

**Property Evaluation** 

1721 Legion Road Chapel Hill, NC

April 8, 2013

Project No. 20008



Prepared For:

Town of Chapel Hill 405 Martin Luther King, Jr. Blvd. Chapel Hill, NC 27514

### **Property Evaluation**

### 1721 Legion Road Chapel Hill, NC

### **Purpose**

The subject of this study is a vacant 10.1-acre parcel of land located at 1721 Legion Road in Chapel Hill, NC. The subject property is an undivided portion of a larger parcel containing approximately 20.8 acres, which is owned by the Town of Chapel Hill and contains Chapel Hill Memorial Cemetery.

The purpose of this study is to (1) provide analysis of primary regulatory and physical constraints applicable to the subject property; (2) provide property-specific guidance about reasonable types and intensities of future land uses for the property; and (3) discuss other identified issues or opportunities relevant to potential property development.

### **Assumptions and Qualifications**

This study is based on current Town of Chapel Hill zoning designations, the Town of Chapel Hill 2020 Land Use Plan, the Town of Chapel Hill Land Use Management Ordinance (LUMO), other applicable land development regulations and policies, typical interpretations relating to the foregoing, mapping and other information provided by the owner, and other available public information. Unless otherwise indicated, the determinations, opinions, and recommendations herein assume that current regulatory conditions will not change in a manner that will adversely or significantly affect future development of the subject property. In addition, this study does not consider the full range of issues that may affect the current or future development potential of the property.

### **General Site Conditions**

The subject property lies on the north side of Legion Road, approximately mid-way between Europa Drive and Scarlet Drive. The property has about 430 feet of frontage on Legion Road, and about 625 feet of frontage along Fordham Blvd (US Highway 15-501 Bypass) to the north. To the west, the property adjoins the Sheraton (formerly Europa) Hotel property and an office development. Memorial Cemetery lies to the east.

None of the subject property is developed. A small area in the southeast portion of the property has been cleared and filled, presumably with excess soil from cemetery operations. The majority of the property is wooded with semi-mature pine forest containing emerging hardwoods; except on the eastern side, more mature hardwoods are present, some of which

are quite mature. The ground surface slopes generally from Legion Road to Fordham Blvd., with slopes mostly in the range of 6% to 12%, but with some areas having as much as 18% slope. Several eroded gullies are present on the property, some of which may contain very small and isolated wetland pockets.

No streams or surface waterbodies are indicated on or near the property by either the Soil Conservation Service (SCS) Orange County Soil Survey or the USGS Quadrangle map. Therefore, no riparian buffers are present on the property pursuant to Jordan Lake watershed regulations. According to the Chapel Hill zoning map, the property is not in the Watershed Protection overlay zoning district.

Mapping provided by the owner indicates the presence of Resource Conservation District (RCD) along the property's entire frontage with Fordham Blvd., however, no associated stream is indicated with this RCD. For analysis purposes, this feature is considered to be "perennial", and the extent of the RCD therefore extends to 150 feet from the feature. Since RCD determinations are made by the Town of Chapel Hill, we recommend that Town staff make a field determination of this feature for a more refined analysis. If this adjacent drainage feature is determined to have a lesser classification than what has been assumed, the maximum intensities for floor area and impervious surface will be slightly larger than indicated.

Landscape formations on the property suggest previous land disturbance and/or filling operations, exhibited by several irregular surface features and small mounds in the central portion of the property. This filling may be associated with cemetery operations, and was probably done decades ago, based on apparent tree ages in and around the mounds.

### **Parcel Summary Data**

The following table summarizes information relative to existing conditions and various land development parameters for the subject parcel:

Street Address:	1721 Legion Road
Parcel Identification (PIN):	9799575787
Parcel Acreage:	10.1 acres (measured)
Current Land Use:	Vacant
Zoning Jurisdiction:	Town of Chapel Hill
Current Zoning:	R-2
Overlay Zoning:	RCD
Transitional Controls Apply?	No
2020 Land Use:	Park / Open Space
Flood Restrictions:	None
River Basin:	Cape Fear (Jordan Lake)
Street Authority (Legion Rd.):	Town of Chapel Hill
Street Authority (Fordham Blvd):	NCDOT
Future Focus Discussion Area?	Yes; North 15-501

### **Regulatory Jurisdiction**

The subject property lies within the municipal limits of the Town of Chapel Hill, and is therefore subject to the Town's ordinances, including land development regulations and related policies. Zoning and land development regulations are established by the Chapel Hill Land Use Management Ordinance (LUMO). Public water and sanitary sewer service for the properties is regulated and provided by the Orange Water and Sewer Authority (OWASA). Legion Road is regulated and maintained by the Town of Chapel Hill. US Highway 15-501 Bypass (Fordham Blvd.) is regulated and maintained by the North Carolina Department of Transportation (NCDOT).

Any land development proposal for the subject property will require review by the Town of Chapel Hill (involving various Town departments, boards and commissions), NCDOT, OWASA, other utility providers, Orange County, and possibly various State and Federal agencies.

### **Flood Hazard Areas**

According to published flood mapping (FIRM Panel 9799, revised Feb. 2, 2007), no regulated flood hazard areas are present on the subject property, nor adjacent to the property.

### **Potable Water Service**

According to utility information provided, an 8-inch diameter public water main exists on the southern (opposite) side of Legion Road along the property's street frontage, and a 16-inch diameter public water main exists on the northern (opposite) side of US Highway 15-501 Bypass. Typical development of the property would require installation of new potable water mains and/or water service lines, connected to one or more existing water main(s) and extended into the site to serve project-specific demands for both potable water service and fire protection service. Insufficient information is known regarding the pressure and flow capacity characteristics of the existing water system at the site, to verify its adequacy for any specific future land use; however, the water system characteristics have traditionally been very robust in the project area. This question may be partially addressed by physical testing of the existing water system, which is typically done as part of due diligence work for a specific development proposal. Fully answering this question requires specific knowledge about the type and size of a proposed development for the property. For a residential development exceeding 50 units, it will probably be necessary to connect to both the waterline in Legion Road and a second waterline. The second connection would require either a waterline extension along Fordham Blvd. to Europa Drive or Scarlett Drive, or a bored extension across the Boulevard.

### **Sanitary Sewer Service**

According to utility information provided, an 8-inch diameter public sanitary sewer main exists along most of the property's Legion Road frontage; however, this sewer main is not low enough to allow gravity sewer service to most of the usable area of the property. Another public sewer main, which is low enough to fully serve the property, lies within the Fordham Blvd. right-of-way approximately 300 feet to the west of the property's northwest corner. This sewer main appears to be the most practical source of sewer service for the subject property.

Typical development of the property would require installation of a new offsite sanitary sewer main from the existing main, approximately 300 feet eastward along the Fordham Blvd. right-of-way to the property corner, and extended internally as needed to serve new development on the property. The utility installation work within the highway right-of-way would require approval by NCDOT.

### **Driveway Access and Roadway Improvements**

The Town of Chapel Hill will control vehicular access to the subject property from Legion Road. No vehicular access is expected to be available from Fordham Blvd.

Public roadway improvements should be expected as a condition of approval for development of the subject property. These requirements cannot be determined without specific project type and density information, and possibly a detailed traffic study. For this property, it is helpful to think about this issue in two categories: (1) "onsite", being public street work on Legion Road along or very near the property's frontage, and (2) "offsite", being other public street work.

"Onsite" work will probably consist of improving Legion Road to conform to one-half of the planned ultimate roadway cross-section, which will include adding limited pavement widening, curb and gutter on the property side of the roadway, necessary drainage system components, a public sidewalk along the frontage of the property, and perhaps bus stop improvements. Depending on the intensity of use and background traffic, a left-turn storage lane may also be required for the existing cemetery driveway or for any new driveway serving the property. In addition, these improvements may require the dedication of additional street right-of-way along Legion Road.

Several intersections in the property's vicinity operate under fairly intense conditions at peak traffic hours. If a proposed property development would diminish the service level of one or more of these intersections, substantial "offsite" street improvements could be required. *Traffic congestion issues at these nearby intersections represent a potentially limiting factor in future development density for the property.* This concern cannot be properly assessed without a detailed traffic study based on a specific development proposal. Traffic congestion conditions at the intersections in the project area also present the possibility of extraordinary development costs under any significant development scenario.

### **Soil Conditions**

According to the Soil Conservation Service (SCS) Soil Survey of Orange County, the soil type in the developable portions of the subject property is White Store clay loam. This soil type is commonly found in the Chapel Hill area, and is described by SCS as having "severe" limitations and "poor" characteristics for general site development purposes, primarily due to high shrink-swell potential. It should be noted that the local area is known for having relatively poor soil conditions for land development purposes, so these SCS descriptions should not necessarily be understood as being severe or poor as compared with other soils in Chapel Hill, but rather in the context of overall SCS classifications.

This level of analysis is not sufficient to properly assess the engineering properties of the onsite soils, especially where the current surface soils may not be native soil, and may not be the actual soil that was sampled (in the early 1970's) for the referenced Soil Survey mapping. Any judgments about the suitability of onsite soils for specific development purposes can only be made on the basis of an onsite geotechnical subsurface investigation, which is typically done as part of due diligence work for a specific development proposal, and is beyond the scope of this study.

On the subject parcel, existing topographic conditions exhibit apparently unnatural landscape forms in some areas, suggesting that the parcel may have been used for deposition of soil or other material. When this condition is encountered, the typical concerns are that the material may not be structurally sound, or may not have been placed in a properly compacted manner, or may contain some type of contamination. We recommend that the owner consider a limited geotechnical investigation for the subject property to better understand the soil conditions on the property.

### **Environmental Considerations**

The scope of this study does not include environmental investigations for the subject property. The owner may choose to conduct a standard "Phase 1 Environmental" investigation for planning or marketing efforts. Such a study would look at available environmental database records and site conditions to determine if there are any apparent environmental concerns associated with the property, or with neighboring properties, that warrant further investigation.

### **Zoning**

The subject property is zoned Residential 2 (R-2) with limited RCD as an overlay zoning district. The R-2 district allows residential uses up to 4 residential units per acre, along with other compatible uses. The current zoning does not appear to reflect the highest reasonable zoning and use potential for the property.

Most of the property immediately to the south across Legion Road is also zoned R-2 and used in a residential manner; except a small parcel in this area is zoned R-5(C). Property directly across Fordham Blvd. is zoned R-4, which allows up to 10 units per acre, and is used primarily for multi-family residential purposes. Property to the east of the cemetery is zoned with various residential designations, generally with higher intensity than R-2. The adjoining property to the west is zoned CC, which is a commercial designation, and used for office and hotel purposes.

The property is included in the North 15-501 Future Focus Discussion Area, for which discussions have not yet started. The property is not included in the Ephesus Church Road / Fordham Blvd. Small Area Plan. However, this study does identify future local and regional transit routes along both Legion Road and Fordham Blvd. These routes will significantly influence the future development potential of the subject property.

### **Site Development Potential - General**

A Site Analysis Plan is attached as Exhibit 1, depicting approximate property boundaries, possible RCD areas, and regulatory building setbacks based on current zoning. Perimeter buffers are not considered for this analysis since they can be highly variable based on proposed and adjacent land uses, and are generally able to be diminished in width if designed to provide "as good or better" buffering relative to the normative width. The resulting interior "buildable area" for the property is approximately 8.1 acres, or about 80% of the total property acreage. The property appears to have substantial potential for development.

The 2020 Plan indicates this property as Parks / Open Space, presumably due to the larger property's usage as a cemetery. However, this designation is probably more reflective of the property's current attachment to the cemetery than a thoughtful assessment of its highest and best use.

Three zoning scenarios are considered by this study. In the first two cases, the property is assumed to be used in a residential manner. The third scenario considers a mixed-use development. For each of these scenarios, and especially the second and third scenarios, the previous comments under "Driveway Access and Roadway Improvements" provide important qualifications to the following development intensity estimates and opinions.

The first scenario assumes that the current R-2 zoning designation will not be changed. Exhibit 2 indicates that approximately 51 residential units with approximately 67,000 square feet of floor area could be built on the property under the current zoning.

Due to physical limitations on municipal growth limits, the importance of attaining threshold densities to support alternative transportation modes, and the development intensity of nearby properties, it seems reasonable to expect that this property could be rezoned to allow a higher density. The second zoning scenario therefore considers that the property's zoning will be changed to the R-4 district. Exhibit 3 indicates that R-4 zoning would allow approximately 127 residential units with approximately 160,000 square feet of floor area to be constructed on the property. This density may not be fully achievable due to (1) physical requirements of the specific type of development proposed and required supporting elements such as

driveways, parking areas, and stormwater management devices, (2) practical limits imposed by offsite conditions such as traffic considerations, (3) the degree of political acceptance for such a project during the approval process.

A third alternative that would incorporate a mixture of uses seems to be a very sensible option for this property, especially if the uses are compatible with existing and future mass transit infrastructure. Assuming a Mixed Use – Village (MU-V) zoning district, which requires a combination of office, commercial, and residential uses, significantly greater development intensity is theoretically possible on the property. Exhibit 4 indicates that MU-V zoning would allow approximately 550,000 square feet of floor area on the property. This much density is probably not appropriate or feasible for the property. However, the analysis illustrates that the MU-V zoning district would provide more than enough coverage to practically maximize site development yield, while also giving the zoning flexibility to provide multiple types of uses on the site. In other words, MU-V zoning may be preferred over strictly residential zoning for this site, not only because it allows more density, but primarily because it allows a mixture of uses that might be more appropriate for the property.

### **Recommendations**

We recommend that the Town of Chapel Hill perform a field review of the identified stream along the property's Fordham Blvd. frontage, to determine the type and extent of any RCD in this area. This action will allow a more refined analysis of development potential for the subject property.

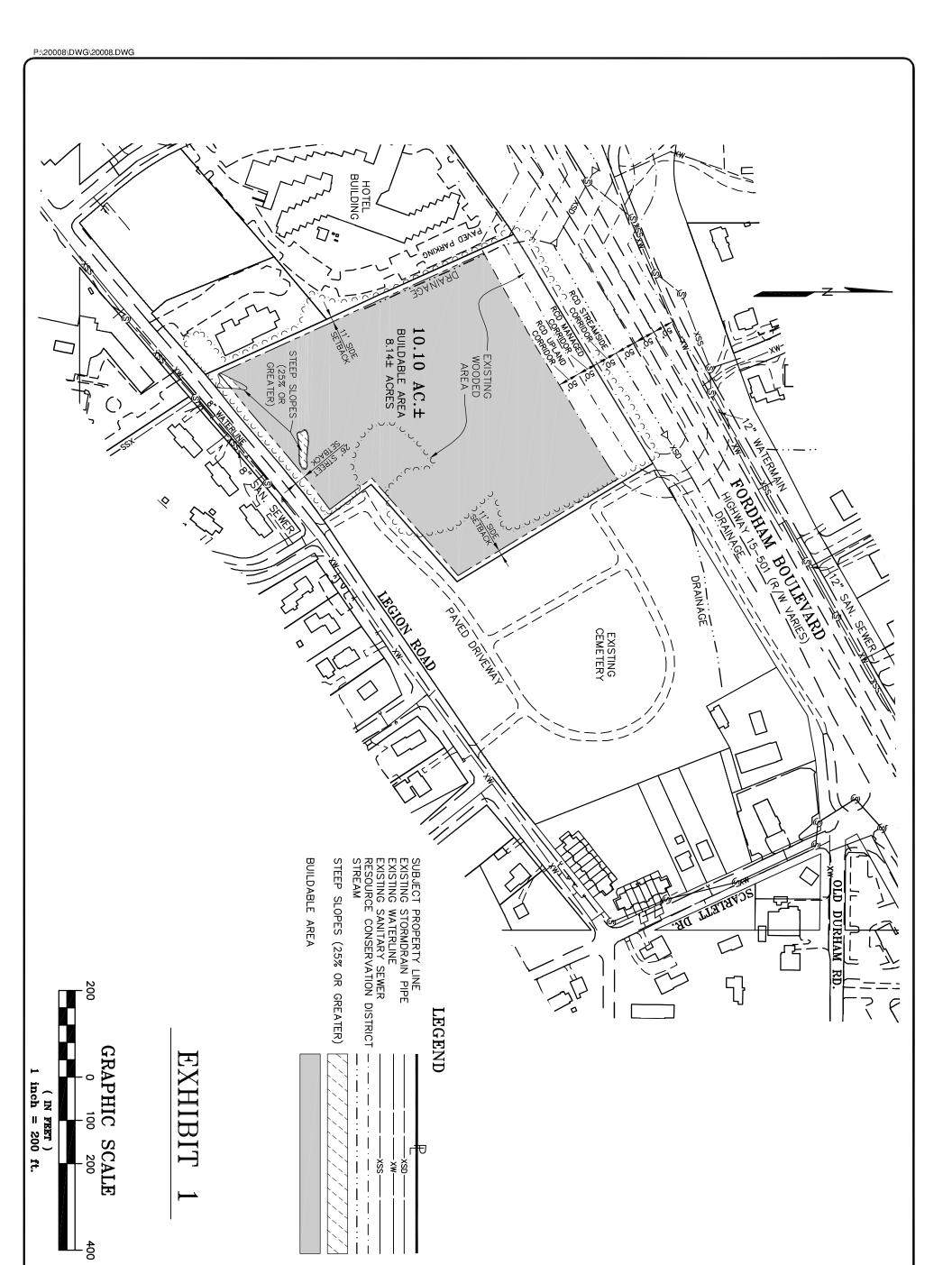
We recommend that the owner consider a limited geotechnical investigation for the subject property to better understand the soil conditions on the property, particularly in any areas that have been filled in the past.

We recommend that once discussions begin for the North 15-501 Future Focus Discussion Area, the Town actively participate in this process as the owner of this significant property. This ownership role would be in addition to, but distinct from, other roles that the Town might assume in these discussions.

Our office is available to provide additional research, site investigations, conceptual planning, regulatory liaison, or related services that could provide a more detailed understanding of the subject property's development potential.

### **Attached Exhibits**

- 1. Site Analysis Plan (1 page)
- 2. Development Intensity Summary Under Current R-2 Zoning (1 page)
- 3. Development Intensity Summary If Re-Zoned to R-4 (1 page)
- 4. Development Intensity Summary If Re-Zoned to MU-V (1 page)
- 5. Miscellaneous Maps and Supporting Information (multiple pages)



## TOWN OF CHAPEL HILL MEMORIAL CEMETERY

1721 Legion Road Chapel Hill, North Carolina

SITE ANALYSIS PLAN

REV.

DATE



3708 LYCKAN PARKWAY - SUITE 201 - DURHAM, NC 27707 PHONE: 919.490.1645 Lic. #C-1030 DESCRIPTION

BY



### Exhibit 2

Project Name: Chapel Hill Property Evaluations

Project Number: 20008

Client: Town of Chapel Hill Date: April 1, 2013

Property Address: 1721 Legion Road (Portion)

Reported Area: 9.04 Acres (Measured area is 10.1 acres, which is used in this analysis)

Current Zoning District: R-2

Land Use Plan Category: Parks / Open Space

Assumed Zoning District: R-2 <sup>1</sup> (Up to 4 residential units per acre)

Transitional Controls Apply? No

Parameter	Value	Units	RCD - Stream Side <sup>2</sup>	RCD - Managed Use <sup>2</sup>	RCD - Upland <sup>2</sup>	Non-RCD	% of NLA
Net Land Area: Credited Street Area: Credited Open Space:	439,967 0 43,997	Sq. ft. Sq. ft. Sq. ft.	0	25,000	31,000	383,967 43,997	0.0% 10.0%
Gross Land Area:	483,964	Sq. ft.	0	25,000	31,000	427,964	110.0%
Max. Residential Density: Base Residential Yield: Available I Z Density Bonus: Max. Residential Yield:	4.0 44 15 <b>51</b>	units/ac. units percent units	(Per LUMO	ning) se must be Aff Table 3.10-1; Il I Z Bonus D	this bonus is	optional for I	
Max. Floor Area Ratio:			0.010	0.019	0.093	0.093	
Max. Base Floor Area: Bonus I Z Floor Area: Existing Floor Area: Allowable New Floor Area:	43,159 23,800 0 <b>66,959</b>	Sq. ft. Sq. ft. Sq. ft. Sq. ft.		400 sq. ft. Boi			•
Max. Imperv. Surface Ratio: Max. Imperv. Surface Area: Existing Imperv. Surf. Area: Allowable New ISA:	225,182 0 <b>225,182</b>	Sq. ft. Sq. ft. <b>Sq. ft.</b>	0.100 (Based on R	0.200 esidential Use	0.200 e with High-D	0.500 Density Option	n)

### Footnotes:

- 1. This analysis does not consider the option of property re-zoning.
- 2. Provided mapping shows RCD along the Fordham Blvd. right-of-way, with buffers that suggest a perennial stream. If the stream associated with this RCD is intermittent or non-existent, maximum land use intensities for impervious surface and floor area w
- 3. All projected intensities are based on data taken from available mapping, etc., and are preliminary in nature.



### Exhibit 3

Project Name: Chapel Hill Property Evaluations

Project Number: 20008

Client: Town of Chapel Hill Date: April 1, 2013

Property Address: 1721 Legion Road (Portion)

Reported Area: 9.04 Acres (Measured area is 10.1 acres, which is used in this analysis)

Current Zoning District: R-2

Land Use Plan Category: Parks / Open Space

Assumed Zoning District: R-4 <sup>1</sup> (Up to 10 residential units per acre)

Transitional Controls Apply? No

Parameter	Value	Units	RCD - Stream Side <sup>2</sup>	RCD - Managed Use <sup>2</sup>	RCD - Upland <sup>2</sup>	Non-RCD	% of NLA
Night and Assa	400.007	0 - "	0	05.000	04.000	000 007	
Net Land Area:	439,967	Sq. ft.	0	25,000	31,000	383,967	0.00/
Credited Street Area:	0	Sq. ft.				42.007	0.0% 10.0%
Credited Open Space:  Gross Land Area:	43,997	Sq. ft.		25,000	21.000	43,997	
Gross Land Area:	483,964	Sq. ft.	0	25,000	31,000	427,964	110.0%
Max. Residential Density:	10.0	units/ac.	(per R-4 Zor	ning)			
Base Residential Yield:	111	units	(15% of thes	se must be Aff	ordable Unit	s)	
15% I Z Density Bonus:	16	units	(Per LUMO	Table 3.10-1;	this bonus is	optional for I	Developer)
Max. Residential Yield:	127	units	(Assumes fu	ıll I Z Bonus D	ensity allowa	ance is used)	
Max. Floor Area Ratio:			0.010	0.019	0.230	0.230	
Max. Base Floor Area:	106,037	Sq. ft.					
Bonus I Z Floor Area:	54,400	Sq. ft.	(Based on 3	400 sq. ft. Bo	nus Floor Ar	ea per Afforda	able Unit)
Existing Floor Area:	0	Sq. ft.					
Allowable New Floor Area:	160,437	Sq. ft.	(Based on 3	400 sq. ft. Bo	nus Floor Ar	ea per Afforda	able Unit)
Max. Imperv. Surface Ratio:			0.100	0.200	0.200	0.500	
Max. Imperv. Surface Area:	225,182	Sq. ft.	(Based on H	ligh-Density o	ption with 50	% impervious	s limit <sup>4</sup> )
Existing Imperv. Surf. Area:	0	Sq. ft.	•	-	•	•	,
Allowable New ISA:	225,182	Sq. ft.	(Based on H	ligh-Density o	ption with 50	% impervious	s limit <sup>4</sup> )

### Footnotes:

- 1. This analysis assumes that the property is re-zoned to the R-4 district.
- 2. Provided mapping shows RCD along the Fordham Blvd. right-of-way, with buffers that suggest a perennial stream. If the stream associated with this RCD is intermittent or non-existent, maximum land use intensities for impervious surface and floor area will be slightly larger than shown.
- 3. All projected intensities are based on data taken from available mapping, etc., and are preliminary in nature.
- 4. The impervious surface ratio may be as high as 70% if a non-residential component exists in the development.



### Exhibit 4

Project Name: Chapel Hill Property Evaluations

Project Number: 20008

Client: Town of Chapel Hill Date: April 1, 2013

Property Address: 1721 Legion Road (Portion)

Reported Area: 9.04 Acres (Measured area is 10.1 acres, which is used in this analysis)

Current Zoning District: R-2

Land Use Plan Category: Parks / Open Space

Assumed Zoning District: MU-V <sup>1</sup>
Transitional Controls Apply? Yes

Parameter	Value	Units	RCD - Stream Side <sup>2</sup>	RCD - Managed Use <sup>2</sup>	RCD - Upland <sup>2</sup>	Non-RCD	% of NLA
Net Land Area:	439,967	Sq. ft.	0	25,000	31,000	383,967	
Credited Street Area:	0	Sq. ft.					0.0%
Credited Open Space:	43,997	Sq. ft.				43,997	10.0%
Gross Land Area:	483,964	Sq. ft.	0	25,000	31,000	427,964	110.0%
Max. Floor Area Ratio: Max. Base Floor Area: Existing Floor Area: Allowable New Floor Area:	551,232 0 551,232	Sq. ft. Sq. ft. <b>Sq. ft.</b>	0.010	0.019	1.200	1.200	
Max. Imperv. Surface Ratio:			0.100	0.200	0.200	0.700	
Max. Imperv. Surface Area:	310,775	Sq. ft.	(Based on High-Density option with 70% impervious limit 4)				
Existing Imperv. Surf. Area:	0	Sq. ft.	•	-		•	•
Allowable New ISA:	310,775	Sq. ft.	(Based on High-Density option with 70% impervious limit 4)				

#### Footnotes:

- 1. This analysis assumes that the property is re-zoned to MU-V (arterial).
- 2. Provided mapping shows RCD along the Fordham Blvd. right-of-way, with buffers that suggest a perennial stream. If the stream associated with this RCD is intermittent or non-existent, maximum land use intensities for impervious surface and floor area will be slightly larger than shown.
- 3. All projected intensities are based on data taken from available mapping, etc., and are preliminary in nature.



## Orange County, NC GIS

# 1721 Legion Rd. - Aerial 1

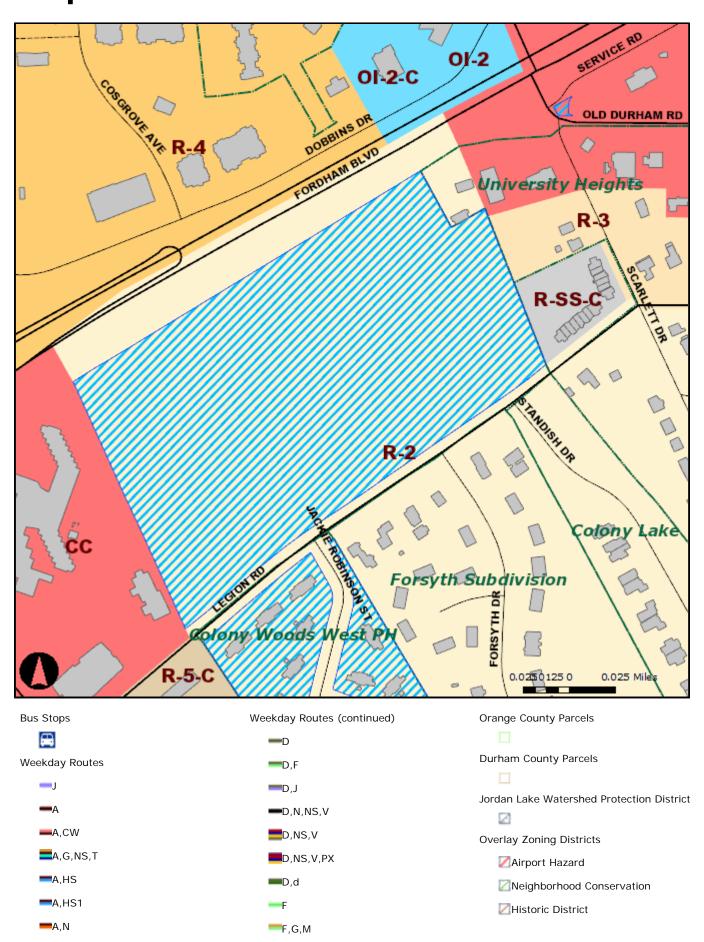


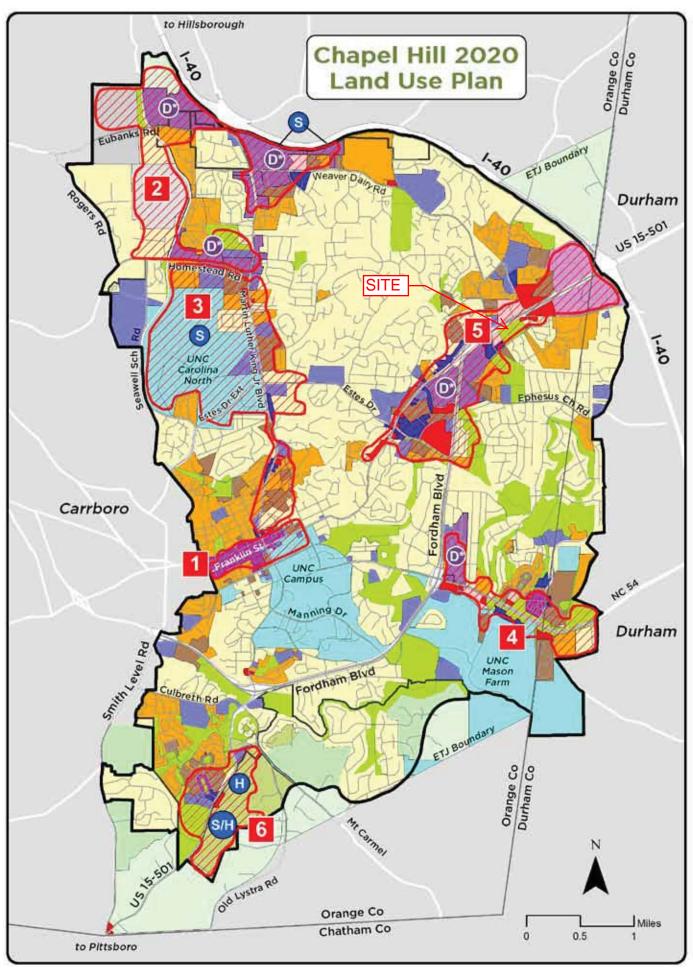
1 inch = 300 feet Created on 3/28/2013. Orange County, North Carolina.

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Map Page 1 of 3

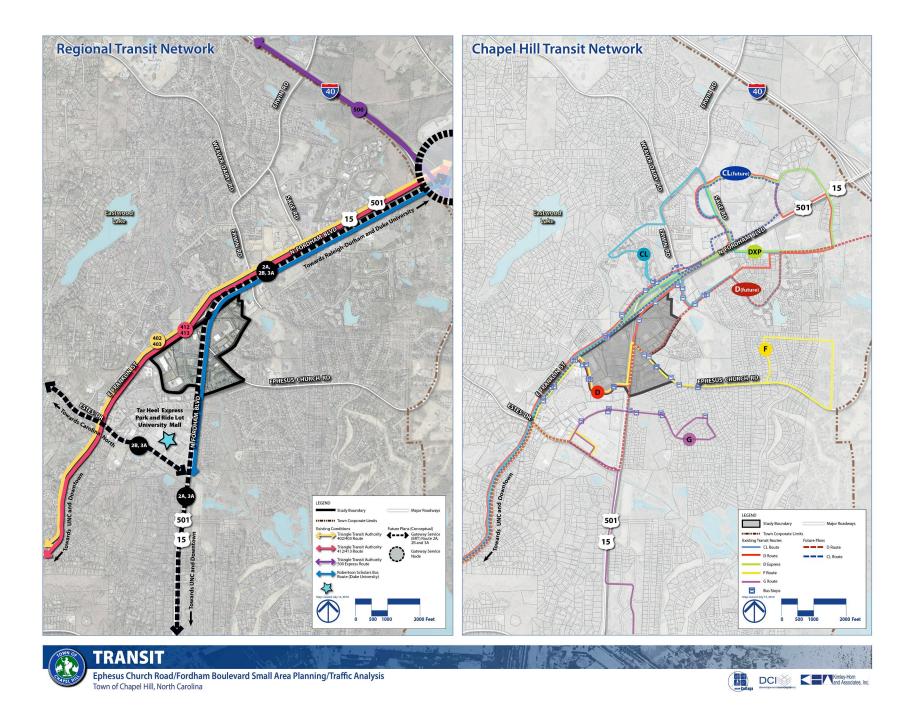
# Map





Area 5: North 15-501





1 of 1 4/8/2013 1:10 PM





SCALE 1" = 500' (1 : 6,000)

500

## NFIP PANEL 9799K **FIRM**

# FLOOD INSURANCE RATE MAP

NORTH CAROLINA

### PANEL 9799

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX	
CHAPEL HILL TOWN OF	370180	9799	K	
DURHAM, CITY OF	370086	9799	K	
DURHAM COUNTY	370085	9799	K	

### MAP REVISED FEBRUARY 2, 2007





State of North Carolina Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov