

Section 1. Permitted Uses. Except as otherwise provided herein, no portion of the Research Triangle Park shall be used for any purpose other than one or more of the following (each a "Permitted Use" and collectively, "Permitted Uses"):

- (a) Laboratories, offices, and related facilities used for basic and applied research, development and testing of scientifically or technologically oriented products and services.
- (b) Facilities used for production or assembly of products or services requiring a high degree of scientific or technological input.

(c) Pilot plants in which prototype production processes can be tested and used for the production or assembly of scientific or technologically oriented products or services.

(d) Corporate, regional or divisional headquarters or similar offices of science or technology-based or knowledge-driven companies and organizations.

(e) Technology-dependent or computer-based facilities dedicated to the processing of data or analysis of information.

(f) Offices and related facilities of not-for-profit research or educational institutes, as well as professional, training, research, scientific, technology, and engineering associations.

(g) Corporate and professional training facilities and/or conference centers, provided that these facilities maintain ongoing cooperative relationships with the one or more of the Founding Universities, other area institutes of higher learning or other institutions maintaining facilities in The Research Triangle Park.

(h) Facilities used for research or educational purposes by the Founding Universities or for other public or non-profit higher education purposes, including classrooms, research laboratories or administrative and office space.

(i) Any other uses or facilities reasonably related to the intended mission of The Research Triangle Park, provided these uses are specifically approved by the Foundation, pursuant to Foundation's guidelines promulgated and amended from time to time consistent with the Act (the "Use Guidelines"). The Use Guidelines may include classifications or categories of permitted uses. In establishing the Use Guidelines, the Foundation may take into account factors such as the creation of high quality employment or educational opportunities relating to or supporting scientific and technological research or production and compatibility with and support of work conducted by the Founding Universities, other area institutes of higher learning, and existing companies within The Research Triangle Park.

(j) Technology based operations involving a high degree of scientific input.

(k) Related uses incidental to the primary use of the Tract for one or more of the uses set forth in subsections (a) – (j) above.

Section 2. Ancillary Uses. The Foundation, with the approval of the Association, may allow the use of a Tract or Tracts within The Research Triangle Park for ancillary residential, commercial or institutional purposes, or for daycare, primary or secondary education. Any daycare facilities must be located either in areas where zoning allows mixed use or commercial uses, or on a Tract where the primary use is a use set forth in Article VI, Section 1. Notwithstanding the preceding, any daycare facility within the Research Triangle Park as of the date of recordation of this Declaration shall be deemed an approved ancillary use under this Section 2 as long as such facility is operated as a daycare facility. Primary and secondary education uses must be in a district reserved for mixed use or commercial areas.

In the event of an ancillary use as provided in the preceding paragraph, the Foundation shall specify with particularity the ancillary purposes that will be permitted on such Tract or Tracts and may provide for varying use restrictions on the Tract or Tracts. No such identification or designation of any ancillary use may be made without the approval of the Owner or Owners of the identified Tracts. The identification or designation of such Tracts for an ancillary use may only be made with the approval of the Association as described below.

In the event the Foundation or an Owner of a Tract proposes an ancillary use for that Tract, then all Owners or Tenants within 500 feet of the property where an Improvement will be used for such ancillary use ("Abutting Owners"), must receive notice at least ten (10) days in advance of the meeting at which the Association will consider approval of the proposed ancillary use; provided, however, that with respect to Owners of property that has been subjected to an Ownership Regime, the Foundation shall provide such notice to the owners' association formed pursuant to the Ownership Regime rather than to the individual Owners. In the event any Abutting Owner provides a written objection to the ancillary use, then the approval of the Association may only be made with sixty percent (60%) of the votes cast at the meeting approving such use. If there is no objection in writing by an Abutting Owner, then a simple majority of the votes cast at the meeting may approve such use. At such time as a Tract or Tracts has been identified or designated, the Tract or Tracts shall be approved for the uses set forth in the identification or designation and individual uses within the Tract or Tracts shall not require further approval to the extent such uses substantially conform with the initial identification or designation.

## **ARTICLE VII**

### **EXTERIOR MAINTENANCE**

Section 1. Obligation to Maintain Tracts. All Tracts and the Improvements located thereon shall be maintained in a neat and attractive manner by the Owner of the Tract, or in the case of a ground lease, by the ground lessee, as owner of the Improvements. The exterior of all Improvements must be maintained in a condition consistent with the exterior condition of other Improvements in the Research Triangle Park, exclusive of Improvements that have been damaged by casualty. Trash and debris shall be promptly removed from each Tract within a reasonable time after its location thereon. Construction debris shall be properly stored, screened and removed within a reasonable time pursuant to customary construction standards for commercial development. Undeveloped Tracts shall be maintained to avoid erosion but shall not be subject to landscaping maintenance requirements, except for purposes of health and safety of Owners and Tenants or as required by governmental regulations.

Section 2. Maintenance After Casualty. In the event of a casualty that damages or destroys any Improvements located on a Tract, the Owner of such Tract, or the ground lessee, as applicable shall initiate and diligently pursue repair, replacement, restoration or rebuilding of Improvements or shall raze Improvements as soon as reasonably possible after the casualty event. In any event, such repair, replacement, restoration, rebuilding or razing of Improvements and landscaping of the affected area to a good, attractive and sightly condition shall be completed within twelve months after the date of such damage or destruction. Notwithstanding

the foregoing, if the damaged or destroyed Improvements cannot reasonably be repaired, replaced, restored, rebuilt or razed within twelve months the owner of the Tract, or the ground lessee as applicable, shall notify the Foundation, and the Foundation shall have the authority to provide the Owner or ground lessee additional time to complete repair, replacement, restoration, rebuilding or razing of improvements.

Prior to commencing repair, replacement, restoration, rebuilding or razing of Improvements following a casualty event, the Owner or ground lessee of a Tract, as applicable, shall submit its plans for repair, replacement, restoration, rebuilding or razing of Improvements and landscaping affected areas of the Tract to the Board of Design for approval in accordance in Article V, Section 3. Subject to Article V, Section 3, the Board of Design shall approve such plans or provide suggestions for revisions to such plans for reconsideration by the Board of Design. In no event will the requirements of this paragraph prevent the Owner or ground lessee, as applicable, from taking any action it deems necessary to secure or preserve the Improvements or to make them safe following the casualty.

Notwithstanding the preceding paragraphs of this Section 2, an Owner or ground lessee shall not be obligated after a casualty to repair, replace, restore, rebuild or raze the Improvements if the damaged Improvements are not visible from an adjacent tract or from adjacent streets. If at any time the damaged Improvements become visible from an adjacent Tract or adjacent streets, then the Owner or ground lessee shall be obligated to repair, replace, restore, rebuild or raze the Improvements as provided in this Article VII, Section 2.

Section 3. Failure to Maintain. The Foundation shall provide written notice to any Owner or ground lessee of a failure to maintain a Tract as required in this Article VII. Within thirty (30) days after written notice from the Foundation of such failure, the Owner or ground lessee shall provide to Foundation a written plan outlining in detail its proposal for corrective maintenance measures, including without limitation, the time for completion of such corrective measures. In the event the proposal is not acceptable to the Foundation, the Foundation shall provide alternative requirements to the Owner or ground lessee including the deadlines for completion of the corrective measures. In the event the Owner or ground lessee fails to complete its corrective maintenance within the timeline contained within the proposal or if applicable the Foundation response to proposal, within thirty (30) days after the deadline, then the Foundation may impose a daily fine not to exceed Five Hundred Dollars (\$500.00) per day, for such continued violation against the Owner or the ground lessee for the first thirty (30) days after written notice from the Foundation. In the event the Owner or ground lessee does not maintain its Tract as required in this Article VII for a period beyond the initial thirty (30) days set forth in the preceding sentence, the Foundation may impose a daily fine not to exceed One Thousand Dollars (\$1,000.00) per day for such continued violation. Before imposing any such fines against Owners or ground lessees, a hearing shall be held before an adjudicatory panel appointed by the Foundation. The Owner, or ground lessee, if applicable, shall be given notice of the hearing and the basis of Foundation's charge, an opportunity to be heard and to present evidence, and notice of the decision of the panel. If a daily or other periodic fine is imposed it may continue without further hearing until the violation is cured. Any fines collected by the Foundation shall be used for the purpose of providing or maintaining infrastructure and Improvements within Research Triangle Park and for the reimbursement of enforcement costs,

including, without limitation, reasonable attorneys' fees. Failure by the Foundation to enforce any of the foregoing shall in no event be deemed a waiver of the right to do so thereafter. Notwithstanding the preceding, the Foundation in its discretion, may extend the time for completion or may waive the fines set forth herein in whole or in part.

Section 4. Ground Tenants of the Foundation; Tenant Maintenance Obligations Generally. Any tenant (a "Foundation Ground Tenant") leasing from the Foundation one or more Tracts for an initial term of at least three (3) years shall be required to fulfill the maintenance obligations imposed by the terms of Article VII in the place and stead of the Foundation; and accordingly shall be required to reimburse the Foundation for any work performed in accordance with this Article and the Foundation shall be entitled to a claim of lien with respect on the Foundation Ground Tenant's leasehold interest. Nothing herein, however, shall be construed to modify or replace any term or provision of any existing lease between the Foundation, as landlord, and any Foundation Ground Tenant.

Section 5. Property Owned or Otherwise to be Maintained by an Owners' Association. To the extent that any owners' association formed in accordance with the North Carolina Condominium Act (Chapter 47C of the North Carolina General Statutes) or the North Carolina Planned Community Act (Chapter 47F of the North Carolina General Statutes) fails to maintain any property owned by such owners' association or fails to maintain other property that such owners' association is required by covenants of record or by law to maintain, all required notices to the "Owner" pursuant to this Article VII shall be deemed delivered to the Owner(s) if delivered to the owners' association. All liability hereunder for any failure to maintain such property shall extend to both the owners' association and to each individual owner of property that is subject to assessment by such owners' association.

#### **ARTICLE VIII REPURCHASE RIGHTS**

Section 1. Right of First Refusal. Each Owner of any Tract other than an Individual Residential Tract and each subsequent Owner of any Tract other than an Individual Residential Tract, by acceptance of a deed or other instrument conveying title to such property, hereby grants to the Foundation a right of first refusal with respect to The Research Triangle Park on the following terms and conditions:

1.1 If at any time during the Offer Period (as hereinafter defined), an Owner receives and is willing to accept a bona fide offer from a third party to purchase a Tract owned by the Owner or any portion thereof pursuant to a fully executed contract of sale that the Owner is willing to accept ("Third Party Contract"), letter of intent or other agreement (any such Owner is herein referred to as an "Offeror," any such offer from a third party is herein called a "Third Party Offer," and the property that is the subject of such Third Party Offer is herein referred to as the "Offered Property"), Offeror shall promptly transmit to the Foundation its written offer to sell the Offered Property to the Foundation upon the terms and conditions set forth in the Third Party Offer, together with a true copy of the Third Party Offer and such other reasonable information as the Foundation specifically requests. Offeror shall give the Foundation thirty (30) days to

evidence Foundation's intent to purchase the Offered Property from the Offeror (such 30-day period is herein called the "Acceptance Period"). The written notice to the Foundation shall include an affidavit detailing all material terms of the offer, including, but not limited to, the purchase price, amount of earnest money, due diligence period, closing date and seller financing; provided, however, in the event Offeror furnishes a Third Party Contract (as such term is defined above) then no such affidavit shall be required to be furnished. Time shall be of the essence as to the expiration of the Acceptance Period.

1.2 During the Acceptance Period, the Foundation shall be entitled to enter the Offered Property to view, examine and inspect the Offered Property and all relevant books, records and documents relating to the Offered Property, and to make such tests, surveys and inspections of the Offered Property as the Foundation deems appropriate, including, without limitation, topographical surveys, soil tests, structural and foundation surveys and environmental inspections. Offeror shall reasonably cooperate in all respects with the Foundation and its agents and representatives in connection with any due diligence investigation during the Acceptance Period. The Foundation shall exercise (and shall cause its agents and representatives to exercise) due care and ordinary prudence in performing such surveys, inspections and tests, and shall indemnify and hold Offeror harmless from all liabilities, claims, costs, damages and expenses (including reasonable attorneys' fees) arising as a result of the Foundation, its employees, agents, representatives, and/or contractors in conducting the activities described in this Article VIII, Section 1.2.

1.3 If the Foundation desires to purchase the Offered Property on the terms of the Third Party Offer, the Foundation shall deliver written notice to Offeror on or prior to the expiration of the Acceptance Period, together with a purchase and sale agreement containing the same terms as provided in the Third Party Offer and such other terms as the parties might otherwise mutually agree ("Foundation Offer"), except that the closing of the sale of the Offered Property shall not be required to occur before the date that is ninety (90) days after delivery of the Foundation's written notice to Offeror of its desire to purchase the Offered Property. Offeror shall execute the Foundation Offer within thirty (30) days after receipt from Foundation.

Notwithstanding the preceding paragraph, in the event Offeror shall deliver to Foundation a Third Party Contract, then if Foundation elects to accept the Third Party Offer, Offeror and Foundation shall enter into (i.e., execute) a purchase and sale agreement in the same form and substance as the Third Party Contract ("Foundation PSA") prior to the later of (a) fifteen (15) days after Offeror delivers the Third Party Contract to Foundation, or (b) the expiration of the Acceptance Period (such period referred to in item (a) and (b) above shall be used to create the Foundation PSA), provided that: (i) Foundation PSA shall reflect the name and address of Foundation as purchaser; (ii) any provisions in the Third Party Contract regarding a mortgage contingency or other financing contingency as conditions precedent to a purchaser's obligation to close shall not be included in the Foundation PSA; (iii) the due diligence period under the Foundation PSA will be the same number of days as the due diligence

period in the Third Party Contract; (iv) the closing date under the Foundation PSA will be the same number of days after the execution of the Foundation PSA as the closing date under the Third Party Contract would have been after the effective date of the Third Party Contract; and (v) any provisions in the Third Party Contract requiring the Offeror to pay the due diligence and legal costs of the Purchaser shall be deleted from the Foundation PSA (except as to any default by the Offeror).

If Foundation is unwilling or fails for any reason to execute the Foundation PSA or Foundation Offer, as applicable, within the applicable times as set forth in the preceding paragraphs, then Foundation shall be deemed to have rejected its acceptance of the Third Party Offer, in which event Offeror may sell the Offered Property to the third party named in the Third Party Offer or, as applicable, Third Party Contract, as provided in Section 1.4 below.

1.4 (a) If the Foundation fails to timely accept the offer to acquire the Offered Property, or refuses or fails to execute the Foundation PSA in accordance with Section 1.3 above, Offeror shall be free to sell the Offered Property to the third party named in the Third Party Offer upon the same terms and conditions contained therein, provided that if a Third Party Contract has been submitted, then upon the same terms as contained in the Third Party Contract. Upon the recordation of the deed from Offeror to such third party, this Right of First Refusal as it applies to the subject transaction shall be of no further force or effect.

If at any time after an Owner presents a Third Party Offer, the Owner desires to modify the terms of the Third Party Offer, the Owner must resubmit the revised Third Party Offer to the Foundation, the process of offer and acceptance as provided in subsections 1.1 through 1.4 herein shall be applicable, and the Owner shall comply with the requirements of each such section for the revised Third Party Offer. If at any time the Owner and Third Party fail to complete the closing and the Owner desires to accept another Third Party Offer, the right of first refusal contained in Article 8, Section 1, shall again apply and the Foundation shall have the rights herein reserved to purchase the Offered Property pursuant to this subsequent Third Party Offer.

Upon request by Offeror, the Foundation agrees to execute appropriate documentation confirming its acceptance or rejection of a Third Party Offer in recordable form. In the case of rejection by the Foundation of a Third Party Offer, the Foundation shall furnish such documentation as shall be sufficient such that the applicable title company shall omit as a title exception any right the Foundation has or may have had respecting any and all rights to purchase the Offered Property.

(b) With respect to a Third Party Offer, if no sale to such third party on the same terms set forth in such Third Party Offer is consummated within the same time set forth in the Third Party Offer as presented to the Foundation, Offeror may not sell the Offered Property to the third party on any terms without again first offering the Offered Property to the Foundation as set forth above.



1.5 With respect to any Tract hereafter conveyed by the Foundation to an Owner other than the Foundation, the "Offer Period" shall mean and refer to the period of time extending for thirty (30) years from the date of such conveyance, and in all other instances the "Offer Period" shall mean and refer to the period of time extending for thirty (30) years from the date this Declaration is recorded in the Appropriate Registry, provided further that in each instance such period of time shall be extended for successive thirty (30) year periods so long as there is no amendment to the duration of the Offer Period and no termination of this Declaration pursuant to Article X, Section 3.

1.6 Notwithstanding anything to the contrary contained herein, a transfer of all or any part of a Tract to a party that is a subsidiary, parent company, or affiliate of the transferring Owner shall not be subject to the Right of First Refusal contained in this Article VIII, Section 1, provided that any subsequent transfers shall be subject to this article. Further notwithstanding anything to the contrary, a transfer of all or any part of a Tract by merger or the sale of all or substantially all of the assets of an Owner relating to the business conducted at the Tract shall not be subject to the Right of First Refusal contained in this Article VIII, but any subsequent conveyance or transfer by the acquirer shall be subject to the terms of this Article. Further notwithstanding anything to the contrary contained herein, a transfer of all or any part of a Tract arising from a divestiture of a line of business, a "spin-off" of a line of business, or any like or similar transaction, shall not be subject to the right of first refusal contained in this Article VIII, but any subsequent conveyance or transfer by the acquiring entity shall be subject to the terms of this Article VIII. A transfer due to a foreclosure sale or a deed in lieu of foreclosure shall not be subject to the Right of First Refusal contained in this Article VIII, but any subsequent conveyance or transfer by the party acquiring at foreclosure sale or deed in lieu shall be subject to the terms of this article.

Section 2. Commencement and Completion of Construction; Repurchase Option; Assessment of Fines. By acceptance of a deed or other instrument whereby the Foundation conveys to an Owner any undeveloped Tract, the Owner of such undeveloped Tract is deemed to have agreed to commence construction of building Improvements on the parcel within three (3) years after the date of recordation of the deed or other instrument of conveyance, and to thereafter diligently pursue such construction and to obtain completion of construction within two (2) years of commencement. Notwithstanding the preceding sentence, the Foundation, in its discretion, may extend the two (2) or three (3) year period by written instrument delivered to such Owner. The requirements of this Section 2 shall not apply to an Owner or ground lessee who has developed Improvements on a parcel within or a parcel adjacent to the Research Triangle Park and who has acquired an additional tract from the Foundation for future development.

In addition, such Owner is deemed to have granted to the Foundation the right and option to repurchase the undeveloped Tract in the event construction is not begun within three (3) years from the date of recordation of the deed or other instrument of conveyance (the "Repurchase Option"). The period during which the Foundation may exercise the Repurchase Option shall extend from the third anniversary date of the recordation of the deed or other instrument of conveyance to the date that is the earlier of: (i) one hundred eighty (180) days following the

third anniversary date (or if the three (3) year period was extended as permitted above, the last day of the extended period); or (ii) commencement of construction of building Improvements on the Tract. Following the exercise of the Repurchase Option by the Foundation, the Foundation shall have a period of sixty (60) days during which it may conduct a due diligence examination of the parcel on the same terms as describe in Section 1.2 of Article VIII above, and during such period the Foundation may for any reason by written notice to the parcel Owner terminate the exercise of its Repurchase Option. Should the Foundation repurchase the parcel from the Owner, the purchase price shall be the same price as paid by the Owner when purchased from the Foundation. The Owner shall reconvey title to the Foundation by good and sufficient special warranty deed vesting in the Foundation title to the parcel in the same condition as conveyed by the Foundation to the Owner, free and clear of all liens and encumbrances, except that the Owner shall not retain any repurchase rights. For purposes of this paragraph, "to commence construction of building Improvements" shall mean to begin, for the purposes of completing, laying the foundation of the building Improvements to be constructed on the Tract or a portion of the Tract, pursuant to a building permit obtained from the appropriate governmental authority.

In the event that an Owner who purchases a Tract from the Foundation commences construction of building Improvements, but fails to complete the same within two (2) years of commencement, the Foundation may impose a fine of up to One Thousand Dollars (\$1,000.00) for each day that construction remains incomplete on any building under construction, including the infrastructure and landscaping related to that building. Before imposing any such fines against Owners, a hearing shall be held before an adjudicatory panel appointed by the Foundation. The Owner shall be given notice of the hearing and the basis of Foundation's charge, an opportunity to be heard and to present evidence, and notice of the decision of the panel. If a fine is imposed it may not exceed One Thousand Dollars (\$1,000.00) for the violation and for each day after the notice of decision that the violation continues. If a daily or other periodic fine is imposed it may continue without further hearing until the violation is cured. Failure by the Foundation to enforce any of the foregoing shall in no event be deemed a waiver of the right to do so thereafter. If not paid within thirty (30) days after invoice, any such fines so imposed by the Foundation shall be subject to interest at the rate of eighteen percent (18%) per annum, and such amount, together with interest, shall constitute a lien on such Owner's Tract when a claim of lien is filed of record in the office of the clerk of superior court of the county in which the Tract is located. The Foundation may foreclose the lien in the same manner as a mortgage on real estate under power of sale under Article 2A of Chapter 45 of the North Carolina General Statutes. Notwithstanding the preceding, the Foundation, in its discretion, may extend the time for completion or may waive the fines and/or interest charges set forth herein in whole or in part.

#### **ARTICLE IX** **EASEMENTS**

Each Owner and Tenant of property within The Research Triangle Park hereby agrees to cooperate with the Foundation in the planning and granting of all easements necessary or appropriate for the further development of The Research Triangle Park, including, without limitation, easements for electricity, gas, water, sewer, telephone and data transmission, mass

transit Improvements, such as bus stops, and entrance and access roads, provided such easements do not unreasonably interfere with the present use or future development of such Owner's or Tenant's property. Nothing contained in Article IX shall be deemed to require an Owner or Tenant to grant any specific easement, nor to grant easements or rights of way without full compensation therefore.

**ARTICLE X**  
**GENERAL PROVISIONS**

Section 1. Effective Date. These covenants shall become effective upon the 29<sup>th</sup> day of August, 2014.

Section 2. To Run with the Land. Except as otherwise set forth herein, the covenants, conditions, restrictions and reservations herein set forth shall run with the land and shall bind the present Owners of all Tracts in The Research Triangle Park, their successors, and assigns; all parties claiming by, through or under them shall be deemed to hold, agree and covenant to conform to and observe the provisions of this Declaration.

Section 3. Duration. The covenants, conditions, restrictions and reservations set forth in this Declaration shall continue and be binding upon each Owner of property within The Research Triangle Park and all successors in interest to each such Owner, for a period of thirty (30) years from the date this Declaration is recorded in the Office of the Register of Deeds for Durham County, North Carolina, after which time they shall be automatically extended for successive periods of thirty (30) years unless amended or terminated as hereinafter provided. Any amendment of this Article X, Section 3 shall require the approval of the Owners, exclusive of the Foundation and the United States Government, owning at least seventy-five percent (75%) of the Property subject to this Declaration, exclusive of the property owned by the Foundation, and exclusive of property owned by the United States Government. Any automatic extension of this Declaration shall be deemed to commence a new Offer Period as provided in Article VIII, Section 1.5 which new Offer Period shall run for a period of thirty (30) years from the date of the automatic extension.

Section 4. Amendment; Termination.

4.1 This Declaration may be amended at any time by the Foundation, provided that the Approval of the Association is obtained with respect to such Amendment. Any amendment must: (1) be executed on behalf of the Foundation by its duly authorized officers; (2) contain an attestation by the officers executing the amendment on behalf of the Foundation that the requisite Approval of the Association has been obtained and is evidenced by written minutes of the Association meeting at which the Approval of the Association was obtained, a copy of which is attached as an exhibit to the amendment; and (3) be properly recorded in the Appropriate Registry.

4.2 This Declaration may be terminated only upon the written consent of the Foundation, and of the Owners (for purposes of this Section, the Owners shall be exclusive of the Foundation and the United States Government), owning at least ninety

percent (90%) of the property subject to this Declaration exclusive of the property owned by the Foundation, and exclusive of the property owned by the United States Government.

Section 5. Foundation Can Assign. The Foundation shall have the right to assign, in whole or in part, any of its rights or obligations under this Declaration to the Association, by a written instrument executed by both the Foundation and the Association and recorded in the Appropriate Registry.

Section 6. United States Government. Should the United States Government become an Owner or a Tenant within The Research Triangle Park, no covenant, condition, restriction or reservation shall be effective as against the United States Government so long as it owns or leases such property if said covenant, condition, restriction or reservation is in violation of any regulation having the effect of law. These covenants, conditions, restrictions, and reservations shall be binding in all respects upon any grantee, lessee, or sublessee of the United States Government of any property which the United States Government may own or lease within The Research Triangle Park.

Section 7. Association. The Association shall have the right to convert to a North Carolina nonprofit corporation should it elect to do so. In such event, the reference to "Association" as set forth herein shall mean the nonprofit corporation that is formed to include members as Owners and Tenants of The Research Triangle Park

IN WITNESS WHEREOF, the Foundation has caused this Declaration to be executed as of the date first above written.

RESEARCH TRIANGLE FOUNDATION OF NORTH CAROLINA

By: Elizabeth H. Rooks  
Name: Elizabeth H. Rooks  
Title: Executive Vice President  
Date: August 29, 2014

STATE OF NORTH CAROLINA  
COUNTY OF DURHAM

I, Adam Bruce Arnold, a Notary Public of Wake County and State aforesaid, certify that Elizabeth H. Rooks personally came before me this day and acknowledged that he/she is <sup>Executive</sup>~~Vice~~ President of RESEARCH TRIANGLE FOUNDATION OF NORTH CAROLINA, a North Carolina corporation, and that he/she as <sup>Executive</sup>~~Vice~~ President being authorized to do so, executed the foregoing on behalf of the corporation.

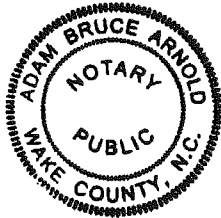
WITNESS my hand and official stamp or seal, this 29<sup>th</sup> day of August, 2014.

Adam Bruce Arnold  
Notary Public

My Commission Expires:

My Commission Expires 4-10-2018

[Notarial Seal]



**CONSENT OF THE RESEARCH TRIANGLE PARK OWNERS AND TENANTS ASSOCIATION**

The Research Triangle Park Owners and Tenants Association joins in the execution of this Declaration to confirm that at a meeting of its members held on March 7, 2013, duly called for the purpose of considering this Amendment and Restatement of the Original Covenants, a majority of the votes cast at the meeting approved this Declaration.

**RESEARCH TRIANGLE PARK OWNERS AND TENANTS ASSOCIATION**

By: David G. Bishop  
Name: DAVID G. BISHOP  
Title: PRESIDENT  
Date: 29 August 2014

STATE OF NORTH CAROLINA  
COUNTY OF DURHAM

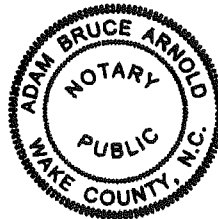
I, Adam Bruce Arnold, a Notary Public of Wake County and State aforesaid, certify that David G Bishop personally came before me this day and acknowledged that he/she is President of RESEARCH TRIANGLE PARK OWNERS AND TENANTS ASSOCIATION, a North Carolina unincorporated association, and that he/she as President being authorized to do so, executed the foregoing on behalf of the association.

WITNESS my hand and official stamp or seal, this 29<sup>th</sup> day of August, 2014.

Adam Bruce Arnold  
Notary Public

My Commission Expires:

\_\_\_\_\_



My Commission Expires 4-10-2016.

**APPROVAL OF OWNERS**

The Foundation hereby certifies that it has obtained written consents to the duration and termination provisions of this Declaration from the fee simple owners, exclusive of the Foundation, and exclusive of the United States Government, owning at least ninety percent (90%) of the lands subject to the Original Declaration, exclusive of the lands owned by the Foundation, and exclusive of the lands owned by the United States Government. A list of the consenting owners is attached hereto as Exhibit C.

**RESEARCH TRIANGLE FOUNDATION OF NORTH CAROLINA**

By: Elizabeth H. Rooks  
Name: Elizabeth H. Rooks  
Title: Executive Vice President  
Date: August 29, 2014

STATE OF NORTH CAROLINA  
COUNTY OF DURHAM

I, Adam Bruce Arnold, a Notary Public of Wake County and State aforesaid, certify that Elizabeth H. Rooks personally came before me this day and acknowledged that he/she is Executive Vice President of RESEARCH TRIANGLE FOUNDATION OF NORTH CAROLINA, a North Carolina corporation, and that he/she as Executive Vice President being authorized to do so, executed the foregoing on behalf of the corporation.

WITNESS my hand and official stamp or seal, this 29<sup>th</sup> day of August, 2014.

Adam Bruce Arnold  
Notary Public

My Commission Expires:

My Commission Expires 4-10-2018.

[Notarial Seal]

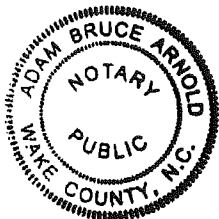


EXHIBIT A

ORIGINAL COVENANTS

The "Original Covenants" shall mean and refer to that certain Declaration of Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Pinelands Company, Incorporated Known as The Research Triangle Park dated September 1, 1959 and recorded October 2, 1959 at 4:45 p.m. in Book 261, Page 38, Durham County Registry, as such Declaration has been supplemented, amended, restated or otherwise modified pursuant to instruments recorded in the Offices of the Register of Deeds of Durham and Wake Counties, North Carolina, including without limitation the following instruments:

1. Amended Instrument of Modification dated November 30, 1960 by and between The Pinelands Company, Incorporated, Research Triangle Foundation of North Carolina, The Research Triangle Institute and The Chemstrand Research Center, Inc. dated November 30, 1960 and recorded February 24, 1961 at 4:20 p.m. in Book 273, Page 489, Durham County Registry.
2. Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Pinelands Company, Inc. With Portions Known as The Research Triangle Park and With Portions Known as The Research Applications Park dated August 1, 1965, recorded August 10, 1965 at 1:15 p.m. in Book 314, Page 94, Durham County Registry and recorded August 13, 1965 at 11:20 a.m. in Book 1663, Page 559, Wake County Registry.
3. Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Research Triangle Foundation of North Carolina With Portions Known as the Research Triangle Park and With Portions Known as The Research Applications Park I and Research Applications Park II dated July 29, 1980, recorded August 5, 1980 at 4:24 p.m. in Book 1035, Page 685, Durham County Registry and recorded March 17, 1986 at 4:20 p.m. in Book 3679, Page 26, Wake County Registry.
4. Modification and Further Amendment to Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Research Triangle Park Foundation of North Carolina with Portions Known as The Research Triangle Park and With Portions Known as The Research Applications Park I and Research Applications Park II dated November 1, 1982, recorded November 22, 1982 at 11:55 a.m. in Book 1097, Page 706, Durham County Registry and recorded March 17, 1986 at 4:22 p.m. in Book 3679, Page 48, Wake County Registry.
5. Modification and Further Amendment to Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: The Research Triangle Foundation of North Carolina with Portions Known as The Research Triangle Park and With Portions Known as The Research Applications Park I and Research Applications Park II dated March 17, 1981, recorded August 9, 1983 at 10:08 a.m. in Book 1125, Page 232, Durham County Registry and recorded March 17, 1986 at 4:21 p.m. in Book 3679, Page 41, Wake County Registry.
7. Declaration Subjecting Additional Property to the Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: Research Triangle Foundation of North Carolina With Portions Known as Research Triangle Park and With Portions Known as Research Applications Park I and Research Applications Park II dated March 17, 1986,



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recorded April 4, 1986 at 10:20 a.m. in Book 1270, Page 222, Durham County Registry and recorded March 17, 1986 at 4:23 p.m. in Book 3679, Page 53, Wake County Registry.

8. Extension of Term of: Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: Research Triangle Foundation of North Carolina With Portions Known as Research Triangle Park and With Portions Known as Research Applications Park I and Research Applications Park II dated August 31, 1989, recorded September 11, 1989 at 12:48 p.m. in Book 1547, Page 183, Durham County Registry and recorded April 25, 1994 at 8:51 a.m. in Book 6098, Page 683, Wake County Registry.
9. Declaration of Permitted Uses dated October 27, 1999 by Research Triangle Foundation of North Carolina recorded November 5, 1999 at 3:54 p.m. in Book 2733, Page 211, Durham County Registry.
10. Declaration Subjecting Additional Property to the Amended Conditions, Covenants, Restrictions and Reservations Affecting Property of: Research Triangle Foundation of North Carolina With Portions Known as Research Triangle Park and With Portions Known as Research Applications Park I and Research Applications Park II dated May 3, 2000, recorded August 9, 2000 at 12:57 p.m. in Book 2888, Page 692, Durham County Registry and recorded August 8, 2000 at 10:03 a.m. in Book 8653, Page 1174, Wake County Registry.
11. Declaration of Removal of Territory From the Service District and Declaration of Covenants dated as of January 1, 2008 by the Research Triangle Foundation of North Carolina recorded November 19, 2009 at 9:23 a.m. in Book 6366, Page 315, Durham County Registry and recorded November 19, 2009 at 11:07 a.m. in Book 13766, Page 1572, Wake County Registry.

**EXHIBIT B**  
**RESEARCH TRIANGLE PARK**

Legal description of the Covenant Boundary for the Research Triangle Park,  
Wake and Durham Counties, North Carolina

Beginning at a point on the Wake County/Durham County line having North Carolina Grid, NAD83 coordinates of Y(N): 770,820.4 and X(E): 2,032,499.0, said point being located S56°08'08"W, 4,868.37' (grid) from NCGS "Health" at North Carolina Grid, NAD83 Y(N): 773,533.2, X(E): 2,036,541.6 (combined grid factor: 1.00008037), said point being the TRUE POINT OF BEGINNING for the covenant boundary herein described:

Thence N13°03'48"E, 3,548.41 feet, crossing the right-of-way of Hopson Road, along the eastern right-of-way of the CSX Railroad to a point;

Thence along the arc of a curve to the left having a radius of 2,215.00 feet, an arc length of 336.63 feet, and a chord bearing and distance of N08°40'31"E, 336.31 feet along the eastern right-of-way of the CSX Railroad to a point on the southern right-of-way of Solutions Drive;

Thence N02°46'46"E, 110.16 feet to a point at the intersection of the eastern right-of-way of the CSX Railroad and the northern right-of-way of Solutions Drive;

Thence along the northern right-of-way of Solutions Drive the following courses and distances:

Along the arc of a curve to the left, having a radius of 778.42 feet, an arc length of 121.14 feet, and a chord bearing and distance of N25°00'58"E, 121.02 feet to a point;

N20°33'28"E, 451.83 feet to a point;

N61°03'41"E, 45.55 feet to a point;

N61°03'29"E, 45.56 feet to a point;

Along the arc of a curve to the right having a radius of 335.95 feet, an arc length of 68.21 feet, and a chord bearing and distance of N66°44'42"E, 68.09 feet to a point;

N72°41'02"E, 68.64 feet to a point;

Thence N27°29'41"E, 105.93 feet along the northern right-of-way of Solutions Drive as it transitions to the western right-of-way of Louis Stephens Drive;

Thence along the western right-of-way of Louis Stephens Drive the following courses and distances:

N17°35'57"W, 50.30 feet to a point;

N16°29'26"W, 193.49 feet to a point;

N16°29'26"W, 74.20 feet to a point;

N16°29'26"W, 74.20 feet to a point;

N03°27'04"E, 41.39 feet to a point;

N03°27'47"W, 77.74 feet to a point;

N47°25'57"W, 100.69 feet to a point on the southern right-of-way of T.W. Alexander Drive;

Thence N34°32'18"E, 508.43 feet to a point on the northern right-of-way of T.W. Alexander Drive;

Thence along the northern right-of-way of T.W. Alexander Drive the following courses and distances:

Along the arc of a curve to the left having a radius of 1,834.86 feet, an arc length of 169.60 feet, and a chord bearing and distance of N42°18'49"E, 169.54 feet to a point;

N36°41'22"E, 34.46 feet to a point;

N36°41'22"E, 258.91 feet to a point;

Along the arc of a curve to the left having a radius of 11,384.64 feet, an arc length of 769.57 feet, and a chord bearing and distance of N32°54'26"E, 769.41 feet to a point;

Thence S86°07'05"E, 223.45 feet, crossing the right-of-way of T.W. Alexander Drive, to a point;

Thence N01°15'41"E, 2,533.03 feet, crossing the right-of-way of T.W. Alexander Drive, to a point;

Thence N88°04'19"W, 22.85 feet to a point;

Thence N89°20'19"W, 150.49 feet to a point;

Thence N89°14'59"W, 1,642.01 feet to a point;

Thence N00°33'07"E, 590.20 feet to a point;

Thence N88°20'39"W, 199.72 feet to a point on the eastern right-of-way of S. Alston Avenue

Thence N00°43'41"E, 1,445.32 feet along the eastern right-of-way of S. Alston Avenue to a point;

Thence leaving the right-of-way of S. Alston Avenue S89°32'19"E, 196.90 feet to a point;

Thence N00°46'24"E, 300.13 feet to a point;

Thence N00°18'41"E, 299.80 feet to a point;

Thence S88°57'13"E, 353.85 feet to a point;

Thence S01°37'03"W, 199.84 feet to a point;

Thence S89°36'22"E, 182.55 feet to a point;

Thence N18°59'41"E, 111.75 feet to a point;

Thence S70°40'19"E, 100.15 feet to a point;

Thence N18°59'41"E, 199.75 feet to a point on the southern right-of-way of N.C. Highway 54;

Thence N79°41'59"E, 142.79 feet to a point on the northern right-of-way of N.C. Highway 54;

Thence N19°01'50"E, 190.18 feet to a point;

Thence S71°04'26"E, 134.66 feet to a point;

Thence N00°25'12"E, 1,090.39 feet to a point;

Thence S67°49'55"W, 6.05 feet to a point;

Thence S76°14'23"W, 147.17 feet to a point;

Thence S83°26'41"W, 99.86 feet to a point;

Thence S83°51'47"W, 300.94 feet to a point;

Thence N00°23'02"E, 214.80 feet to a point;

Thence N89°51'50"W, 516.89 feet to a point;

Thence N00°03'38"E, 449.40 feet to a point;

Thence N00°26'50"E, 28.53 feet to a point on the southern right-of-way of Interstate 40;

Thence along the southern right-of-way of Interstate 40 the following courses and distances:

S69°45'48"E, 412.69 feet to a point;

S63°51'49"E, 399.84 feet to a point;

S65°51'05"E, 530.31 feet to a point;

S64°21'08"W, 44.82 feet to a point;

Along the arc of a curve to the left having a radius of 28,522.88 feet, an arc length of 1,000.75 feet, and a chord bearing and distance of S64°17'14"E, 1,000.75 feet to a point;

Thence leaving the southern right-of-way of Interstate 40 N04°56'03"E, 1,054.05 feet, crossing the right-of-way of Interstate 40, to a point;

Thence N01°14'50"E, 1,230.08 feet to a point;

Thence N01°06'51"E, 300.17 feet to a point;

Thence N01°04'07"E, 1,162.20 feet to a point;

Thence N01°01'03"E, 270.96 feet to a point;

Thence N88°03'40"W, 1,839.33 feet to a point;

Thence N02°00'21"E, 296.50 feet to a point;

Thence S87°06'02"E, 199.97 feet to a point;

Thence N02°07'04"E, 200.17 feet to a point;

Thence S87°48'18"E, 230.71 feet to a point;

Thence N03°39'46"E, 1,032.43 feet to a point;

Thence S88°41'43"E, 996.07 feet to a point;

Thence N01°10'51"W, 125.48 feet to a point;

Thence N10°15'23"E, 275.83 feet to a point;

Thence N09°51'20"E, 552.39 feet to a point;

Thence N08°10'12"E, 159.13 feet to a point;

Thence N43°19'42"W, 618.36 feet to a point on the eastern right-of-way of S. Tricenter Boulevard;

Thence N18°05'24"E, 1,109.49 feet, crossing the right-of-way of S. Tricenter Boulevard and Old Cornwallis Road, to a point on the southern right-of-way of Cornwallis Road;

Thence along the southern right-of-way of Cornwallis Road the following courses and distances:

Along the arc of a curve to the left having a radius of 11,534.16 feet, an arc length of 76.50 feet, and a chord bearing and distance of S42°58'09"E, 76.50 feet, crossing the right-of-way of S. Tricenter Boulevard, to a point;

S43°09'33"E, 105.24 feet to a point;

S44°40'29"E, 163.97 feet to a point;

S45°06'16"E, 36.16 feet to a point;

Along the arc of a curve to the left having a radius of 2,939.79 feet, an arc length of 404.23 feet, and a chord bearing and distance of S50°45'20"E, 403.90 feet to a point;

Thence leaving the southern right-of-way of Cornwallis Road S20°38'31"W, 60.00 feet to a point;

Thence S68°02'34"E, 121.79 feet to a point;

Thence S58°29'48"E, 202.98 feet to a point;

Thence S56°48'48"E, 137.12 feet to a point;

Thence S59°09'48"E, 144.95 feet to a point;

Thence S58°21'48"E, 88.85 feet to a point;

Thence S58°28'48"E, 90.33 feet to a point;

Thence N05°25'36"E, 1,132.63 feet, crossing the right-of-way of Cornwallis Road, to a point;

Thence N88°03'52"W, 516.95 feet to a point;

Thence N03°28'41"E, 1,107.10 feet to a point;

Thence S89°41'23"W, 296.90 feet to a point;

Thence N00°06'05"W, 345.82 feet to a point;

Thence N00°20'01"E, 1,150.11 feet to a point;

Thence N00°36'32"E, 2,756.62 feet, crossing the right-of-way of Northeast Creek Parkway, to a point on the southern right-of-way of So-Hi Drive;

Thence S37°27'05"E, 133.42 along the southern right-of-way of So-Hi Drive to a point;

Thence within the right-of-way of So-Hi Drive the following courses and distances:

Along the arc of a curve to the left having a radius of 297.00 feet, an arc length of 541.89 feet, and a chord bearing and distance of S89°43'12"E, 469.79 feet to a point;

N38°00'42"E, 565.35 feet to a point;

N38°14'36"E, 658.43 feet to a point on the southern right-of-way of So-Hi Drive;

Thence leaving the southern right-of-way of So-Hi Drive S06°52'30"E, 380.10 feet to a point;

Thence S89°55'49"E, 666.18 feet to a point;

Thence N00°05'43"E, 691.65 feet to a point on the southern right-of-way of So-Hi Drive;

Thence N00°49'35"E, 138.05 feet, crossing the right-of-way of So-Hi Drive, to a point;

Thence S87°46'57"E, 1,295.51 feet to a point;

Thence N01°46'26"E, 10.77 feet to a point;

Thence N60°16'47"E, 39.65 feet to a point;

Thence S39°45'10"E, 66.44 feet to a point;

Thence S72°11'26"E, 256.40 feet to a point within the right-of-way of Ellis Road;

Thence within the right-of-way of Ellis Road the following courses and distances:

S52°58'39"E, 165.99 feet to a point;

S26°08'09"E, 1,001.41 feet to a point;

Along the arc of a curve to the left having a radius of 678.79 feet, an arc length of 365.90 feet, and a chord bearing and distance of S41°34'43"E, 361.49 feet to a point;

S58°25'58"E, 88.47 feet to a point;

S64°03'22"E, 79.24 feet to a point;

S71°17'58"E, 92.69 feet to a point;

S78°14'13"E, 98.20 feet to a point;

S82°15'14"E, 96.97 feet to a point;

S83°12'45"E, 87.77 feet to a point;

S83°10'58"E, 91.70 feet to a point;

S83°38'11"E, 129.18 feet to a point;

S85°37'28"E, 321.59 feet to a point;

S87°58'33"E, 211.03 feet to a point within the right-of-way of the Durham Freeway (N.C. Highway 147);

Thence within and along the western right-of-way of the Durham Freeway the following courses and distances:

S01°43'41"W, 103.59 feet to a point;

S07°13'47"E, 497.62 feet to a point;

S08°43'03"E, 299.32 feet to a point;

S17°18'35"E, 232.67 feet to a point;

S01°27'04"W, 236.77 feet to a point;

Thence S88°52'46"E, 341.80 feet, crossing the right-of-way of the Durham Freeway, to a point on the eastern right-of-way of the Durham Freeway;

Thence along the eastern right-of-way of the Durham Freeway along the arc of a curve to the left having a radius of 76,336.36 feet, an arc length of 289.04 feet, and a chord bearing and distance of N02°38'06"W, 289.04 feet to a point;

Thence leaving the eastern right-of-way of the Durham Freeway N12°23'20"E, 117.51 feet to a point;

Thence S89°39'07"E, 606.46 feet to a point;

Thence N05°51'04"E, 889.71 feet to a point on the southern right-of-way of Ellis Road;

Thence along the southern right-of-way of Ellis Road the following courses and distances:

S88°21'16"E, 207.39 feet to a point;

S88°01'22"E, 83.21 feet to a point;

S85°52'41"E, 118.34 feet to a point;

S84°17'45"E, 42.45 feet to a point;

S79°11'52"E, 43.49 feet to a point;

S74°22'29"E, 43.92 feet to a point;

S69°51'14"E, 44.24 feet to a point;

S65°35'36"E, 44.66 feet to a point;

S61°41'09"E, 45.52 feet to a point;

S58°45'17"E, 46.84 feet to a point;

S56°51'35"E, 48.14 feet to a point;

S55°51'17"E, 48.97 feet to a point;

S55°16'26"E, 137.91 feet to a point;

S55°44'55"E, 49.42 feet to a point;

S56°56'10"E, 51.77 feet to a point;

S58°28'26"E, 52.56 feet to a point;

S60°49'47"E, 53.72 feet to a point;

S64°06'47"E, 54.61 feet to a point;

S67°52'09"E, 55.11 feet to a point;

S71°54'28"E, 55.71 feet to a point;

S76°32'29"E, 55.76 feet to a point;

S80°43'34"E, 63.18 feet to a point;

Thence leaving the southern right-of-way of Ellis Road S00°46'39"W, 1,223.91 feet to a point;

Thence S87°47'38"E, 167.81 feet to a point on the western right-of-way of the Southern Railroad;

Thence along the western right-of-way of the Southern Railroad the following courses and distances:

S20°35'28"W, 318.56 feet to a point;

S20°27'27"W, 100.06 feet to a point;

S20°19'16"W, 100.54 feet to a point;

S20°06'44"W, 101.78 feet to a point;

S19°21'03"W, 28.11 feet to a point;

S19°21'03"W, 74.28 feet to a point;

S18°20'04"W, 101.59 feet to a point;

S17°13'56"W, 102.23 feet to a point;

S16°15'03"W, 101.93 feet to a point;

S15°10'01"W, 102.69 feet to a point;

S14°17'33"W, 100.89 feet to a point;

S13°20'37"W, 102.03 feet to a point;

S12°22'30"W, 102.85 feet to a point;

S11°22'28"W, 102.30 feet to a point;

S10°26'29"W, 102.65 feet to a point;

S09°31'09"W, 102.44 feet to a point;

S08°31'55"W, 102.93 feet to a point;

S07°23'38"W, 102.96 feet to a point;

S06°13'06"W, 102.52 feet to a point;

S05°22'10"W, 121.47 feet to a point;

S03°55'02"W, 101.86 feet to a point;

S02°48'06"W, 101.86 feet to a point;

S01°43'14"W, 101.62 feet to a point;

S00°57'28"W, 100.92 feet to a point;

S00°36'17"W, 100.27 feet to a point;

S00°42'28"W, 8,680.08 feet, crossing the right-of-way of T.W. Alexander Drive, to a point;

S00°44'53"E, 207.00 feet to a point;

S04°12'16"E, 207.00 feet to a point;

S07°55'16"E, 158.75 feet to a point on the northern right-of-way of Cornwallis Road;

S09°18'25"E, 178.80 feet to a point on the southern right-of-way of Cornwallis Road;

Along the arc of a curve to the left having a radius of 2,928.58 feet, an arc length of 125.16 feet, and a chord bearing and distance of S13°53'08"E, 125.14 feet to a point;

Along the arc of a curve to the left having a radius of 3,187.67 feet, an arc length of 212.51 feet, and a chord bearing and distance of S17°45'27"E, 212.47 feet to a point;

S19°33'02"E, 424.00 feet to a point;

S19°32'35"E, 733.20 feet to a point;

S19°35'11"E, 725.13 feet to a point;

Along the arc of a curve to the right having a radius of 2,764.79 feet, an arc length of 1,499.07 feet, and a chord bearing and distance of S04°02'52"E, 1,480.77 feet to a point within the right-of-way of Interstate 40;

S11°29'06"W, 300.70 feet to a point on the southern right-of-way of Interstate 40;

S12°07'53"W, 386.31 feet to a point;

S10°54'30"W, 102.43 feet to a point;

S09°14'48"W, 103.22 feet to a point;

S07°41'52"W, 49.94 feet to a point;

S06°57'29"W, 53.49 feet to a point;

S05°18'13"W, 103.92 feet to a point;

S03°20'20"W, 103.33 feet to a point;

S01°29'20"W, 103.26 feet to a point;

S00°42'57"E, 104.52 feet to a point;

S03°07'15"E, 103.09 feet to a point;

S04°11'08"E, 100.50 feet to a point;

S04°06'56"E, 100.16 feet to a point;

S03°36'37"E, 98.43 feet to a point;

S01°36'05"W, 96.46 feet to a point;

S00°25'54"W, 96.68 feet to a point;

S02°31'00"W, 96.29 feet to a point;

S04°38'55"W, 96.49 feet to a point;

S06°41'07"W, 96.62 feet to a point;

S08°44'02"W, 95.98 feet to a point;

S10°44'08"W, 96.31 feet to a point;



S12°43'34"W, 96.54 feet to a point;

S14°33'37"W, 74.74 feet to a point;

S15°16'15"W, 21.56 feet to a point;

S16°46'22"W, 88.17 feet to a point;

S18°30'29"W, 105.09 feet to a point;

S20°45'47"W, 96.42 feet to a point;

S21°45'08"W, 44.64 feet to a point on the northern right-of-way of N.C. Highway 54;

S24°06'42"W, 207.47 feet to a point on the southern right-of-way of N.C. Highway 54;

S23°22'15"W 652.35 feet to a point;

Thence leaving the western right-of-way of the Southern Railroad N81°54'08"W, 610.35 feet to a point;

Thence N75°43'12"W, 162.62 feet to a point;

Thence N61°52'41"W, 140.46 feet to a point;

Thence N55°50'27"W, 161.39 feet to a point;

Thence N85°34'32"W, 123.32 feet to a point;

Thence N56°13'19"W, 102.07 feet to a point;

Thence N79°41'21"W, 147.10 feet to a point;

Thence N79°34'05"W, 77.09 feet to a point;

Thence N78°01'41"W, 547.91 feet to a point;

Thence N77°50'30"W, 159.62 feet to a point;

Thence N77°39'04"W, 557.93 feet to a point;

Thence N77°37'46"W, 241.34 feet to a point;

Thence N77°09'11"W, 320.55 feet, crossing the right-of-way of Davis Drive, to a point on the western right-of-way of Davis Drive;

Thence N77°27'17"W, 62.61 feet to a point;

Thence N88°46'11"W, 664.23 feet to a point;

Thence S48°06'01"W, 797.62 feet to a point on the eastern right-of-way of the Triangle Expressway;

Thence along the eastern right-of-way of the Triangle Expressway the following courses and distances:

Along the arc of a curve to the left having a radius of 14,650.00 feet, an arc length of 173.66 feet, and a chord bearing and distance of S18°17'30"E, 173.66 feet to a point;

S22°42'35"E, 177.65 feet to a point;

S22°42'35"E, 902.57 feet to a point;

S27°24'53"E, 94.82 feet to a point;

Thence leaving the eastern right-of-way of the Triangle Expressway S00°39'23"W, 164.18 feet to a point within the right-of-way of the Triangle Expressway;

Thence within the right-of-way of the Triangle Expressway the following courses and distances:

S07°43'35"W, 121.88 feet to a point;

S03°20'14"W, 154.79 feet to a point;

S05°17'59"E, 255.22 feet to a point;

S09°18'45"E, 388.50 feet to a point;

Thence leaving the Triangle Expressway S63°39'26"E, 292.07 feet to a point;

Thence S12°09'05"E, 2,056.89 feet, crossing the right-of-way of Davis Drive, to a point;

Thence S01°39'12"E, 579.02 feet to a point;

Thence N86°48'46"W, 331.59 feet to a point within the right-of-way of the Triangle Expressway;

Thence S00°24'22"W, 721.58 feet, crossing the Wake County/Durham County line, to a point within the right-of-way of the Triangle Expressway;

Thence leaving the right-of-way of the Triangle expressway S00°21'38"W, 1,355.54 feet to a point;

Thence S86°05'06"E, 119.49 feet to a point within the right-of-way of the Triangle Expressway;

Thence within and along the western right-of-way of the Triangle Expressway S02°34'33"E, 1,397.79 feet to a point within the right-of-way of Kit Creek Road;

Thence S02°30'33"E, 939.00 feet along the western right-of-way of the Triangle Expressway as it transitions to the northern right-of-way of N.C. 540;

Thence along the transition between the western right-of-way of the Triangle Expressway and the northern right-of-way of N.C. 540 the following courses and distances:

N87°57'26"E, 110.37 feet to a point;

S06°11'29"E, 564.44 feet to a point;

S21°17'28"W, 313.90 feet to a point;

S04°02'28"W, 101.40 feet to a point;

Along the arc of a curve to the right having a radius of 1,568.20 feet, an arc length of 303.57 feet, and a chord bearing and distance of S07°31'58"W, 303.10 feet to a point on the northeastern right-of-way of Davis Drive;

Thence S53°15'06"E, 1,168.33 feet across the right-of-way of N.C. 540 to a point at the intersection of the northeastern right-of-way of Davis Drive and the southern right-of-way of N.C. 540;

Thence along the southern right-of-way of N.C. 540 the following courses and distances:

N57°20'28"E, 110.00 feet to a point;

N66°27'58"E, 82.70 feet to a point;

N71°15'58"E, 355.50 feet to a point;

S73°15'32"E, 550.60 feet to a point;

N39°52'28"E, 168.30 feet to a point;

Thence S88°07'11"E, 2,004.43 feet along and leaving the southern right-of-way of N.C. 540 to a point;

Thence S05°53'56"W, 1,207.91 feet to a point;

Thence S85°42'44"E, 665.03 feet to a point;

Thence N06°48'25"E, 366.95 feet to a point;

Thence S89°41'18"E, 534.57 feet to a point;

Thence S02°30'39"E, 635.00 feet to a point;

Thence S78°28'51"E, 799.92 feet to a point;

Thence N88°13'54"E, 378.86 feet to a point on the western right-of-way of Church Street;

Thence along the western right-of-way of Church Street the following courses and distances:

S01°31'47"W, 475.93 feet to a point;

Along the arc of a curve to the left having a radius of 1,044.44 feet, an arc length of 358.10 feet, and a chord bearing and distance of S08°24'27"E, 356.35 feet to a point;

Thence leaving the right-of-way of Church Street N87°33'56"W, 539.24 feet to a point;

Thence S03°50'57"E, 470.72 feet to a point;

Thence N87°15'23"W, 841.56 feet to a point;

Thence S89°52'13"W, 808.78 feet to a point;

Thence N19°19'21"W, 99.97 feet to a point;

Thence S89°56'06"W, 200.00 feet to a point;

Thence S19°21'58"E, 100.00 feet to a point;

Thence S89°49'54"W, 199.40 feet to a point;

Thence S05°46'58"E, 783.65 feet to a point;

Thence S08°17'47"E, 611.71 feet to a point;

Thence N71°40'48"W, 1,178.36 feet to a point;

Thence N66°28'39"W, 189.66 feet to a point within the right-of-way of Davis Drive;

Thence N66°25'27"W, 149.50 feet to a point within the right-of-way of Davis Drive;

Thence leaving the right-of-way of Davis Drive N66°30'19"W, 1,591.28 feet to a point

Thence S02°08'42"W, 629.23 feet to a point;

Thence S86°52'23"W, 1,106.87 feet to a point;

Thence N03°19'53"E, 1,441.69 feet to a point;

Thence N03°19'53"E, 213.82 feet to a point;

Thence N89°05'40"W, 1,864.79 feet to a point;

Thence S10°24'31"W, 192.76 feet to a point;

Thence N84°50'53"W, 2,710.94 feet, crossing the right-of-way of N.C. 540 and the right-of-way of Louis Stephens Drive, to a point;

Thence S03°39'23"W, 779.01 feet, crossing the right-of-way of N.C. 540, to a point;

Thence N39°29'43"W, 86.60 feet to a point;

Thence N42°58'17"W, 179.91 feet to a point within the right-of-way of N.C. 540;

Thence within the right-of-way of N.C. 540 the following courses and distances:

N32°22'19"E, 58.82 feet to a point;

N44°30'23"W, 42.07 feet to a point;

N08°07'37"E, 36.22 feet to a point;

N25°50'12"W, 38.90 feet to a point;

N12°56'30"W, 118.74 feet to a point;

N04°39'56"W, 80.16 feet to a point;

Thence leaving the right-of-way of N.C. 540 N12°40'26"W, 145.80 feet to a point;

Thence N32°18'02"W, 125.76 feet to a point;

Thence S67°49'20"W, 45.08 feet to a point;

Thence S02°48'33"E, 500.00 feet to a point within the right-of-way of N.C. 540;

Thence within the right-of-way of N.C. 540 the following courses and distances:

S25°26'25"W, 76.04 feet to a point;

S63°38'15"W, 107.89 feet to a point on the eastern right-of-way of the CSX Railroad;

N31°24'46"W, 155.34 feet along the eastern right-of-way of the CSX Railroad to a point;

Thence leaving the right-of-way of N.C. 540 along the arc of a curve to the left having a radius of 3,013.68 feet, an arc length of 920.83 feet, and a chord bearing and distance of N40°19'05"W, 917.26 feet along the eastern right-of-way of the CSX Railroad to a point;

Thence along the arc of a curve to the left having a radius of 3,252.75, an arc length of 62.56 feet, and a chord bearing and distance of N49°17'35"W, 62.56 feet along the eastern right-of-way of the CSX Railroad to a point within the right-of-way of Little Drive;

Thence N49°50'38"W, 1,136.41 feet, leaving the right-of-way of Little Drive, along the eastern right-of-way of the CSX Railroad to a point;

Thence leaving the eastern right-of-way of the CSX Railroad N28°30'51"E, 275.23 feet to a point;

Thence N64°56'36"W, 294.90 feet to a point;

Thence N66°52'08"W, 184.86 feet to a point;

Thence S17°09'43"W, 150.64 feet to a point on the eastern right-of-way of the CSX Railroad;

Thence along the eastern right-of-way of the CSX Railroad the following courses and distances:

N49°48'26"W, 291.75 feet to a point;

N49°48'37"W, 333.53 feet to a point;

N49°51'56"W 907.60 feet to a point;

Along the arc of a curve to the right having a radius of 1,861.48 feet, an arc length of 771.42 feet, and a chord bearing and distance of N37°57'46"W, 765.92 feet to a point;

Along the arc of a curve to the right having a radius of 1,861.48 feet, an arc length of 1,271.50 feet, and a chord bearing and distance of N06°30'35"W, 1,246.93 feet to a point;

Thence N13°03'48"E, 4,143.47 feet, crossing the right-of-way of Kit Creek Road, along the eastern right-of-way of the CSX Railroad to the POINT AND PLACE OF BEGINNING, containing 7,082.03 acres for the covenant boundary herein described.

EXCEPTING THEREFROM the following property located in Durham County:

Beginning at a point on the western right-of-way of the Triangle Expressway, said point being located N59°39'02"E, 7,632.93' (ground) from the POINT OF BEGINNING of the covenant boundary described above, said point being the TRUE POINT OF BEGINNING for the property herein described:

Thence S00°38'30"W, 656.04 feet along the western right-of-way of the Triangle Expressway to a point;

Thence S52°35'54"W, 62.94 feet along the western right-of-way of the Triangle Expressway as it transitions to the northern right-of-way of Hopson Road to a point;

Thence along the northern right-of-way of Hopson Road the following courses and distances:

S78°40'01"W, 170.00 feet to a point;

S87°05'53"W, 133.96 feet to a point;

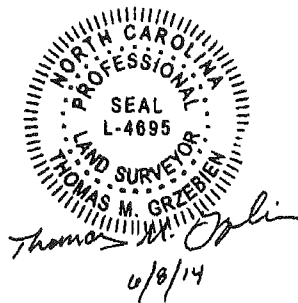
S79°14'46"W, 34.96 feet to a point;

N10°35'50"W, 14.98 feet to a point;

S79°17'06"W, 187.00 feet to a point;

Thence leaving the northern right-of-way of Hopson Road N00°38'30"E, 778.16 feet to a point;

Thence S88°16'43"E, 570.20 feet to the POINT AND PLACE OF BEGINNING, containing 9.60 acres for the covenant boundary exclusion herein described.



The foregoing description having been prepared pursuant to that certain "EXHIBIT MAP of the COVENANT BOUNDARY for RESEARCH TRIANGLE PARK" attached hereto as EXHIBIT B-1 and incorporated herein by this reference.

**EXHIBIT B-1**  
**RESEARCH TRIANGLE PARK EXHIBIT MAP**

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.

*Thomas M. Grzebień*  
THOMAS M. GRZEBIEN, P.L.S. # 4696

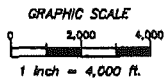
DATE June 8, 2014



**GENERAL NOTES**

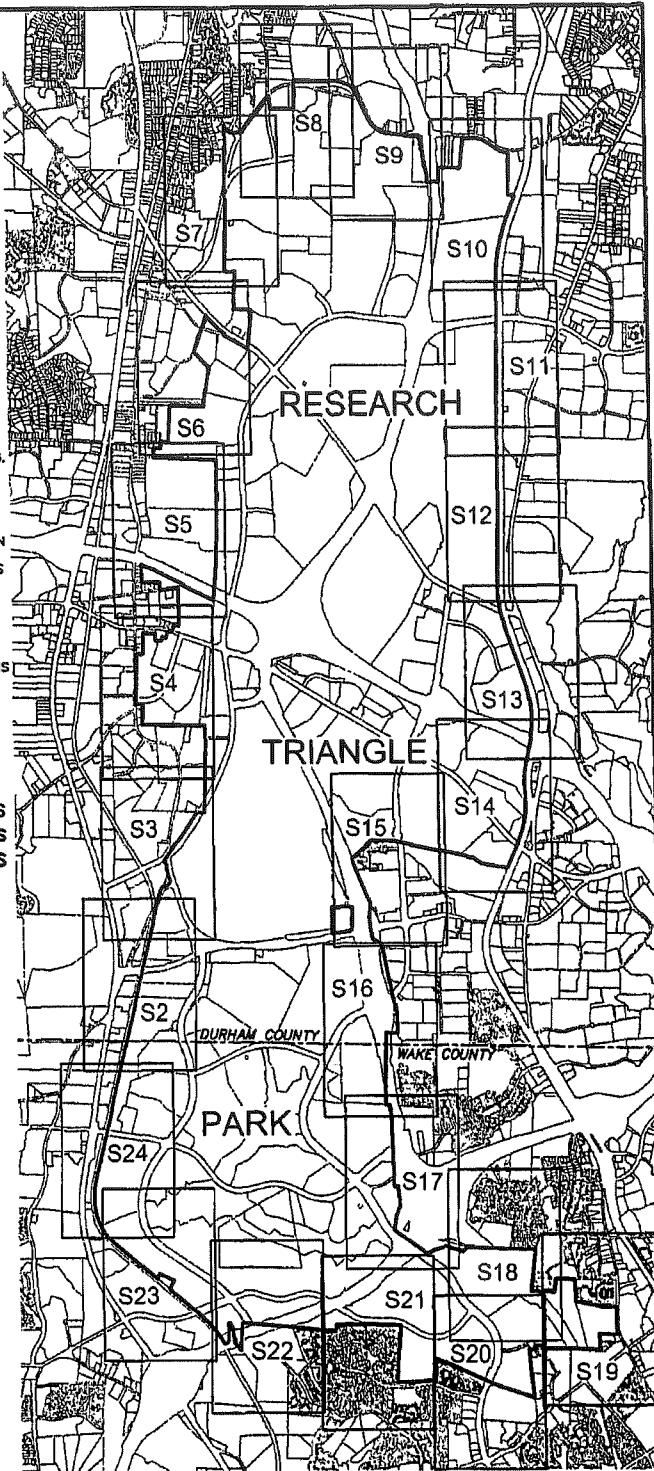
1. BASIS OF BEARINGS: NCGS GRID COORDINATES, NAD83.
2. THE PROPERTY LINES AND RIGHTS-OF-WAY SHOWN HEREON ARE COMPRISED OF DIGITAL DATA DOWNLOADED WITH PERMISSION FROM THE WAKE AND DURHAM COUNTY GEOGRAPHIC INFORMATION SYSTEM OFFICES. THE COVENANT BOUNDARY LINE IS BASED ON AN OVERALL COMPILATION OF RECORD DOCUMENTS SUPPORTED BY THE LOCATION OF PROPERTY CORNERS FOUND DURING THE COURSE OF THE PROJECT.
3. PROPERTIES ARE SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD. A NORTH CAROLINA LICENSED ATTORNEY-AT-LAW SHOULD BE CONSULTED REGARDING CORRECT OWNERSHIP, WIDTH, AND LOCATION OF EASEMENTS AND OTHER TITLE QUESTIONS REVEALED BY TITLE EXAMINATION.
4. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
5. AREAS SHOWN HEREON WERE COMPUTED USING THE COORDINATE COMPUTATION METHOD.

GROSS AREA: 7,082.03 ACRES  
EXCEPTION (SEE S15): 9.60 ACRES  
NET AREA: 7,072.43 ACRES



**LEGEND**

- COMPUTED POINT
- COUNTY LINE
- COVENANT BOUNDARY
- PROPERTY, R/W LINE (SEE GENERAL NOTE #2)



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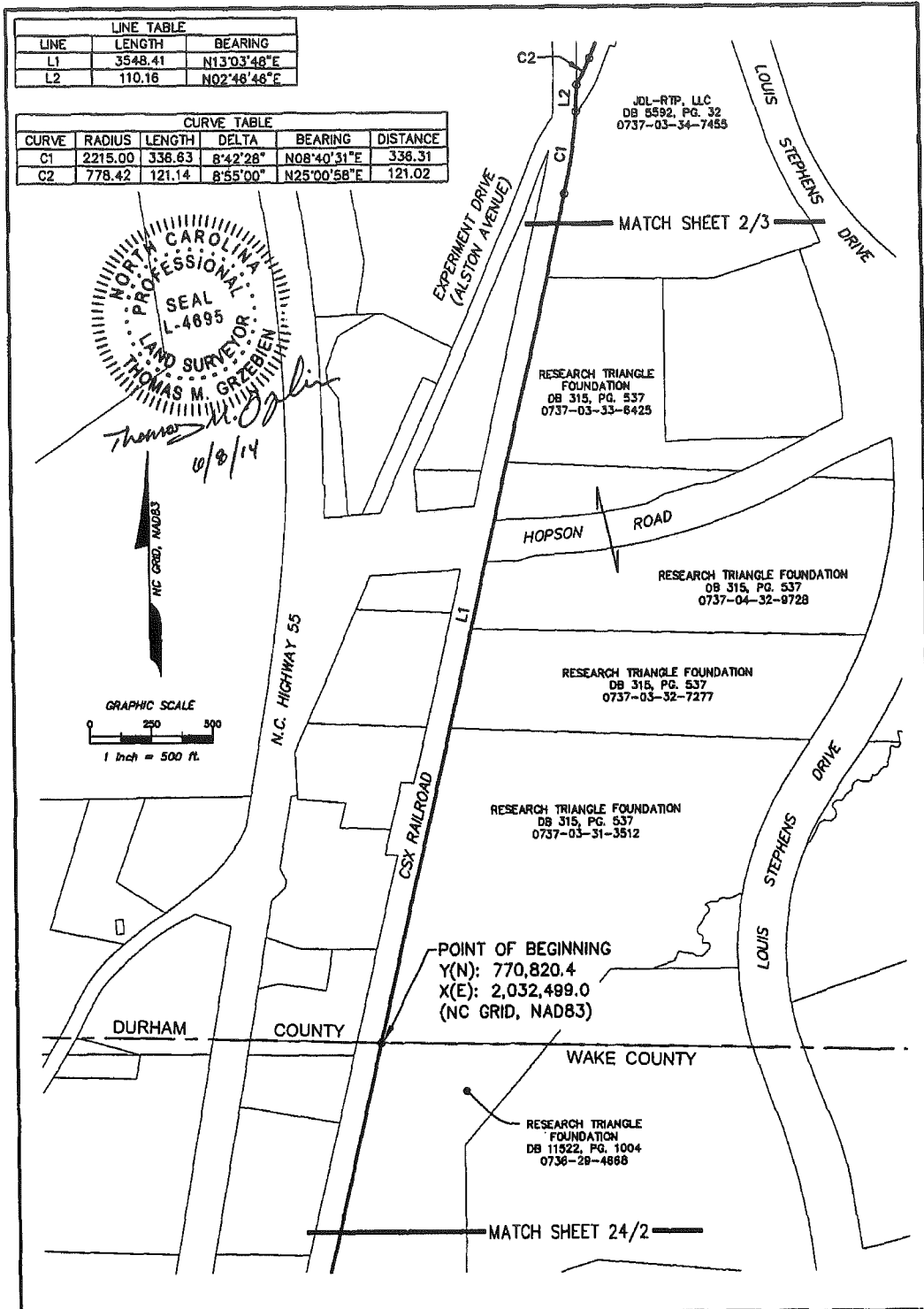
**EXHIBIT MAP**  
of the COVENANT BOUNDARY for  
**RESEARCH TRIANGLE PARK**  
**WAKE AND DURHAM COUNTIES**  
**NORTH CAROLINA**  
PREPARED FOR  
**RESEARCH TRIANGLE FOUNDATION OF N.C.**


Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	N/A
Checked By	TMG	Map Check Date	N/A

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 4,000'	10097024.000	1 of 24

Revisions	1)	3)
	2)	4)

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.



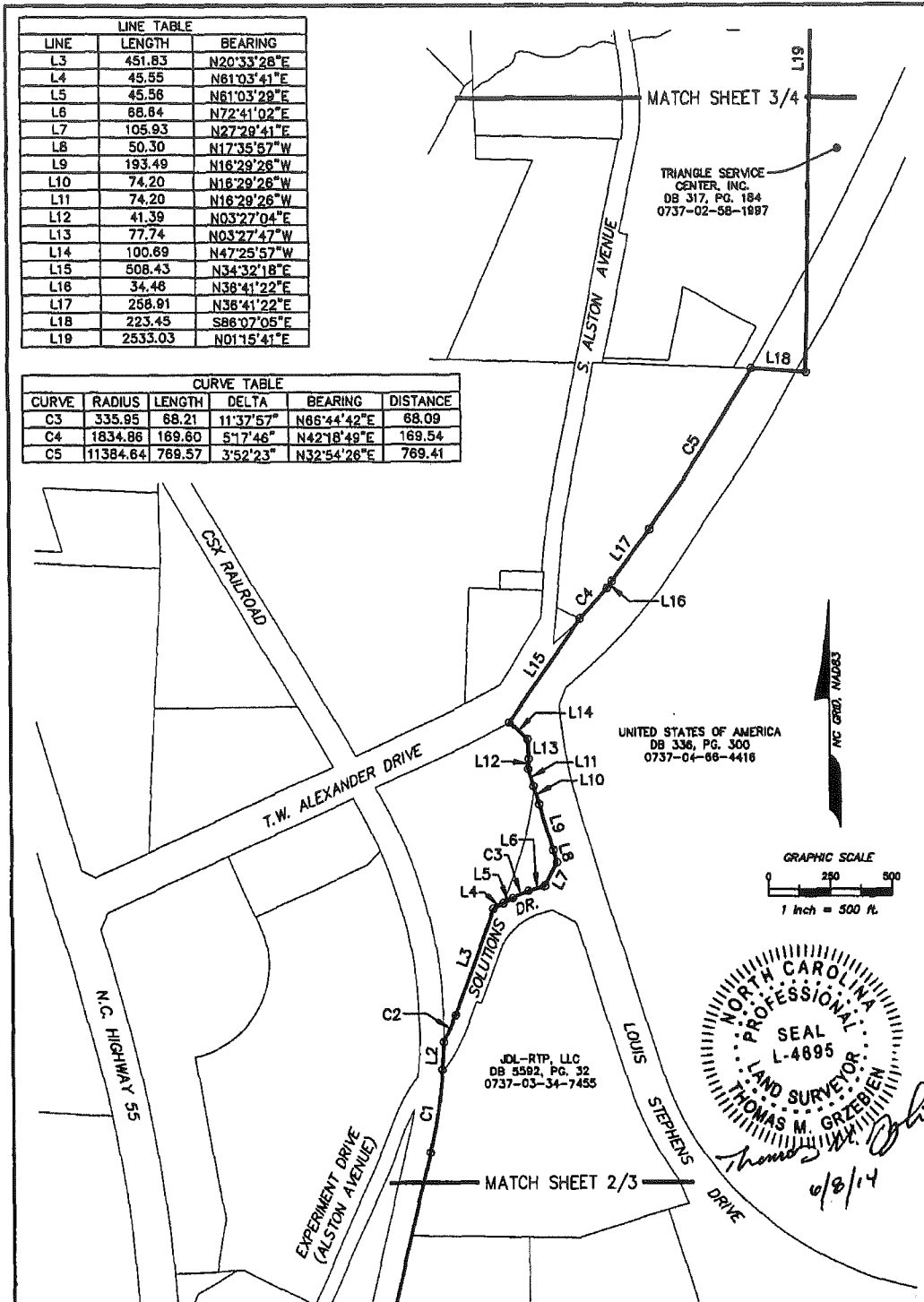



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**EXHIBIT MAP**  
 of the COVENANT BOUNDARY for  
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**NORTH CAROLINA**  
 PREPARED FOR  
**RESEARCH TRIANGLE FOUNDATION OF N.C.**

Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14
Date	JUNE 8, 2014	Scale	1" = 500'
Job No.	10097024.000	Sheet No.	2 of 24
Revisions	1)	3)	
	2)	4)	

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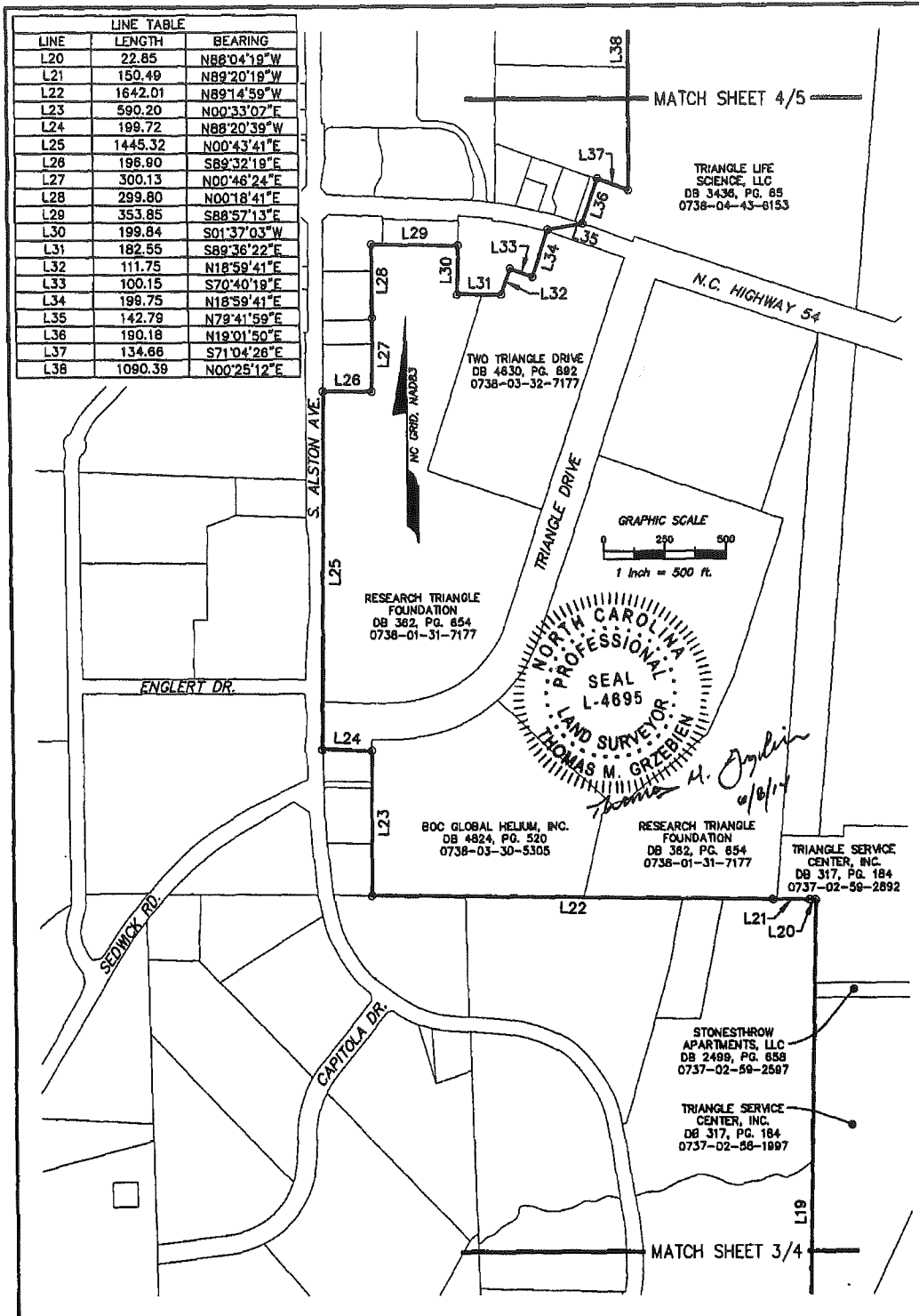
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

**EXHIBIT MAP**  
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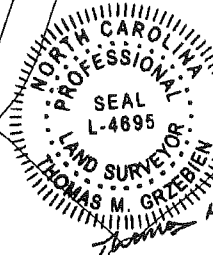
Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	3 of 24
Revisions	1) _____		3) _____
	2) _____		4) _____

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LINE TABLE		
LINE	LENGTH	BEARING
L20	22.85	N88°04'18"W
L21	150.49	N89°20'18"W
L22	1642.01	N89°14'59"W
L23	590.20	N00°33'07"E
L24	199.72	N88°20'39"W
L25	1445.32	N00°43'41"E
L26	198.90	S89°32'19"E
L27	300.13	N00°46'24"E
L28	299.80	N00°18'41"E
L29	353.85	S88°57'13"E
L30	199.84	S01°37'03"W
L31	182.55	S89°36'22"E
L32	111.75	N18°59'41"E
L33	100.15	S70°40'19"E
L34	199.75	N18°59'41"E
L35	142.79	N79°41'59"E
L36	190.18	N19°01'50"E
L37	134.66	S71°04'26"E
L38	1090.39	N00°25'12"E



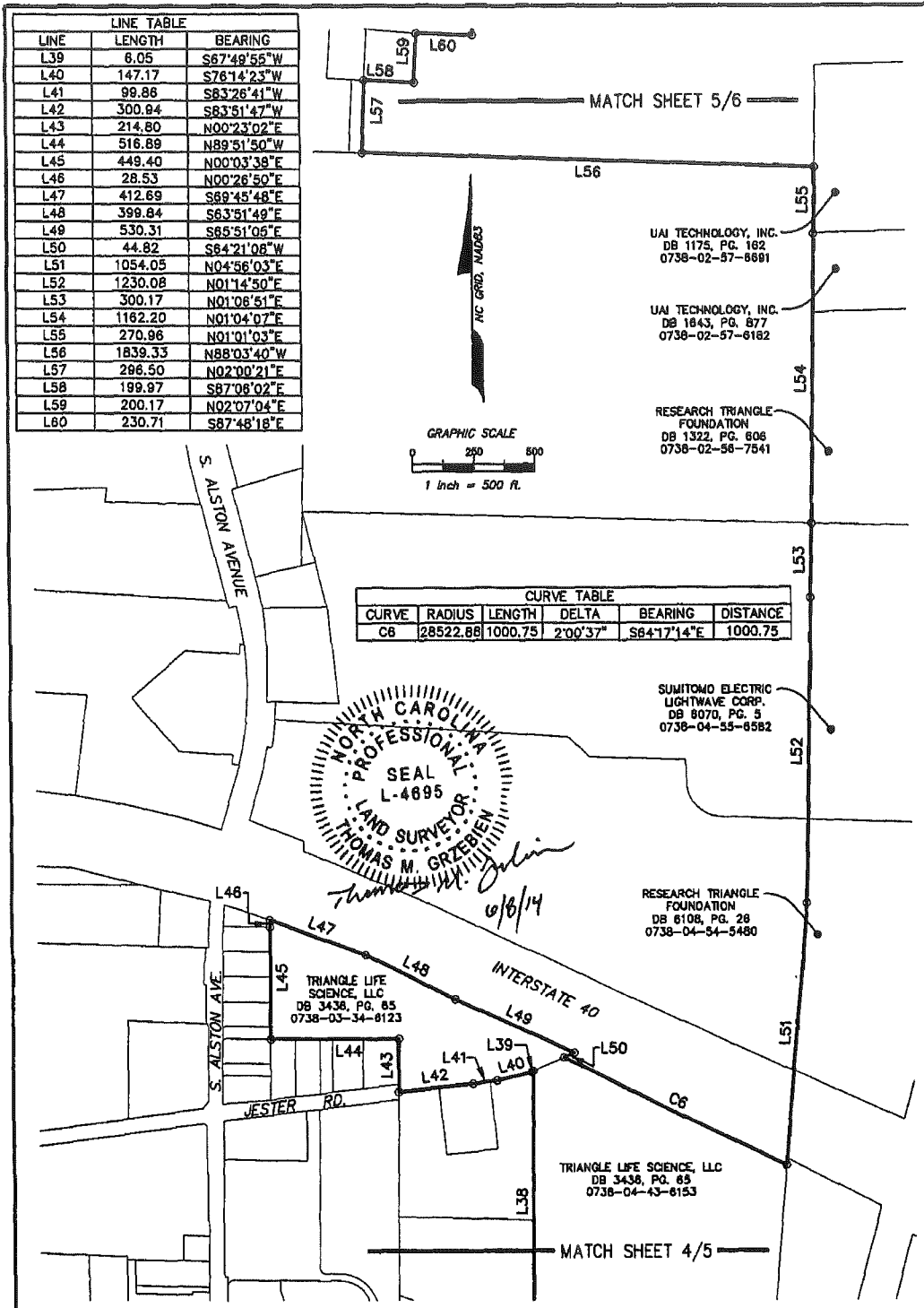
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**EXHIBIT MAP**  
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Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	4 of 24
Revisions	1)	3)	
	2)	4)	

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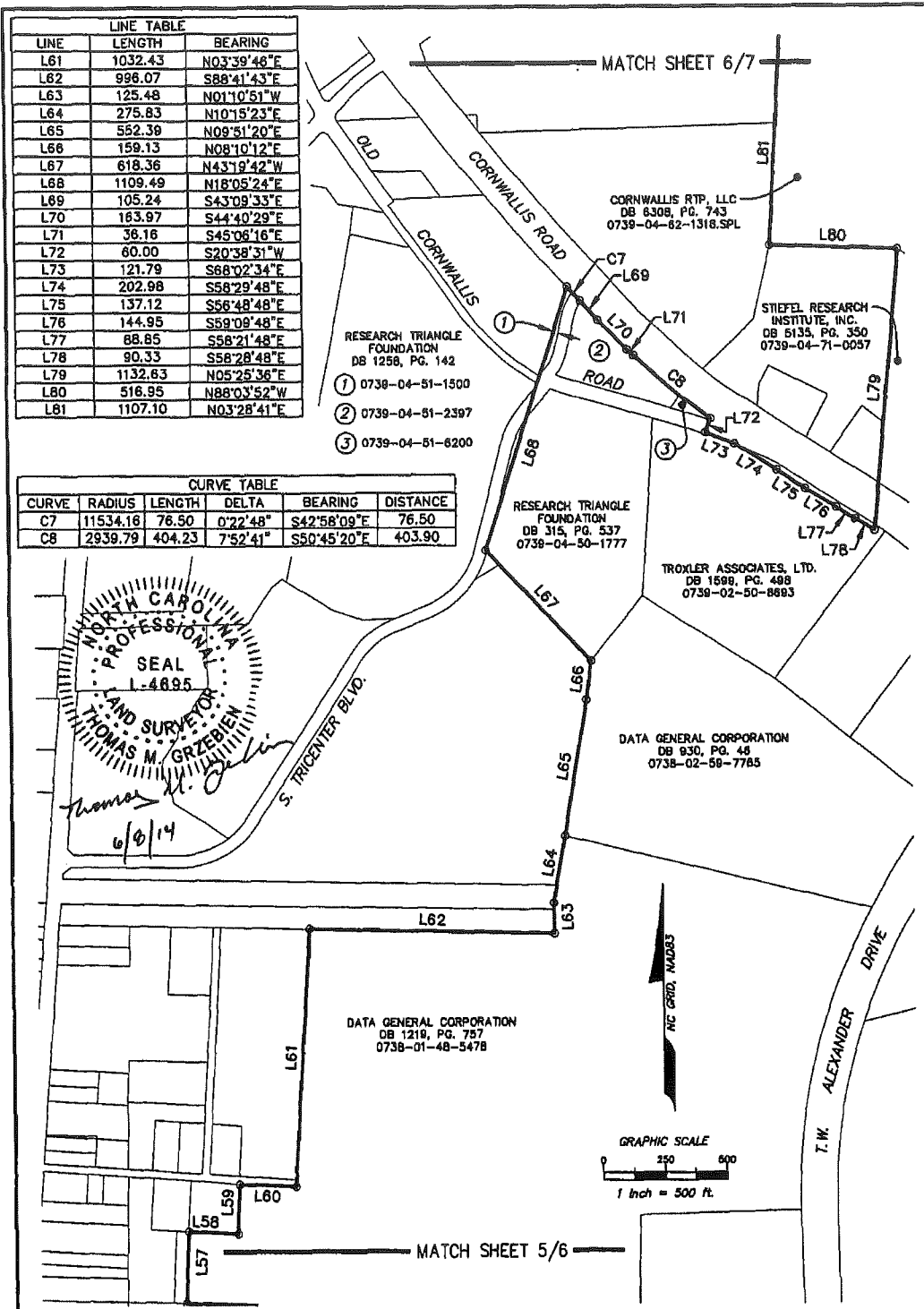
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date: JUNE 8, 2014  
Scale: 1" = 500'  
Job No.: 10097024.000  
Sheet No.: 5 of 24

Revisions	1)	3)
	2)	4)

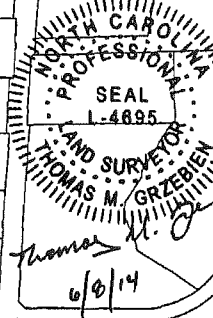
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LINE TABLE		
LINE	LENGTH	BEARING
L61	1032.43	N03°39'48"E
L62	996.07	S88°41'43"E
L63	125.48	N01°10'51"W
L64	275.83	N10°15'23"E
L65	552.39	N09°51'20"E
L66	159.13	N08°10'12"E
L67	618.36	N43°19'42"W
L68	1109.49	N18°05'24"E
L69	105.24	S43°09'33"E
L70	163.97	S44°40'29"E
L71	36.16	S45°06'16"E
L72	60.00	S20°38'31"W
L73	121.79	S68°02'34"E
L74	202.98	S58°29'48"E
L75	137.12	S56°48'48"E
L76	144.95	S59°09'48"E
L77	88.85	S58°21'48"E
L78	90.33	S58°28'48"E
L79	1132.83	N05°25'36"E
L80	516.95	N88°03'52"W
L81	1107.10	N03°28'41"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C7	11534.16	76.50	0°22'48"	S42°58'09"E	76.50
C8	2939.79	404.23	7°52'41"	S50°45'20"E	403.90



**EXHIBIT MAP**  
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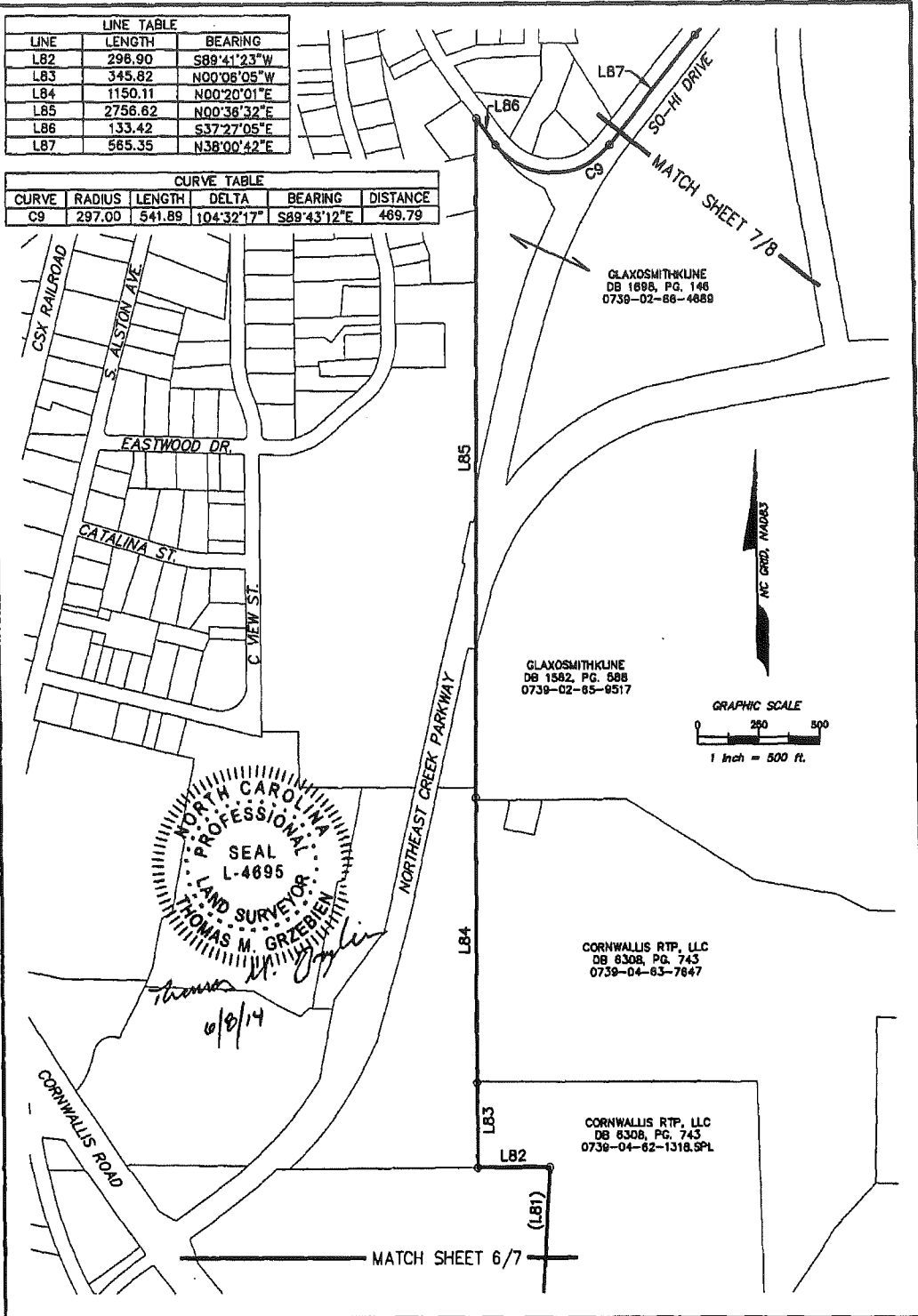
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Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	6 of 24

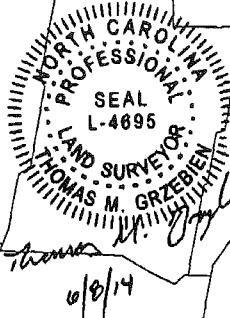
Revisions	1)	3)
	2)	4)

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LINE TABLE		
LINE	LENGTH	BEARING
L82	296.90	S89°41'23"W
L83	345.82	N00°08'05"W
L84	1150.11	N00°20'01"E
L85	2756.82	N00°36'32"E
L86	133.42	S37°27'05"E
L87	565.35	N38°00'42"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C9	297.00	541.89	104°32'17"	S89°43'12"E	469.79



GLAXOSMITHKLINE  
DB 1698, PG. 146  
0739-02-86-4889

GLAXOSMITHKLINE  
DB 1582, PG. 586  
0739-02-65-8517

CORNWALLIS RTP, LLC  
DB 6308, PG. 743  
0739-04-63-7647

CORNWALLIS RTP, LLC  
DB 6308, PG. 743  
0739-04-62-1318.SPL



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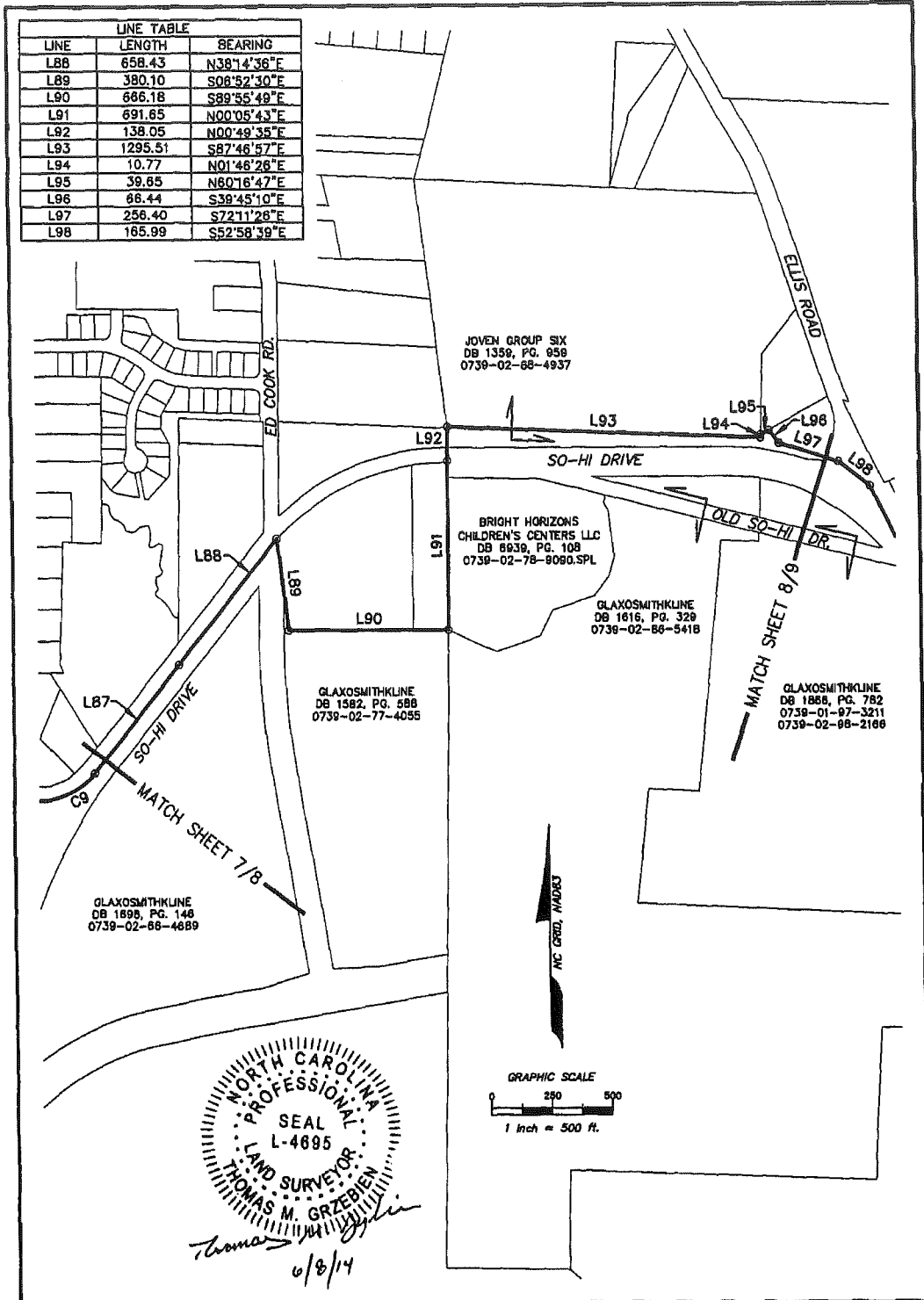
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N.C.B.E.E.S. Firm License Number F-0891

Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10087024.000	7 of 24
Revisions	1)	3)	
	2)	4)	

EXHIBIT MAP  
of the COVENANT BOUNDARY for  
RESEARCH TRIANGLE PARK  
WAKE and DURHAM COUNTIES  
NORTH CAROLINA  
PREPARED FOR  
RESEARCH TRIANGLE FOUNDATION OF N.C.

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 LAND SURVEYOR  
 THOMAS M. GRZEBIEN  
*Thomas M. Grzeben*  
 6/8/14

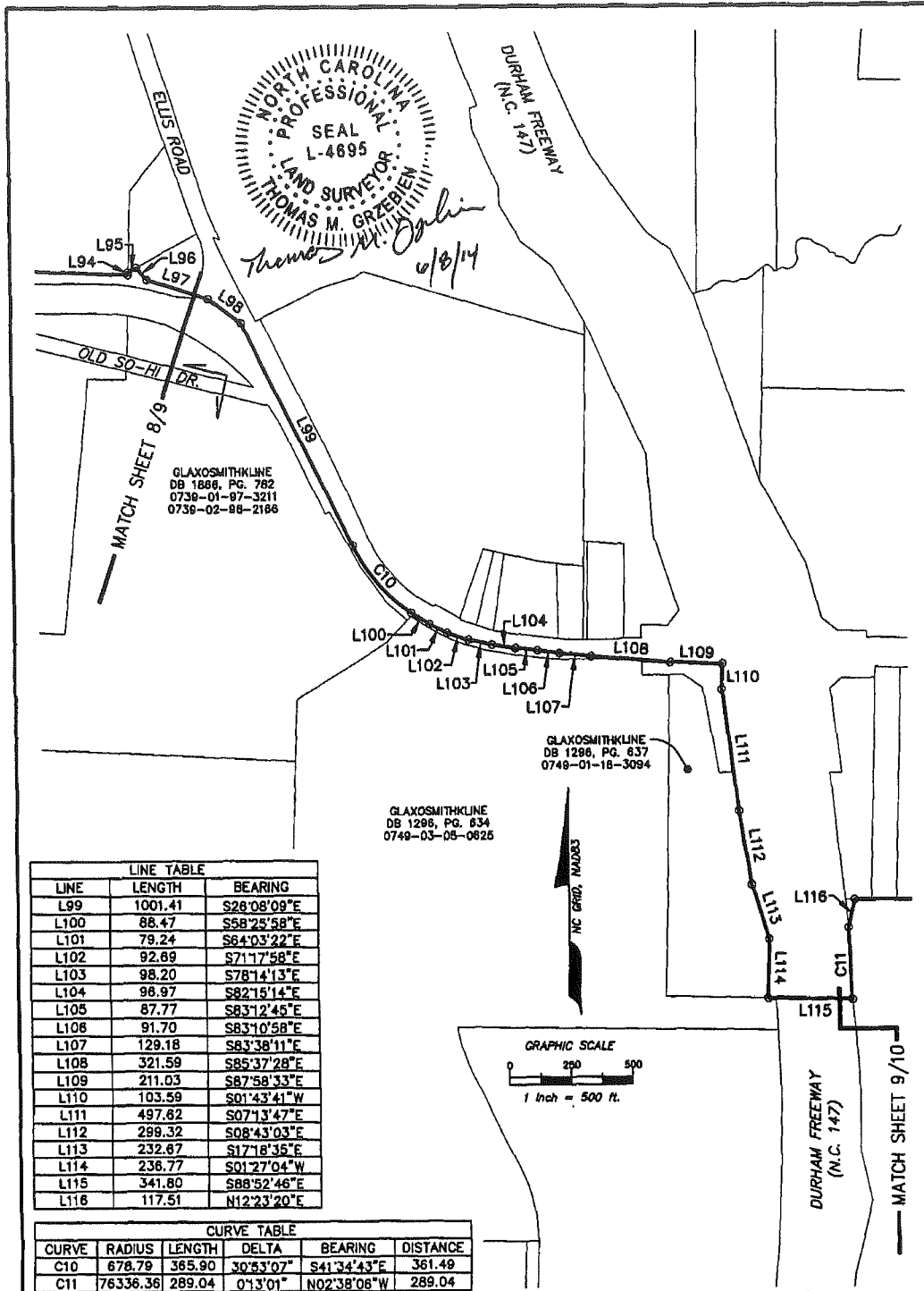


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**WAKE and DURHAM COUNTIES**  
**NORTH CAROLINA**  
 PREPARED FOR  
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14
Date	Scale		Job No.
JUNE 8, 2014	1" = 500'		10087024.000
Revisions	1)	3)	Sheet No.
	2)	4)	6 of 24

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LINE TABLE		
LINE	LENGTH	BEARING
L99	1001.41	S28°08'09"E
L100	88.47	S58°25'58"E
L101	79.24	S64°03'22"E
L102	92.69	S71°17'58"E
L103	98.20	S78°14'13"E
L104	98.97	S82°15'14"E
L105	87.77	S83°12'45"E
L106	91.70	S83°10'58"E
L107	129.18	S83°38'11"E
L108	321.59	S85°37'28"E
L109	211.03	S87°58'33"E
L110	103.59	S01°43'41"W
L111	497.82	S07°13'47"E
L112	299.32	S08°43'03"E
L113	232.67	S17°18'35"E
L114	236.77	S01°27'04"W
L115	341.80	S88°52'46"E
L116	117.51	N12°23'20"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C10	678.79	365.90	30°53'07"	S41°34'43"E	361.49
C11	76336.36	289.04	0°13'01"	N02°38'08"W	289.04



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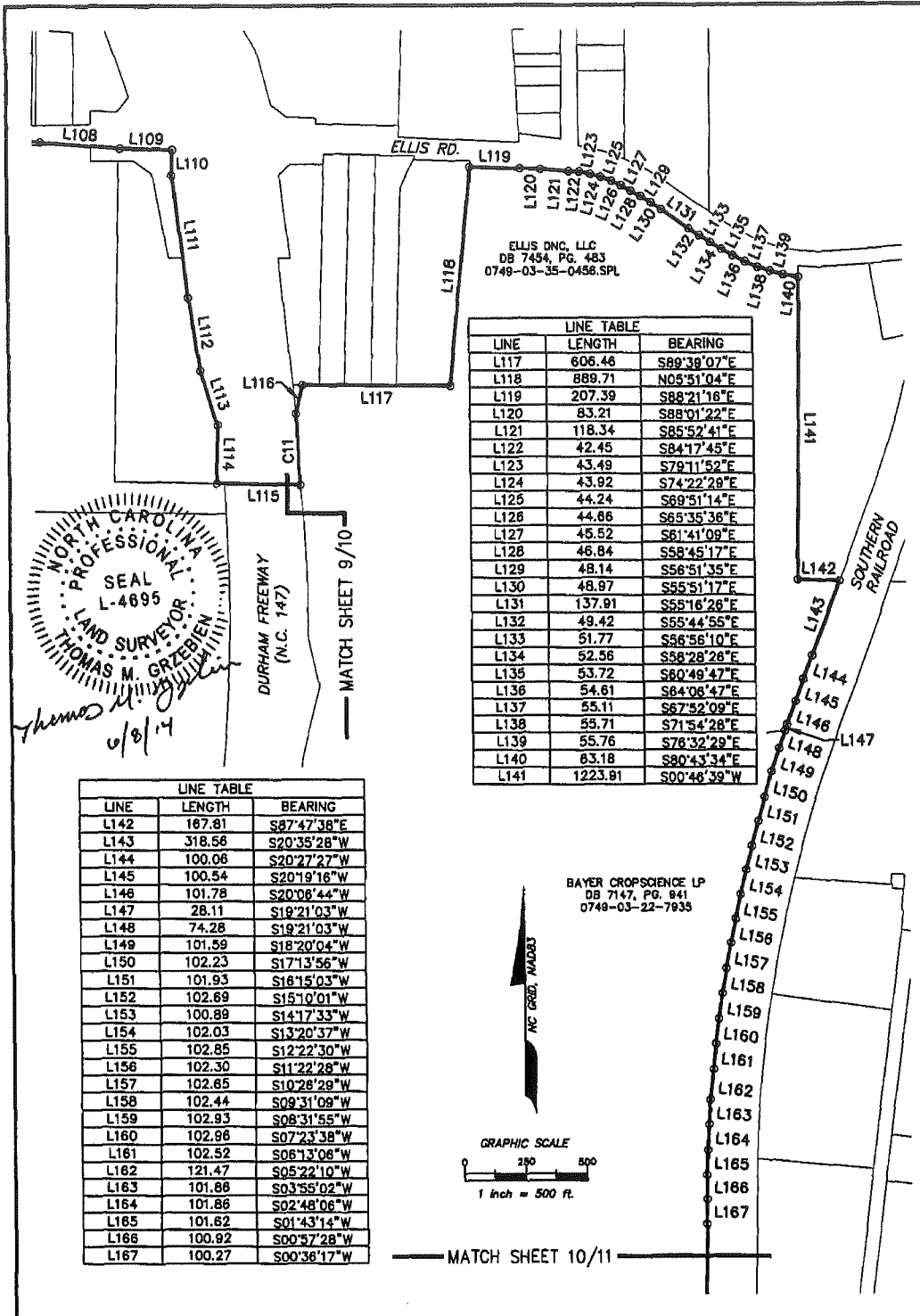
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Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	9 of 24
Revisions	1)	3)	
	2)	4)	

EXHIBIT MAP  
of the COVENANT BOUNDARY for  
RESEARCH TRIANGLE PARK  
WAKE and DURHAM COUNTIES  
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RESEARCH TRIANGLE FOUNDATION OF N.C.

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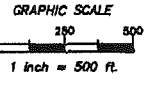


LINE	LENGTH	BEARING
L117	606.46	S89°39'07"E
L118	889.71	N05°51'04"E
L119	207.39	S88°21'16"E
L120	83.21	S88°01'22"E
L121	118.34	S85°52'41"E
L122	42.45	S84°17'45"E
L123	43.49	S79°11'52"E
L124	43.82	S74°22'28"E
L125	44.24	S69°51'14"E
L126	44.86	S65°35'36"E
L127	45.52	S61°41'09"E
L128	46.84	S58°45'17"E
L129	48.14	S56°51'35"E
L130	48.97	S55°51'17"E
L131	137.91	S55°16'26"E
L132	49.42	S55°44'55"E
L133	51.77	S56°56'10"E
L134	52.56	S58°28'28"E
L135	53.72	S60°49'47"E
L136	54.61	S64°08'47"E
L137	55.11	S67°32'09"E
L138	55.71	S71°54'28"E
L139	55.76	S78°32'29"E
L140	63.18	S80°43'34"E
L141	1223.91	S00°46'39"W

LINE	LENGTH	BEARING
L142	167.81	S87°47'38"E
L143	318.56	S20°35'28"W
L144	100.06	S20°27'27"W
L145	100.54	S20°19'16"W
L146	101.78	S20°08'44"W
L147	26.11	S18°21'03"W
L148	74.28	S18°21'03"W
L149	101.59	S18°20'04"W
L150	102.23	S17°13'56"W
L151	101.93	S16°15'03"W
L152	102.69	S15°10'01"W
L153	100.89	S14°17'33"W
L154	102.03	S13°20'37"W
L155	102.85	S12°22'30"W
L156	102.30	S11°22'28"W
L157	102.65	S10°28'29"W
L158	102.44	S09°31'09"W
L159	102.93	S08°31'55"W
L160	102.96	S07°23'38"W
L161	102.52	S06°13'06"W
L162	121.47	S05°22'10"W
L163	101.86	S03°55'02"W
L164	101.86	S02°48'06"W
L165	101.82	S01°43'14"W
L166	100.92	S00°37'28"W
L167	100.27	S00°36'17"W

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6/8/14

BAYER CROSCIENCE LP  
DB 7147, PG. 941  
0748-03-22-7935

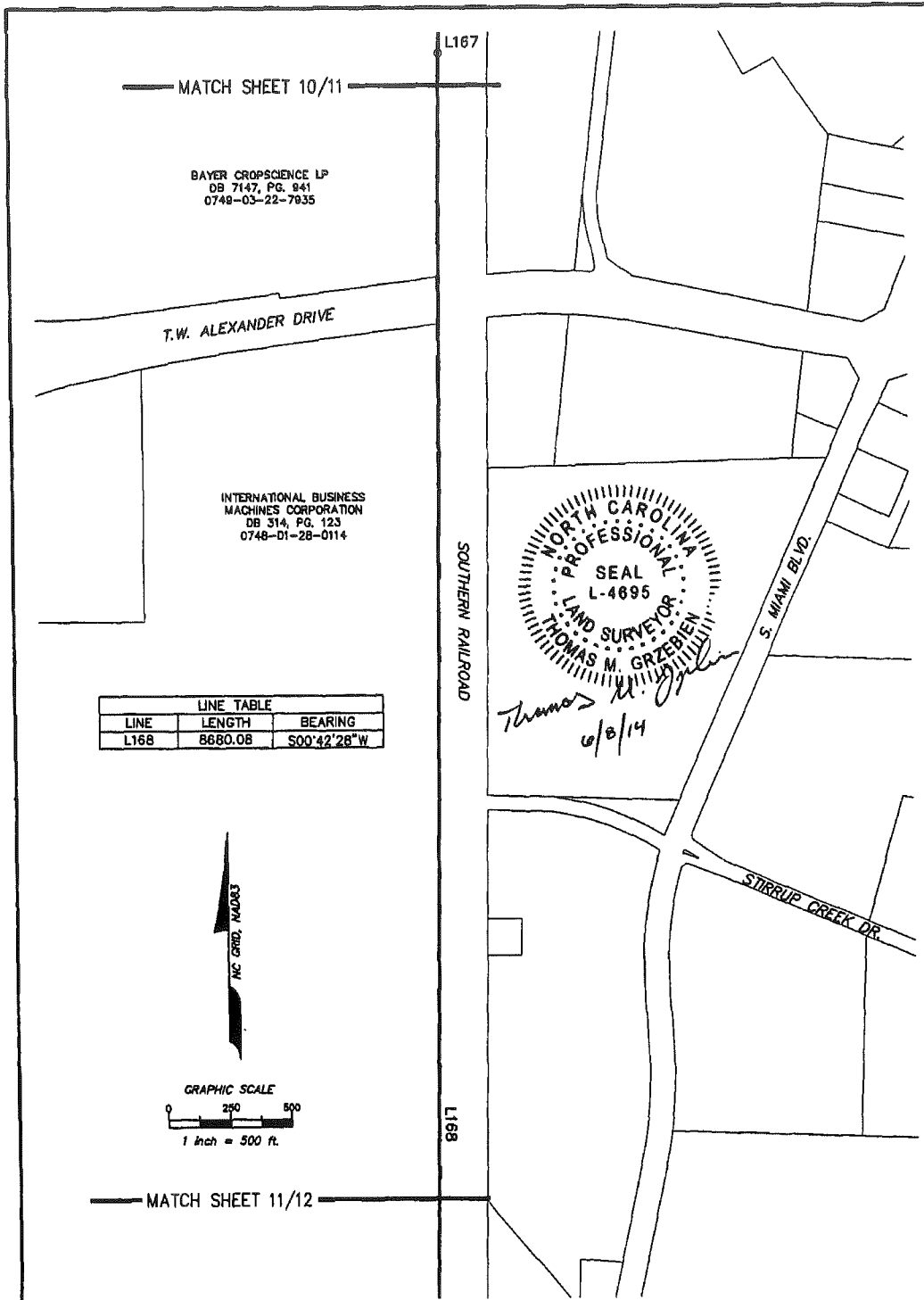


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**EXHIBIT MAP**  
of the COVENANT BOUNDARY for  
**RESEARCH TRIANGLE PARK**  
**WAKE and DURHAM COUNTIES**  
**NORTH CAROLINA**  
PREPARED FOR  
**RESEARCH TRIANGLE FOUNDATION OF N.C.**

Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14
Date	JUNE 8, 2014	Scale	1" = 500'
Job No.	10097024.000	Sheet No.	10 of 24
Revisions	1) 2)		3) 4)

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LINE TABLE		
LINE	LENGTH	BEARING
L168	8680.08	S00°42'28"W



MATCH SHEET 11/12



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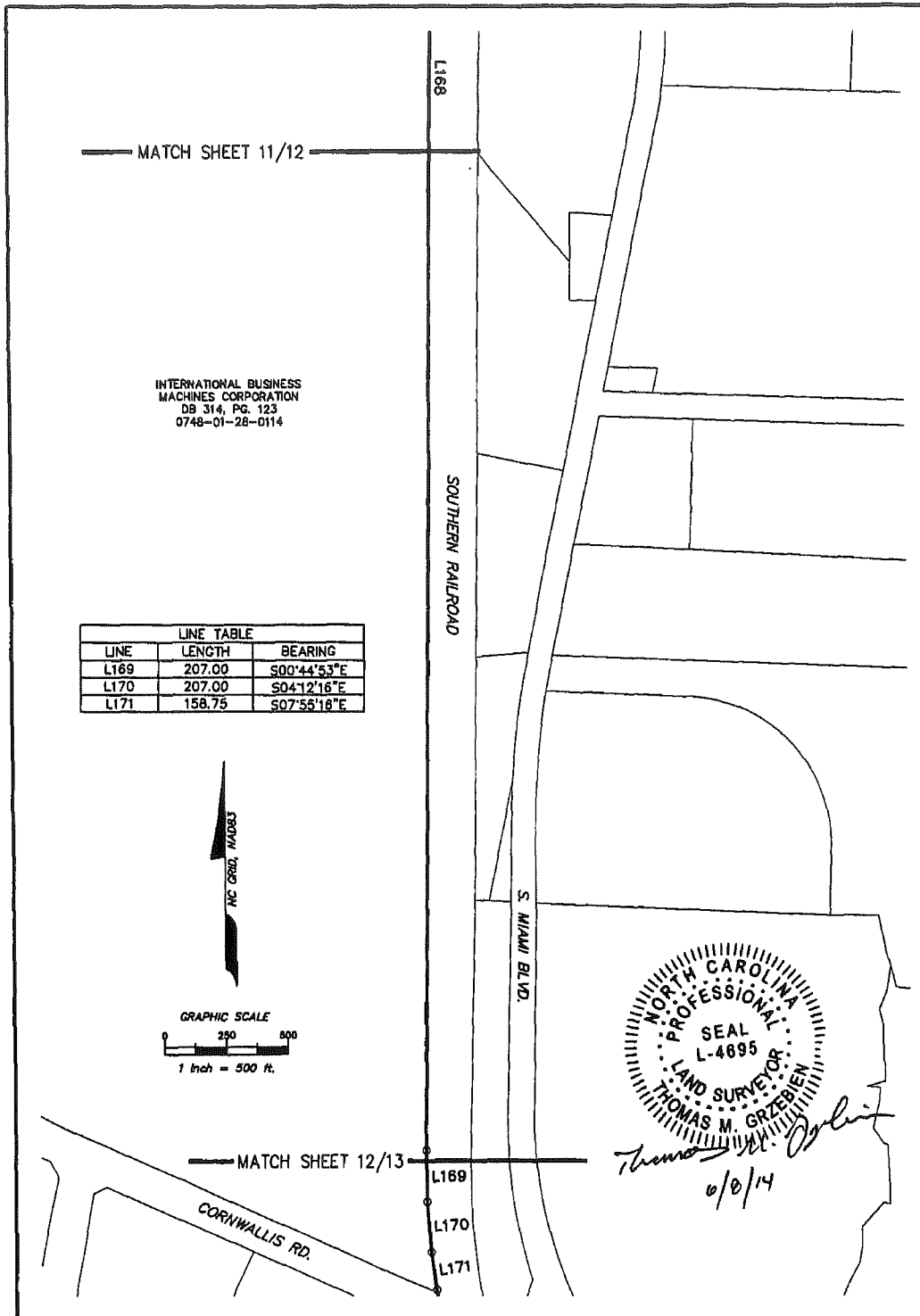
**EXHIBIT MAP**  
 of the COVENANT BOUNDARY for  
**RESEARCH TRIANGLE PARK**  
**WAKE and DURHAM COUNTIES**  
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	11 of 24
Revisions	1)	3)	
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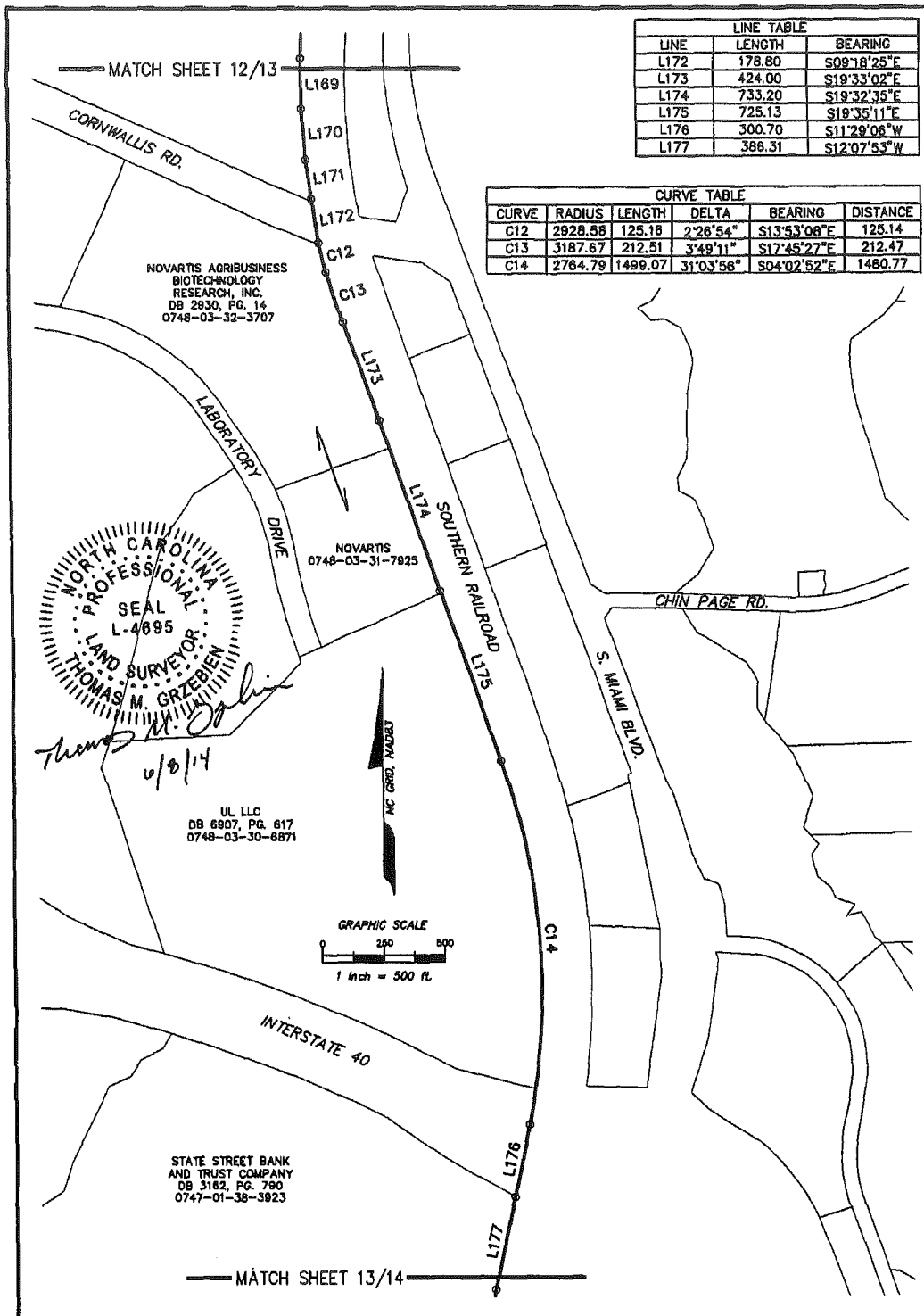
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Drawn By	TMG	File Name	RTP BOUNDARY BASE
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Checked By	TMG	Map Check Date	6/8/14

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WAKE and DURHAM COUNTIES  
NORTH CAROLINA  
PREPARED FOR  
RESEARCH TRIANGLE FOUNDATION OF N.C.

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	12 of 24
Revisions	1)	3)	
	2)	4)	



LINE TABLE		
LINE	LENGTH	BEARING
L172	178.80	S09°18'25"E
L173	424.00	S19°33'02"E
L174	733.20	S19°32'35"E
L175	725.13	S19°35'11"E
L176	300.70	S11°29'06"W
L177	386.31	S12°07'53"W

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C12	2928.58	125.16	2°26'54"	S13°53'08"E	125.14
C13	3187.67	212.51	3°49'11"	S17°45'27"E	212.47
C14	2764.79	1499.07	31°03'56"	S04°02'52"E	1480.77

NOVARTIS AGRIBUSINESS  
BIOTECHNOLOGY  
RESEARCH, INC.  
DB 2830, PG. 14  
0748-03-32-3707

NOVARTIS  
0748-03-31-7925

UL LLC  
DB 6907, PG. 817  
0748-03-30-8871

STATE STREET BANK  
AND TRUST COMPANY  
DB 3182, PG. 790  
0747-01-38-3923

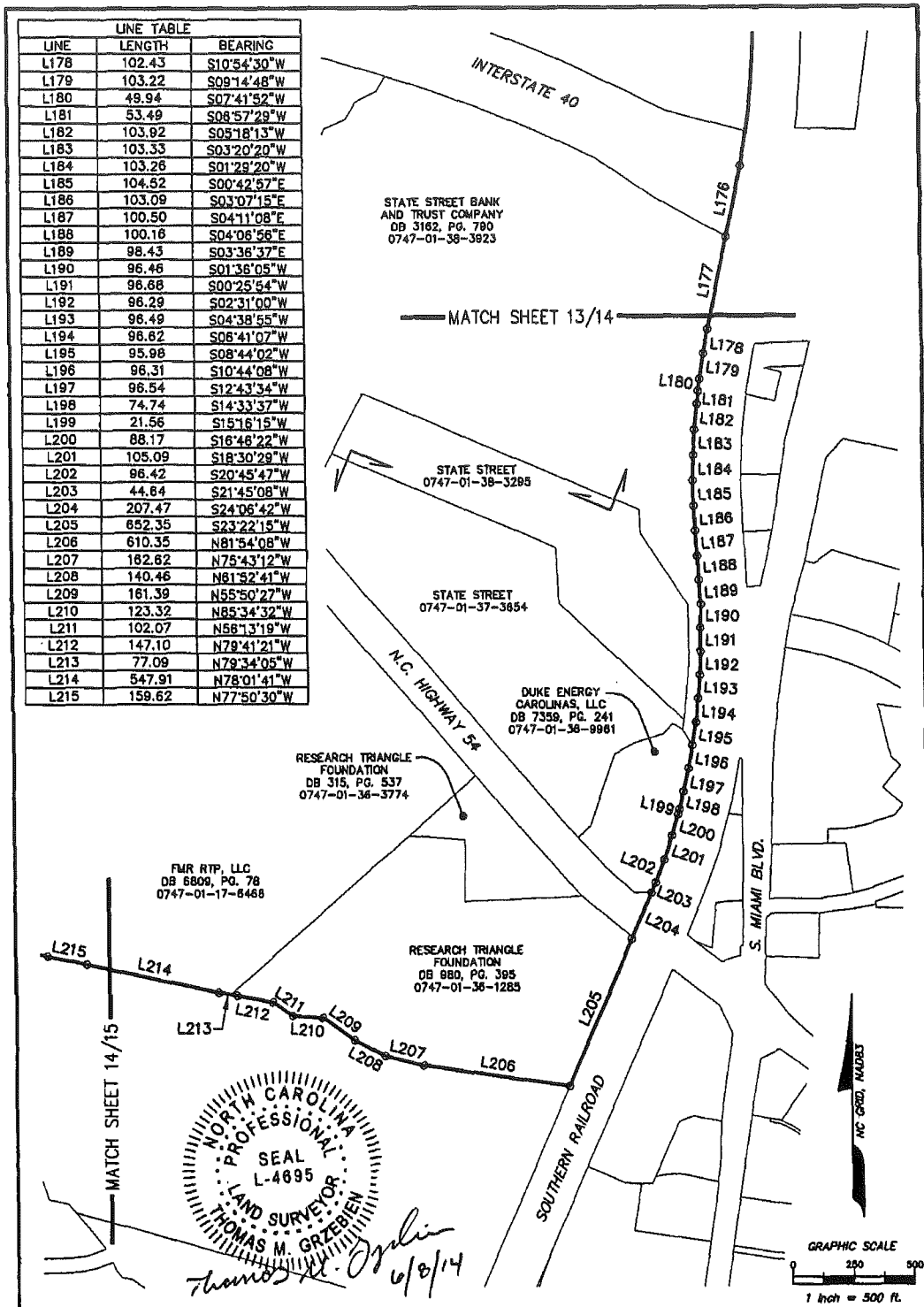
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LAND SURVEYOR  
THOMAS M. GRZEBIEŃ  
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EXHIBIT MAP  
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Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14
Date	JUNE 8, 2014	Scale	1" = 500'
Job No.	10087024.000	Sheet No.	13 of 24
Revisions	1)		3)
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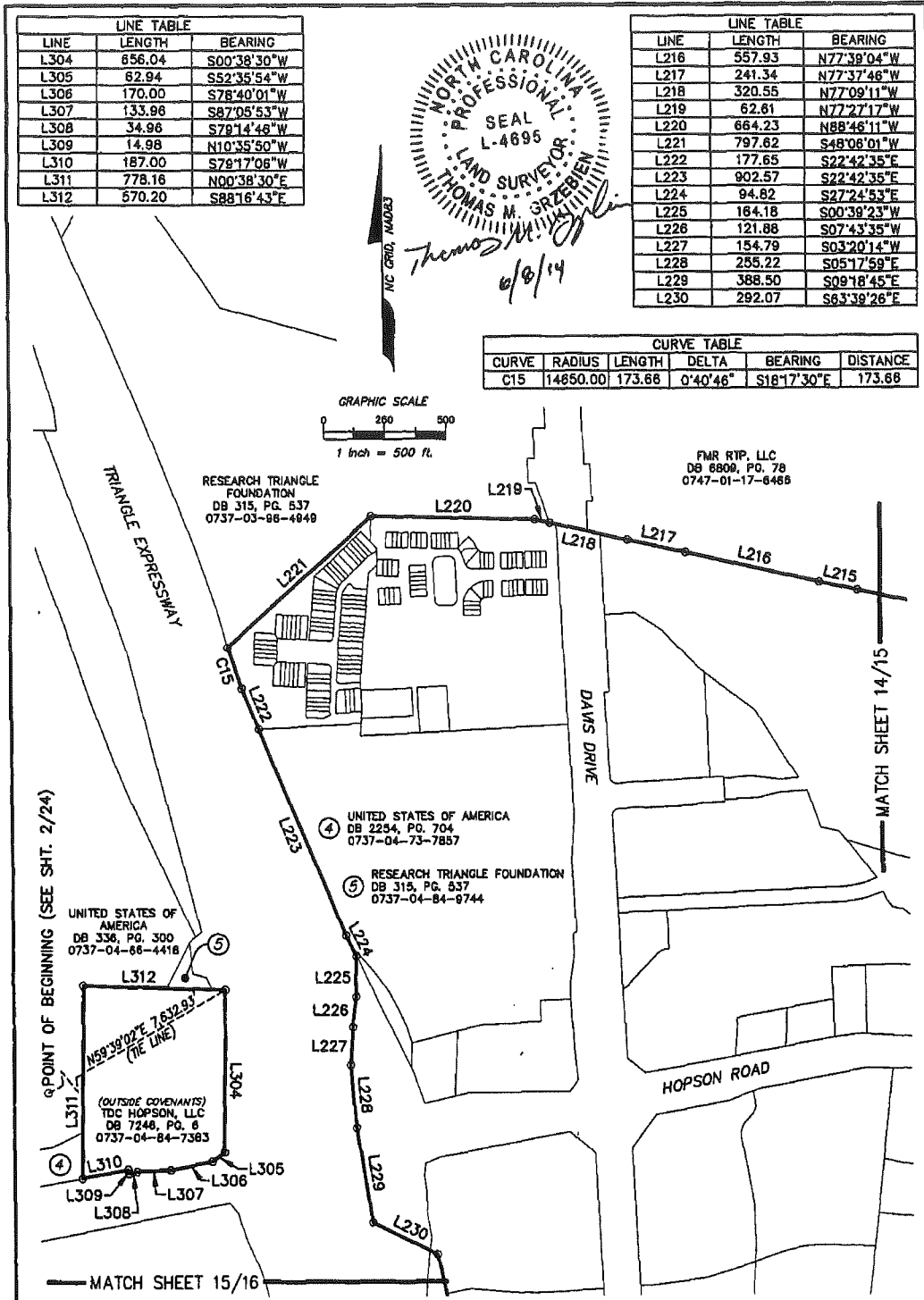
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	14 of 24

Revisions	1)	3)
	2)	4)

**EXHIBIT MAP**  
of the COVENANT BOUNDARY for  
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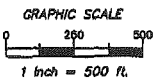
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LINE TABLE		
LINE	LENGTH	BEARING
L304	656.04	S00°38'30"W
L305	82.94	S52°35'54"W
L306	170.00	S78°40'01"W
L307	133.96	S87°05'53"W
L308	34.96	S79°14'48"W
L309	14.98	N10°35'50"W
L310	187.00	S79°17'06"W
L311	778.18	N00°38'30"E
L312	570.20	S88°16'43"E

LINE TABLE		
LINE	LENGTH	BEARING
L216	557.93	N77°39'04"W
L217	241.34	N77°37'46"W
L218	320.55	N77°09'11"W
L219	62.61	N77°27'17"W
L220	664.23	N88°46'11"W
L221	797.62	S48°08'01"W
L222	177.65	S22°42'35"E
L223	902.57	S22°42'35"E
L224	94.82	S27°24'53"E
L225	164.18	S00°39'23"W
L226	121.88	S07°43'35"W
L227	154.79	S03°20'14"W
L228	255.22	S05°17'59"E
L229	388.50	S09°18'45"E
L230	292.07	S63°39'26"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C15	14650.00	173.66	0°40'46"	S18°17'30"E	173.66



TRIANGLE EXPRESSWAY

RESEARCH TRIANGLE FOUNDATION  
DB 315, PG. 537  
0737-03-88-4849

FMR RTP, LLC  
DB 6809, PG. 78  
0747-01-17-6466

UNITED STATES OF AMERICA  
DB 2254, PG. 704  
0737-04-73-7857

RESEARCH TRIANGLE FOUNDATION  
DB 315, PG. 537  
0737-04-84-8744

UNITED STATES OF AMERICA  
DB 336, PG. 300  
0737-04-66-4416

(OUTSIDE COVENANTS)  
TDC HOPSON, LLC  
DB 7246, PG. 6  
0737-04-84-7383

POINT OF BEGINNING (SEE SHT. 2/24)

MATCH SHEET 15/16

MATCH SHEET 14/15

TRIAANGLE EXPRESSWAY

DAVIS DRIVE

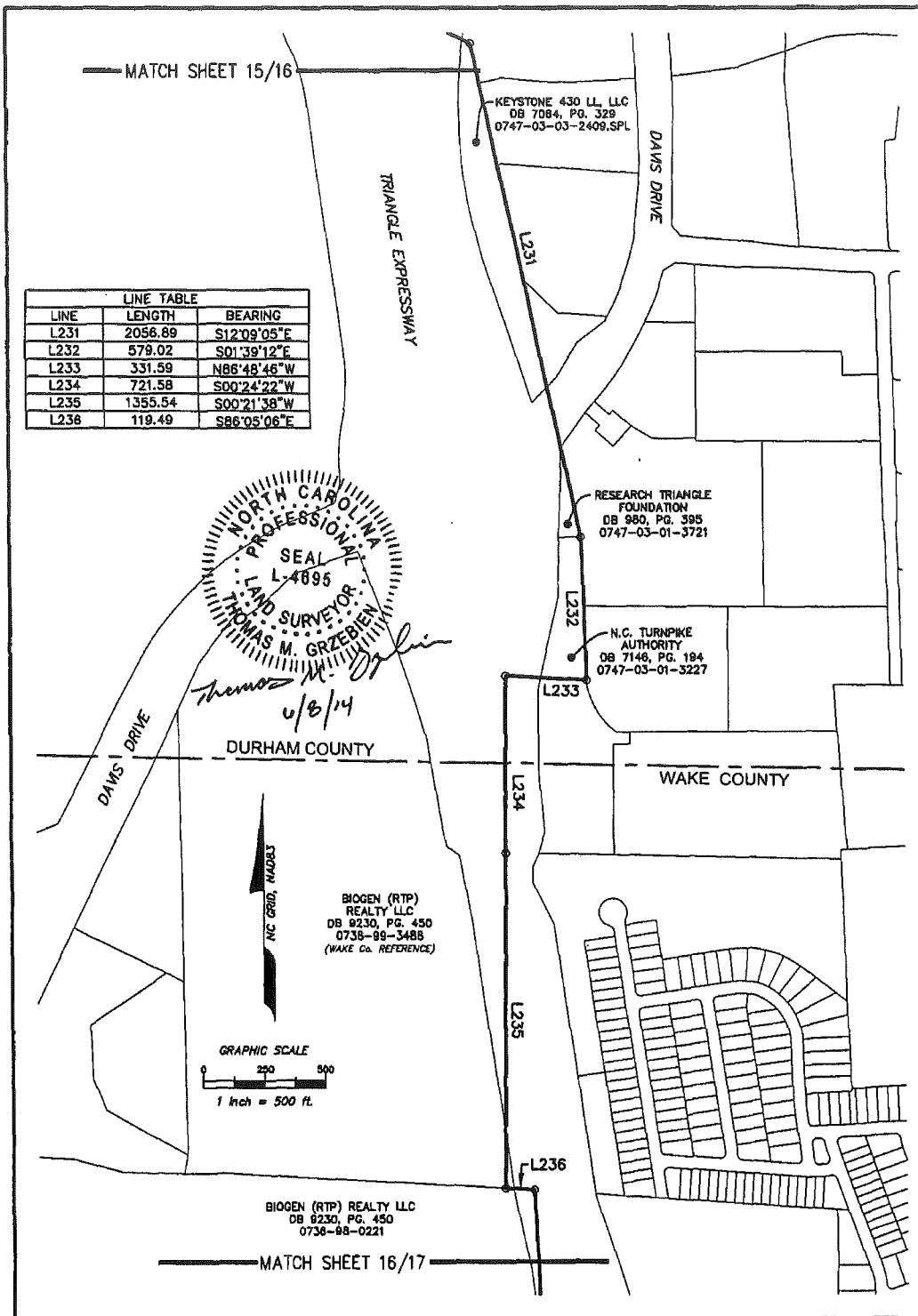
HOPSON ROAD




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Checked By	TMG	Map Check Date	6/8/14
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JUNE 8, 2014	1" = 500'		10097024.000
Sheet No.	15 of 24		
Revisions	3)		
1)	4)		
2)			



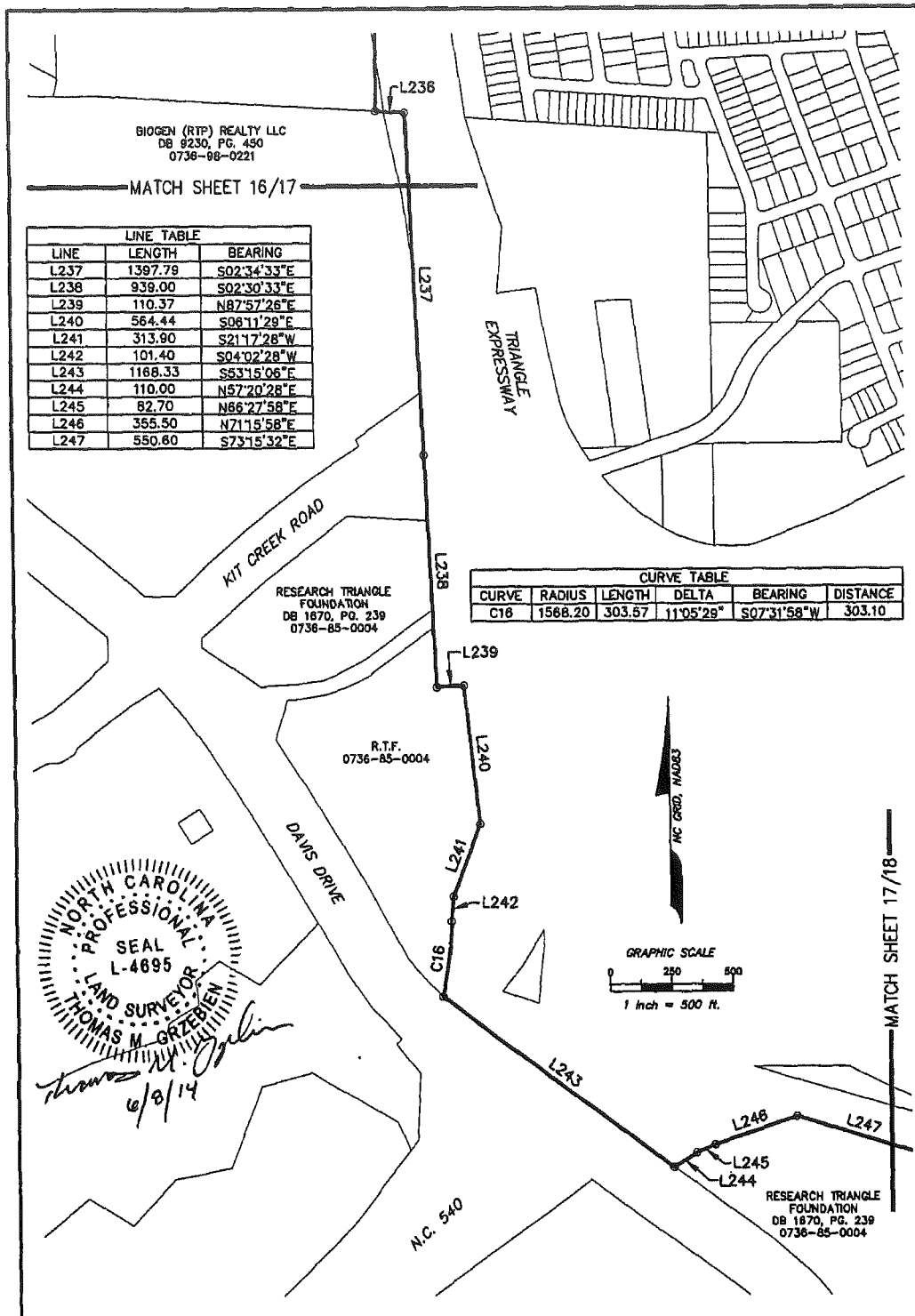


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Job No.	10097024.000	Sheet No.	16 of 24
Revisions	1)		3)
	2)		4)

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LINE TABLE		
LINE	LENGTH	BEARING
L237	1397.79	S02°34'33"E
L238	939.00	S02°30'33"E
L239	110.37	N87°57'26"E
L240	564.44	S08°11'29"E
L241	313.90	S21°17'28"W
L242	101.40	S04°02'28"W
L243	1168.33	S53°15'06"E
L244	110.00	N57°20'28"E
L245	82.70	N86°27'58"E
L246	355.50	N71°15'58"E
L247	550.80	S73°15'32"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C18	1568.20	303.57	11°05'29"	S07°31'58"W	303.10

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 LAND SURVEYOR  
 THOMAS M. ORZEBIEN  
*Thomas M. Orzobien*  
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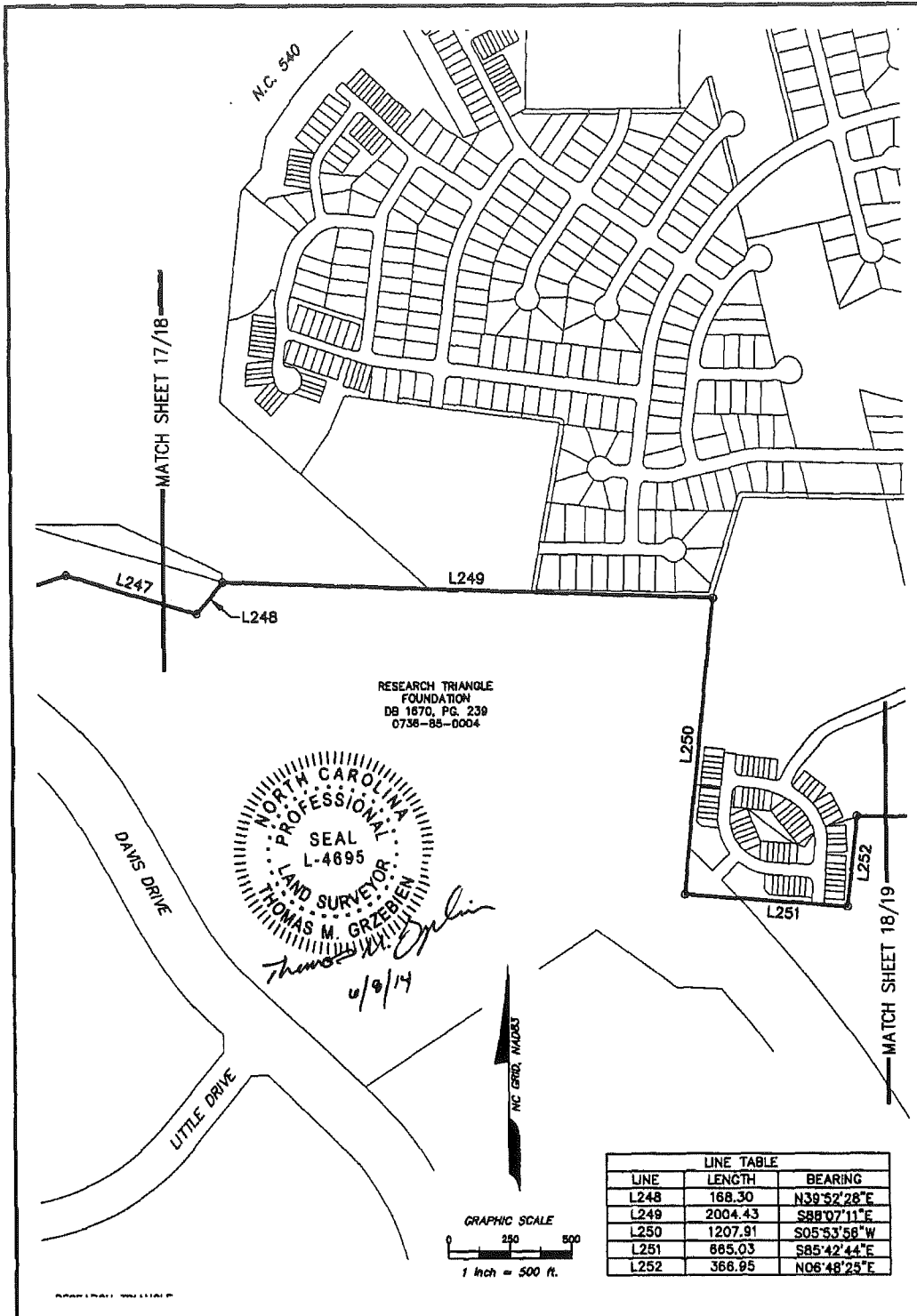
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Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

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 of the COVENANT BOUNDARY for  
**RESEARCH TRIANGLE PARK**  
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**NORTH CAROLINA**  
 PREPARED FOR  
**RESEARCH TRIANGLE FOUNDATION OF N.C.**

Date	JUNE 8, 2014	Scale	1" = 500'	Job No.	10097024.000	Sheet No.	17 of 24
Revisions	1)			3)			
	2)			4)			

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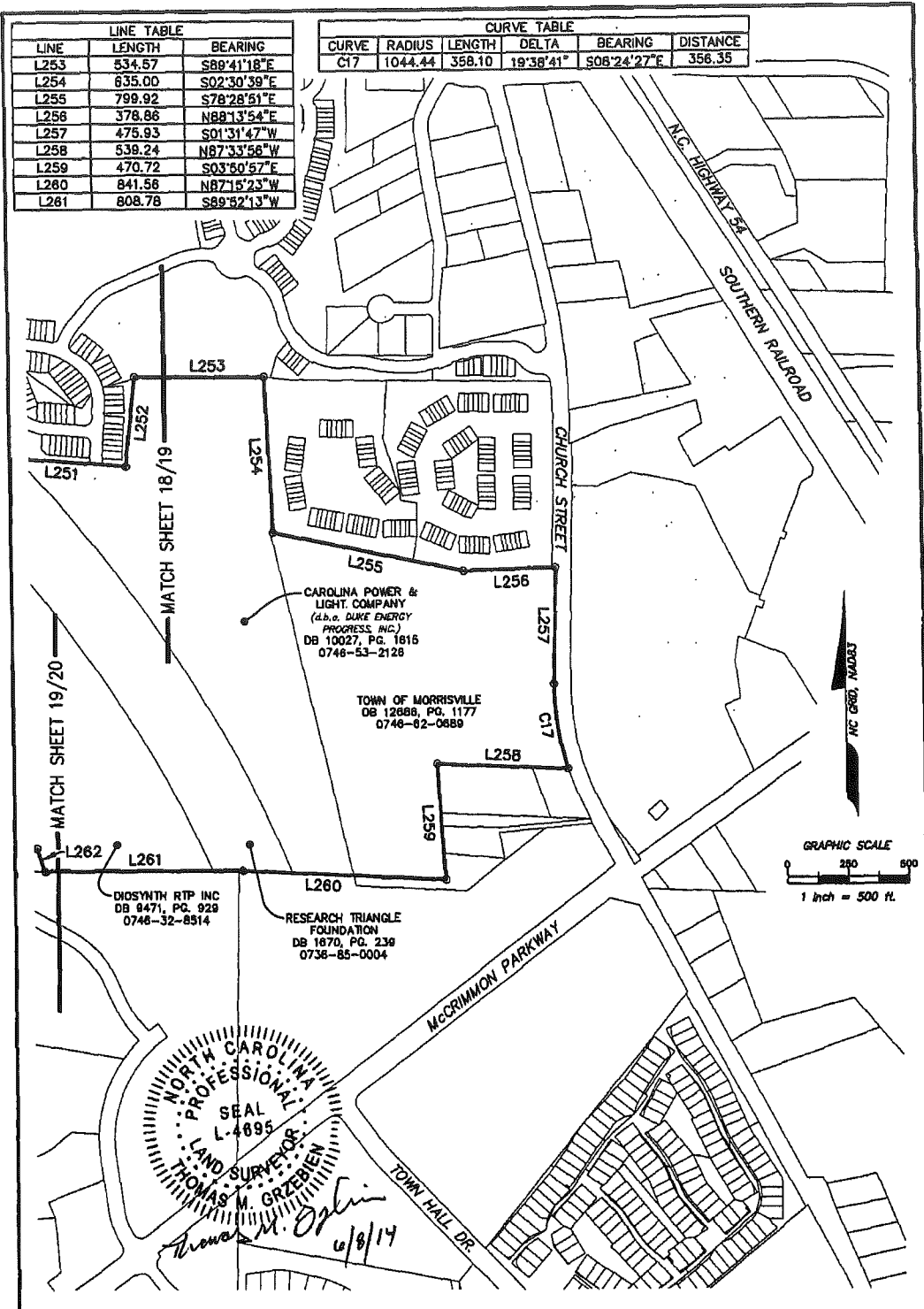
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Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	18 of 24

Revisions	1)	3)
	2)	4)

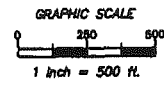
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LINE TABLE		
LINE	LENGTH	BEARING
L253	534.57	S89°41'18"E
L254	635.00	S02°30'39"E
L255	799.92	S78°28'51"E
L256	378.86	N88°13'54"E
L257	475.93	S01°31'47"W
L258	539.24	N87°33'56"W
L259	470.72	S03°50'57"E
L260	841.56	N87°15'23"W
L261	808.78	S89°52'13"W

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C17	1044.44	358.10	19°38'41"	S06°24'27"E	356.35



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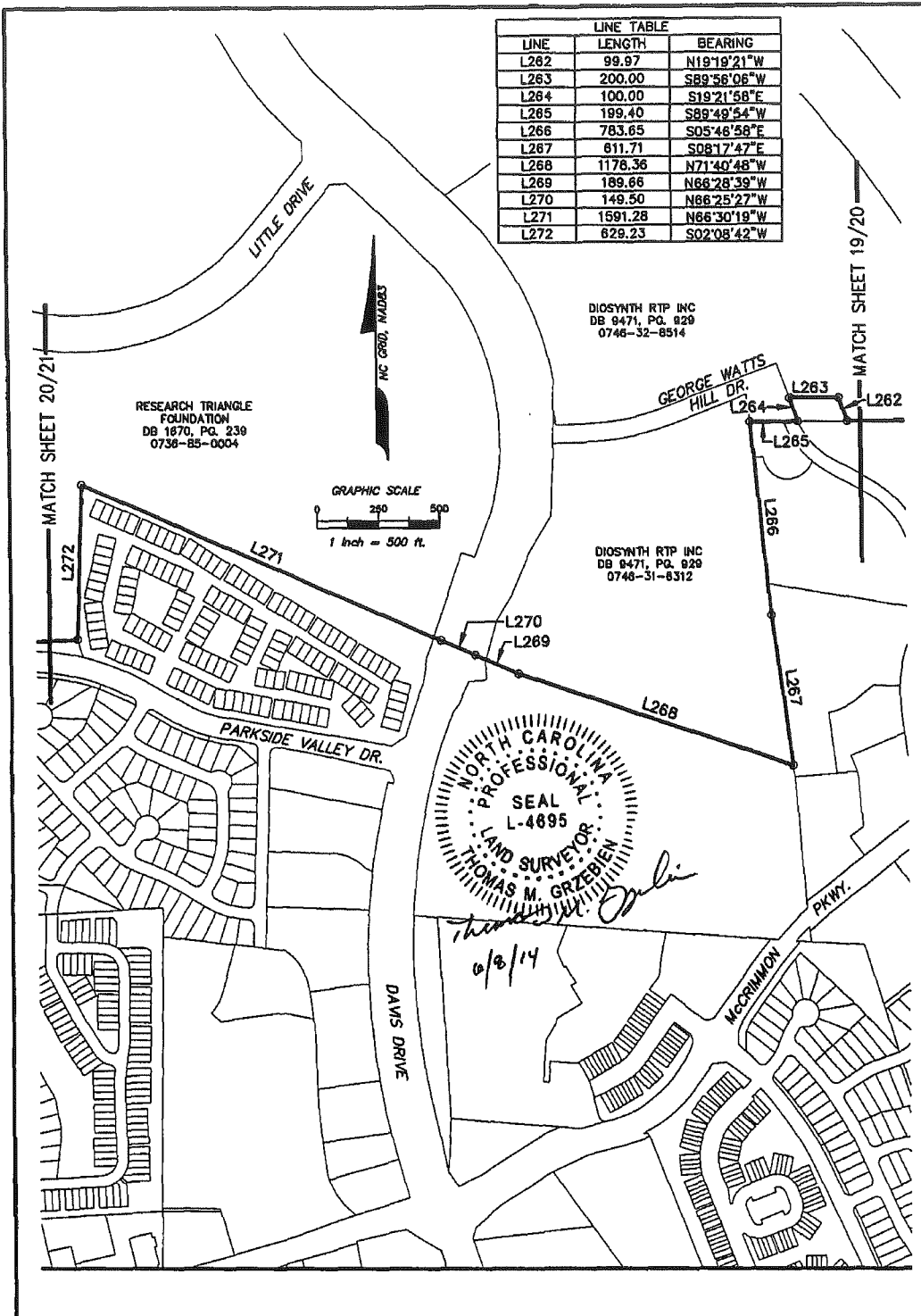
**EXHIBIT MAP**  
 of the COVENANT BOUNDARY for  
**RESEARCH TRIANGLE PARK**  
**WAKE and DURHAM COUNTIES**  
**NORTH CAROLINA**  
 PREPARED FOR  
**RESEARCH TRIANGLE FOUNDATION OF N.C.**


Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10097024.000	19 of 24
Revisions	1)	3)	
	2)	4)	

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.







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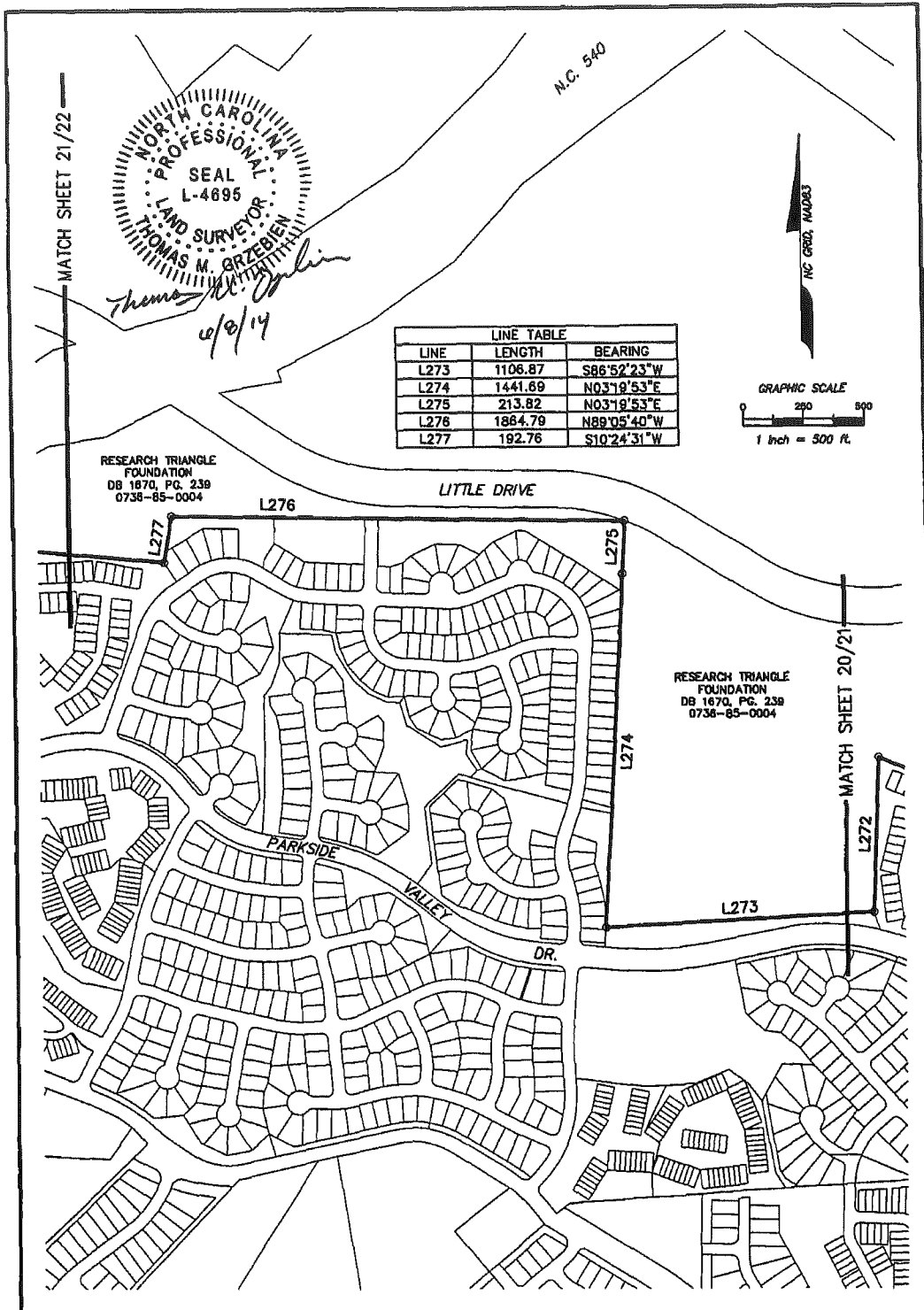
Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14

Date	Scale	Job No.	Sheet No.
JUNE 8, 2014	1" = 500'	10087024.000	20 of 24

Revisions	1)	3)
	2)	4)

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WAKE and DURHAM COUNTIES  
NORTH CAROLINA  
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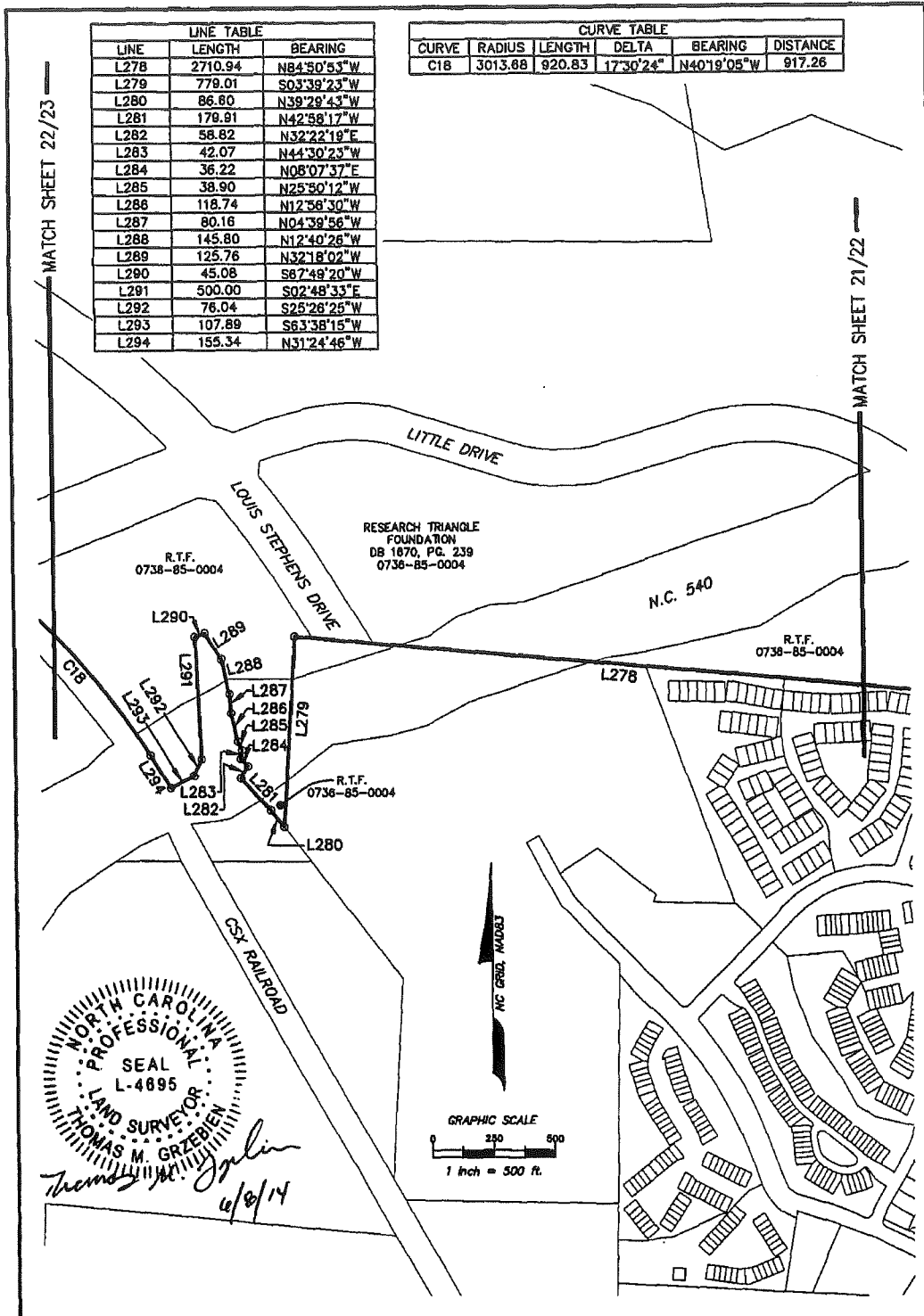
**NORTH CAROLINA PROFESSIONAL LAND SURVEYOR SEAL**  
L-4695  
THOMAS M. GRZESIEN  
*Thomas M. Grzesien*  
8/8/14

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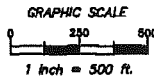
Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	8/8/14
Date	JUNE 8, 2014	Scale	1" = 500'
Job No.	10097024.000	Sheet No.	21 of 24
Revisions	1)	3)	
	2)	4)	


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LINE TABLE		
LINE	LENGTH	BEARING
L278	2710.94	N84°50'53"W
L279	779.01	S03°39'23"W
L280	86.60	N39°29'43"W
L281	179.91	N42°58'17"W
L282	58.82	N32°22'19"E
L283	42.07	N44°30'23"W
L284	36.22	N08°07'37"E
L285	38.90	N25°30'12"W
L286	118.74	N12°58'30"W
L287	80.16	N04°39'56"W
L288	145.80	N12°40'26"W
L289	125.76	N32°18'02"W
L290	45.08	S67°49'20"W
L291	500.00	S02°48'33"E
L292	76.04	S25°26'25"W
L293	107.89	S63°38'15"W
L294	155.34	N51°24'46"W

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C18	3013.88	920.83	17°30'24"	N40°19'05"W	917.26



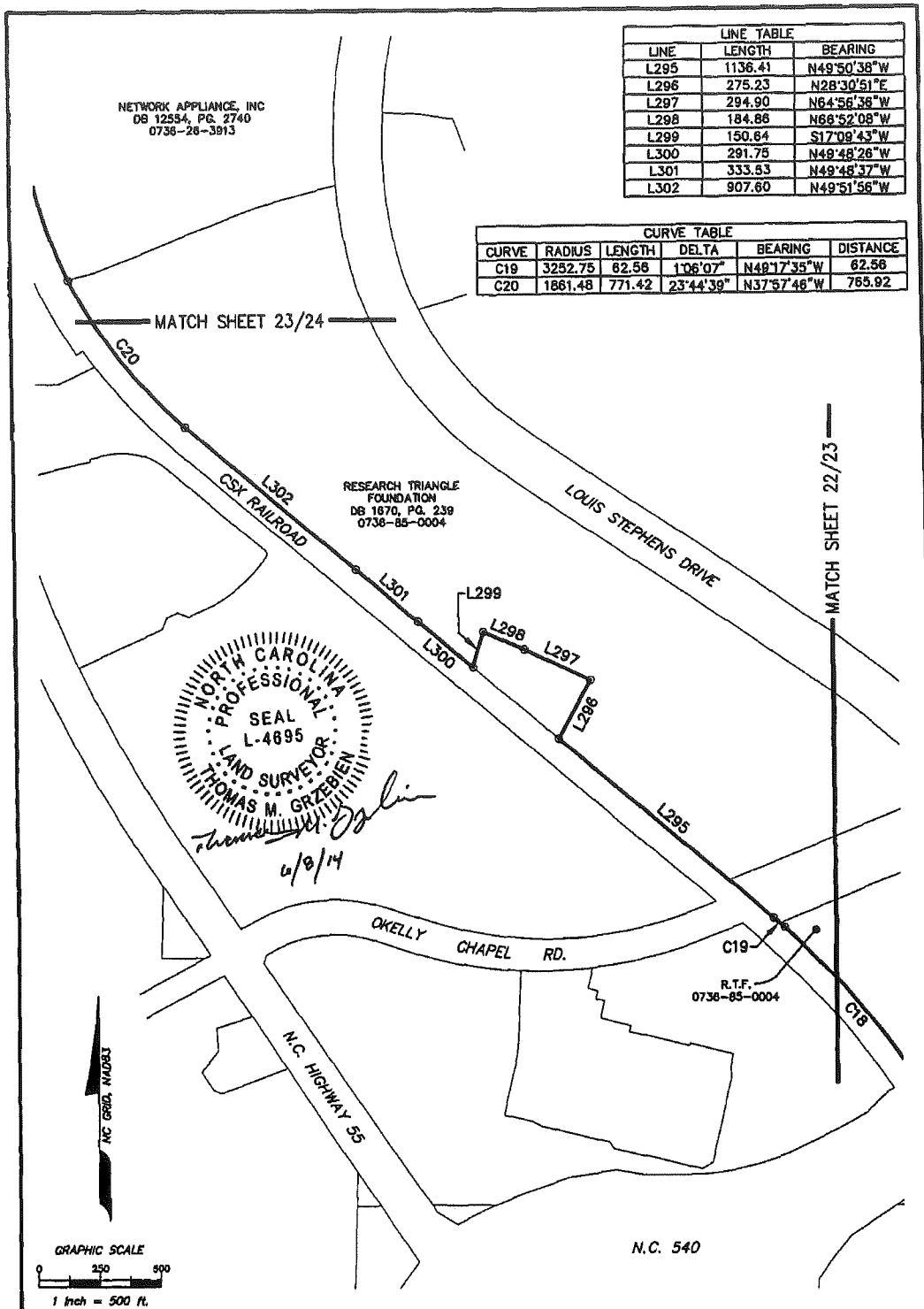


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Drawn By	TMG	File Name	RTP BOUNDARY BASE
Surveyed by	N/A	Map Check By	TMG
Checked By	TMG	Map Check Date	6/8/14
Date	JUNE 8, 2014	Scale	1" = 500'
Job No.	10097024.000	Sheet No.	22 of 24
Revisions	1)		3)
	2)		4)

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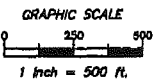
LINE TABLE		
LINE	LENGTH	BEARING
L295	1136.41	N49°50'38"W
L296	275.23	N28°30'51"E
L297	294.90	N64°56'36"W
L298	184.86	N66°52'08"W
L299	150.64	S17°09'43"W
L300	291.75	N49°48'26"W
L301	333.53	N49°48'37"W
L302	907.60	N49°51'56"W


CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C19	3252.75	62.56	1°06'07"	N49°17'35"W	62.56
C20	1861.48	771.42	23°44'39"	N37°57'46"W	765.92

NETWORK APPLIANCE, INC  
08 12534, PG. 2740  
0736-26-3913

RESEARCH TRIANGLE  
FOUNDATION  
DB 1670, PG. 239  
0736-85-0004

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SEAL  
L-4695  
LAND SURVEYOR  
THOMAS M. GRZEBIEN  
*Thomas M. Grzebien*  
6/8/14



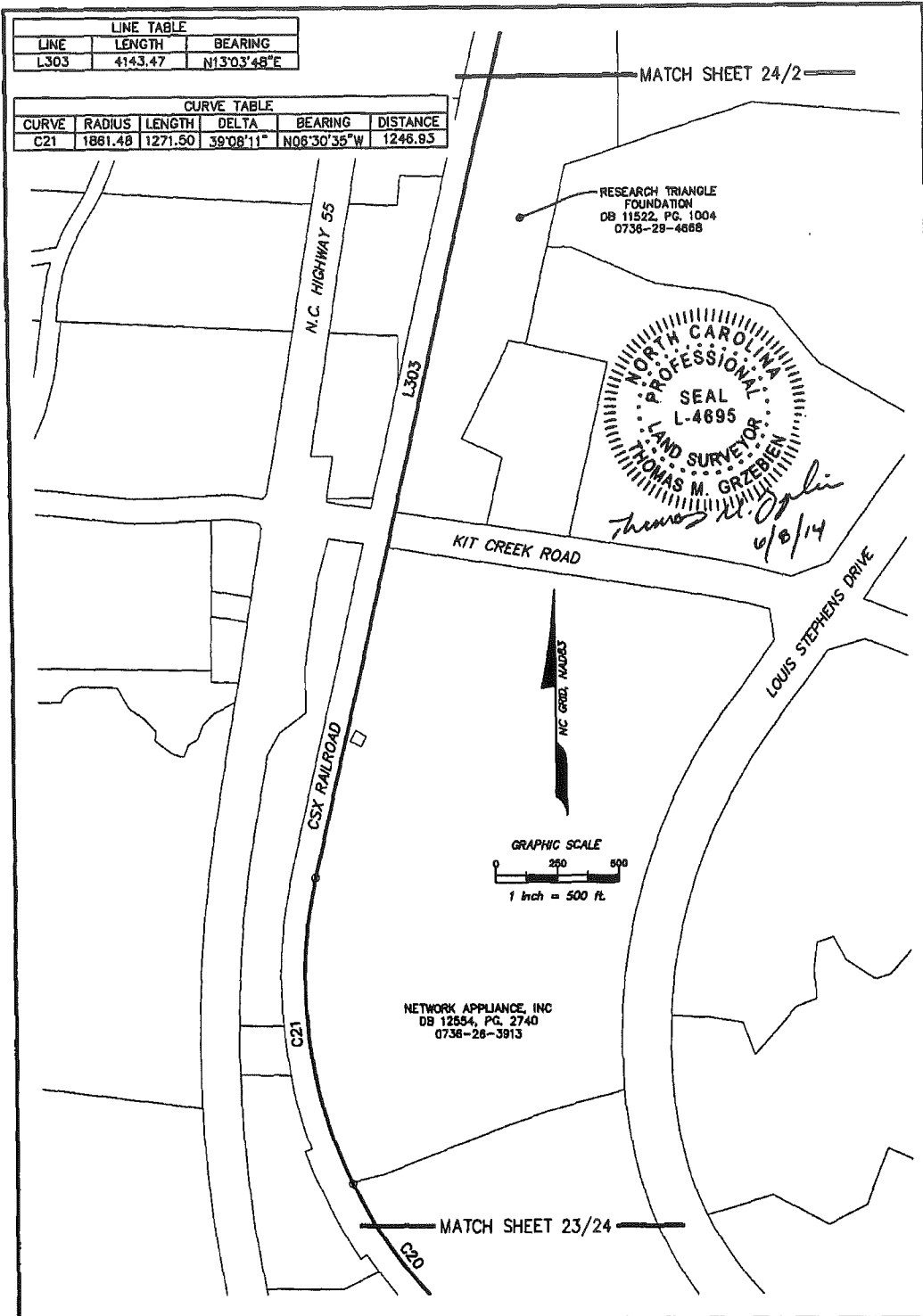


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**EXHIBIT C**

<b>Owners Consenting to Changing Life of Covenants</b>	<b>Acreage</b>	<b>Percentage of Total Acreage*</b>
GlaxoSmithKline (including Stiefel)	575.44	14.3%
IBM Corporation	409.25	10.2%
Cisco Systems	209.23	5.2%
United Therapeutics Corporation	194.12	4.8%
RTI International	183.79	4.6%
Biogen IDEC	158.69	4.0%
Triangle Service Center	134.64	3.4%
BASF Corporation	125.70	3.1%
Bayer CropScience	125.25	3.1%
Eisai, Inc	123.87	3.1%
Triangle Universities Ctr For Advanced Studies	120.55	3.0%
NetApp	110.47	2.8%
Syngenta Biotechnology, Inc	78.42	2.0%
FujiFilm Diosynth Biotechnologies	77.91	1.9%
Cree, Inc	55.14	1.4%
DuPont Electronic Technologies	45.37	1.1%
Duke Energy	41.50	1.0%
BD Technologies	37.83	0.9%
Credit Suisse	33.13	0.8%
Troxler Electronic Laboratories, Inc	27.89	0.7%
Sumitomo Electric Lightwave Corporation	19.91	0.5%
Compass DataCenters	16.04	0.4%
International Society of Automation (ISA)	12.52	0.3%
Colliers International	11.93	0.3%
Sigma Xi, The Scientific Research Society	10.15	0.3%
American Assoc of Textile Chemists & Colorists	9.97	0.2%

BK015768PG02238

<b>Owners Consenting to Changing Life of Covenants</b>	<b>Acreage</b>	<b>Percentage of Total Acreage*</b>
Fidelity Investments	341.73	8.5%
UNC General Administration	106.28	2.7%
Alexandria Real Estate Equities	95.77	2.4%
Durham County Wildlife Club	90.93	2.3%
Highwoods Properties	93.01	2.3%
Cornwallis RTP LLC	85.77	2.1%
Underwriters Laboratories, Inc	50.57	1.3%
Triangle Life Science	47.86	1.2%
Morrisville, Town of (RTP Park)	24.98	0.6%
Grifols Inc	18.59	0.5%
Synthon Pharmaceuticals, Inc	15.99	0.4%
UAI Technology, Inc	15.32	0.4%
Linde	13.56	0.3%
JMC (USA), Inc	10.75	0.3%
Delta Products Corporation	10.48	0.3%
Freudenberg IT, Alexander Dr. Invest. Partners	10.39	0.3%
First Flight Venture Center	8.77	0.2%
	<b>4,010.07</b>	<b>92.36%</b>

\* The lands subject to the Original Declaration, exclusive of the Foundation, and exclusive of the United States Government, total 4,446.69 acres.

BK015768PG02239



BOOK:015768 PAGE:02175 - 02239



**WAKE  
COUNTY**  
NORTH CAROLINA

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**Please retain yellow trailer page**

It is part of the recorded document and must be submitted with the original for re-recording.

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**Laura M. Riddick**

**Register of Deeds**

Wake County Justice Center  
300 South Salisbury Street, Suite 1700  
Raleigh, NC 27601

New Time Stamp

\$25 Non-Standard Fee

Additional Document Fee

Additional Reference Fee

**This Customer Group**

**This Document**

\_\_\_\_\_ # of Time Stamps Needed

\_\_\_\_\_ *65* # of Pages *LL*