

Aydan Court
Townhomes and Condominiums
Chapel Hill, North Carolina

Proposed
Modifications to Regulations

Revised
January 5, 2009

~~August 1, 2008~~

A. Parking Quantity Standards - §5.9.7

In June 2007, the Town adopted new parking standards. For each dwelling unit by bedroom count there is a minimum and maximum amount of parking permitted. Aydan Court has 3 and 4 bedroom townhomes and 1, 2, and 3 bedroom condominium dwelling units. For Aydan Court the range of parking required is 95 to 119. (See Table 1 for calculations.) The applicant proposes a total of 122 spaces.

The applicant requests a modification to the maximum parking standard for Aydan Court to permit 3 additional parking spaces for a total of 122 because:

1. Sixty-one percent (61%) of the on-site parking – almost 2/3rds – is tucked under the buildings, thereby providing this parking within the footprint of the residential buildings. Each townhome has 2 parking spaces within garages and the condominium building contains 33-garaged spaces for 37 dwelling units.
2. The three (3) additional requested parking spaces are located in the parking lot in front of the condominium building.
3. These three spaces will be removed and replaced by solid waste collection facilities if the solid waste collection facilities located on the garage floor of the condominium building are augmented or replaced by an outdoor collection facility at any time in the future. Exhibit A attached to this document shows how the parking spaces would be replaced by solid waste collection facilities.
4. Market data provided to the applicant shows that a minimum parking ratio of 2.25 parking spaces per unit is needed. At recent Council and Planning Board meetings, the negative affects of the parking deficiencies at 4 story condominiums in Meadowmont has been presented by others.
5. The amount of parking in Aydan Court is 2.10 parking spaces per unit, an amount that is still below market need and demand.

The applicant believes that the requested modification to standards for three parking spaces is justified because the replacement of those spaces by solid waste collection facilities (if needed in the future) would result in 119 spaces, the maximum permitted by § 5.9.7.

For the above reasons, the applicant believes that the “public purposes related to parking standards are satisfied to an equivalent or greater degree” by the Aydan Court Plan as submitted

Table 1
Aydan Court Parking Calculations

PARKING REQUIRED			<i>Aydan Court</i>		SPACES PER UNIT	
MINIMUM	MAXIMUM		TOWNHOMES		MINIMUM	MAXIMUM
				STUDIO	1.00	1.25
				1 BR	1.00	1.25
				2 BR	1.40	1.75
21.00	27.00		12	3 BR	1.75	2.25
18.00	20.25		9	4+ BR	2.00	.2.25
39.00	47.25	Sub Total	21			
			CONDOMINIUM			
				STUDIO	1.00	1.25
8.00	10.00		8	1 BR	1.00	1.25
11.20	14.00		8	2 BR	1.40	1.75
36.75	47.25		21	3 BR	1.75	2.25
55.95	71.25			4+ BR	2.00	.2.25
		Sub Total	37			
94.95	118.50	TOTAL	58			

B. Steep Slopes - § 5.3.2

Chapel Hill regulates development on lands that are sloped according to the categories and standards shown in Table 2 below. (LUMO Table 5.3-1 Slope Construction Restrictions).

It is important to note that development on slopes greater than 25% is not prohibited. Twenty-five percent of the land with slopes over 25% may be developed without question.

When development is proposed to be more than 25% of this sloped land, a higher level of scrutiny is provided. Development that is more than 25% of this sloped area is permitted when approved by the Board of Adjustment or by the Town Council when it approves a Special Use Permit.

Table 2
(LUMO Table 5.3-1 Slope Construction Restrictions).

Slope Category	Development Restrictions
Slope less than 10%	No additional building restrictions pursuant to this Section.
Slopes 10-15%	Site preparation techniques shall be utilized which minimize grading and site disturbance
Slopes greater than 15% less than 25%	Building and site preparation may occur upon demonstration of specialized site design techniques and approaches as described in subsection (d)
Slopes 25% or higher	Generally unsuitable for development. Land disturbance shall not exceed 25% of the area containing 25% or greater slopes unless a variance is granted by the Board of Adjustment. For disturbed areas, building and site preparation shall utilize specialized site design techniques and approaches as described in subsection (d).

Subsection (d) - reproduced below - outlines the type of construction activities required to create stable slopes. These include permitting a maximum slope of reconstructed disturbed area to be 33% and that exposed surface areas are covered by ground cover and plantings that prevent erosion.

(d)	<p>Construction techniques</p> <p>Construction activities on slopes greater than fifteen (15) per cent shall comply with the following:</p> <p>(1) Exposed soil that is not under continuous construction shall be re-vegetated with temporary or permanent vegetation so that the soil is not left exposed following issuance of a certificate of occupancy, vegetation shall be reestablished. If irrigation is not provided, then the exposed soil shall be planted with species which can survive without irrigation. Vegetative cover or any alternative cover (rock, masonry, etc.) shall be maintained in perpetuity.</p> <p>(2) All cut and fill slopes shall not exceed a three (3) (horizontal) to one (1) (vertical) by the Town Manager upon certification, by a qualified soils engineer or geologist, that the slope will remain stable under foreseeable conditions. The certification must delineated any specific stabilization measures deemed necessary by the soils engineer or geologist.</p>
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To the applicant, it seems somewhat contradictory that the required specialized construction techniques permit a finished slope of 33% while at the same time placing limits on 25% slope disturbance.

Requested Modification for Steep Slope Construction

The plan proposes construction on 11,515 SF (1/4th of an acre) of land with slopes greater than 25%.

- The slope area allowed to be disturbed without question is 4,616 SF.
- **The applicant is requesting approval of 6,897 SF of disturbance in excess of the amount of land allowed to be disturbed by-right.**

Slopes on Aydan Court Site

A slope and topographic analysis of the site has been made with a 4 feet contour interval and with slope determinations for areas with 400 square feet. (e.g. 20'x20'). [§ 5.3.2(c)(1)A. requires an interval of 5 feet or less]

The amount of land area and the percent of land area in each of the four required slope categories are shown in Table 3. There is a very small portion of the site in "steep" slopes.

- Fifty-eight percent (58%) of the site has slopes of less than 15%
- Thirty-four percent (34%) of the site has slopes of 15-25%
- Land areas with slopes of 25% or greater comprise 8% of this site.

Table 3

Slope Category	Land Area in Square Feet	Percent of Land Area
Slope less than 10%	67,325	29%
Slopes 10-15%	67,067	29%
Slopes > 15%-25%	78,214	34%
Slopes 25% or higher	18,467	8%
Totals	231,073	100%

Location of Land with slopes of 25% or more

The scattered small areas of land with slopes of 25% are in 2 locations.

1. The north-facing slope of the embankment along NC 54. (9,235 SF)

Just over half (50.5%) of the area in slopes of greater than 25% is located at the front of the site in either the RCD buffer or the required NC 54 street buffer.

2. Internal plateaus – side slopes. (9,232 SF)

Each of the two internal plateaus has side slopes that are between 20-25% from the base of the slope to the top of the slope. Within these side slopes are 6 small, scattered areas with slopes in excess of 25%.

Figure 1 shows the major landforms of the site divided into two categories, Slopes of 0-15% and slopes between 15-25%. In addition, the slope of the sides of the plateaus is shown. These are all hillsides of less than 25% slope from top to bottom.

Figure 2 shows the small areas of slopes areas greater than 25% in the context of the overall slopes of the hillsides.





Public Purposes and justification for construction in areas with slopes of 25% or greater.

The plan proposes construction on 11,515 SF (1/4th of an acre) of land with slopes greater than 25% to achieve three public purposes. The slope area allowed to be disturbed without question is 4,616 SF. The applicant is requesting approval of another 6,897 SF of disturbance for the reasons discussed below.

1. Site Access from NC 54 (2,440 SF)

The location of the site entry road has been established by the NCDOT required median cut in NC 54. That median cut will permit eastbound left turns and U-turns on NC 54. This will provide an entrance to Aydan Court and a U-turn location for other vehicles, thereby preventing the need for vehicles to go an additional mile east to Hunting Ridge Road in Durham to turn around. The entrance also responds to the requirement from the Fire Marshall and from Public Works to provide for emergency and service vehicles to turn around within Chapel Hill and not go east to the more congested area of Hunting Ridge Road.

This median cut location will also contain a westbound left turn to provide access to Downing Creek.

To accommodate the entrance location as determined by NCDOT, a portion of the 25% sloped embankment at the front of the site must be disturbed to construct the entry road. The design minimizes the disturbance while still providing for sidewalks from the site to the pedestrian and bicycle trail to be extended from Meadowmont to the eastern property line of Aydan Court.

2. Sanitary Sewer Service and Access (571 SF)

OWASA and the Town of Chapel Hill require that new development be served by gravity flow sewer systems where possible. This is accomplished at Aydan Court by exiting the northwestern edge of the site, traversing the adjoining UNC Foundation property and reaching the OWASA pump station at The Cedars in Meadowmont.

To do this, regardless of the interior design of the site, the side slope areas of the plateaus will be disturbed to place the sewer line at the needed depth and to clear the thirty feet easement widths required by OWASA.

3. Higher Density Residential Development (9,232 SF)

The Town of Chapel Hill is preparing a Long Range Transit Plan. As part of that planning effort, the Town has identified the NC 54 corridor and specific areas in that corridor for development at higher intensities. NC 54 Corridor Planning Area 16 includes the Aydan Court and UNC Foundation properties.

In Planning Area 16, the proposed uses are Office, Retail, and Residential. It is estimated that one-half of the 58 acres in area 16 will be developed with residential uses. The density per acre for the residential uses is proposed to be 25 dwelling units per acre.

- The Aydan Court site is not suited for retail use.
- The Aydan Court residential design is for 10 units per acre for the 5.8 acres. To reach this density, residential development will require structures with parking beneath buildings as well as some surface parking.
- Office development on the Aydan Court site would generate significantly more automobile trips than the 58 units proposed by the applicant.

The Aydan Court plan has embraced the goals of the Town to achieve higher density development and to provide a fair share of affordable housing. It does so by placing parking under both the townhome buildings and the condominium building.

On the Aydan Court site this is achieved by tucking the parking into the side slopes of the 2 plateaus. As it happens, these side slopes have a general vertical elevation change of 8-12 feet from top to bottom. This change in elevation is in fact fortuitous as it is an almost perfect height change for placing a parking level underneath living levels

The proposed design for Aydan Court achieves the public purposes of providing higher density residential development by locating parking beneath living space.

Modification of Slope Construction Limitation on 25% Slopes

The applicant requests a modification of the twenty-five percent base limitation for development on slopes of 25% or greater to permit the amount of disturbance shown on the application plans. The public purposes served by this are:

1. The 2,440 SF of disturbance to the 25% slopes on the embankment along NC 54 is necessary for access to the site,
2. The 571 SF of disturbance to the 25% slopes is necessary to serve the site by gravity flow sewer service exiting the site from the north, and
3. The 9,232 SF of disturbance to the 25% slopes - embedded within the larger 15-25% side slope areas of the plateaus - serves the public purpose of creating higher density residential neighborhoods along primary transit corridors and by providing for a future connection to the University of North Carolina at Chapel Hill Foundation, Inc. property and by extension to Meadowmont.

Route 54 Corridor



Site	Gross Acreage	Buildable Acreage	Development Program			Residential Units @ 25 units/ Acre	Residential Units @ 15 units/ Acre	Office SF @ FAR 1.2	Retail SF @ FAR 1.2	Office SF @ FAR 1.0	Retail SF @ FAR .55
			Residential	Office	Retail						
14	60.0	50.0	50%	20%	30%	625		522,720	784,080	435,600	359,370
15	24.0	7.1		25%	75%			92,687	278,060	77,239	127,444
16	58.0	58.0	50%	38%	12%	725		1,152,075	363,813	960,062	166,748
17a	63.0	49.6	50%	30%	20%	620		777,807	518,538	648,173	237,663
17b	63.0	60.6	50%	30%	20%	758		950,305	633,537	791,921	290,371
Total	205		1,970 - 2,108 units	2.1 - 2.7 million sf	.9 - 2 million sf						

C. Building Height

Aydan Court is to be developed at a density of 10 dwelling units per acre with two types of dwelling units: 1) Townhomes and 2) Condominium Flats in a building with 4 floors of homes over a garage parking level.

R-SS-C Height Standards – Primary (39 Ft.) and Secondary (60 Ft.)

All residential zoning districts in Chapel Hill have primary and secondary building height requirements.

- Primary height is measured at the minimum building setback line. ***The minimum interior setback line for the R-SS-C District is 0 feet. There is no Solar Setback requirement for the R-SS-C District.***
- Secondary height is the maximum height a building can reach when set back an additional distance. In all residential districts, a building may have one (1) additional foot of height for each additional two (2) feet of building setback from the location of the minimum front or interior setback line – up to the maximum secondary height limit.

Shown in Table 5 are the setback relationships for the townhomes. ***All of the townhomes meet the standards of the R-SS-C District.***

Table 5
Townhome Heights

Standard		Bldg II	Bldg III	Bldg V	Bldg VI
Height – Primary at minimum setback line.	39'	n/a	n/a	n/a	n/a
Height at actual building setback lines	25 – 105'	29'	29'	29'	29'
Height – Secondary Maximum	60'	47'	47'	47'	47'

The setback and height relationships in Table 6 address the interior setback on the University of North Carolina at Chapel Hill Foundation, Inc. property side (west).

The Aydan Court proposal exceeds the secondary building height at the building setback line on the western side of the site by 5.5 feet and exceeds the Maximum Secondary Height by 1 foot.

Table 6
Condominium Height & Interior Setback – UNC-CH Side

Standard	R-SS-C	Aydan Court	Proposed Modification to Regulation
Maximum Height – Primary at minimum setback line.	39'	n/a	n/a
Maximum Height at proposed Building Setback (31')	54.5'	61'	7.0 Ft.
Maximum Secondary Height	60'	61'	1.0 Ft.

Table 7 addresses the interior setback relationships on the eastern-northern side along the US Army Corps of Engineers property in Durham County. The Aydan Court proposal exceeds the secondary building height at the building setback line on the eastern edge of the site by 14 feet.

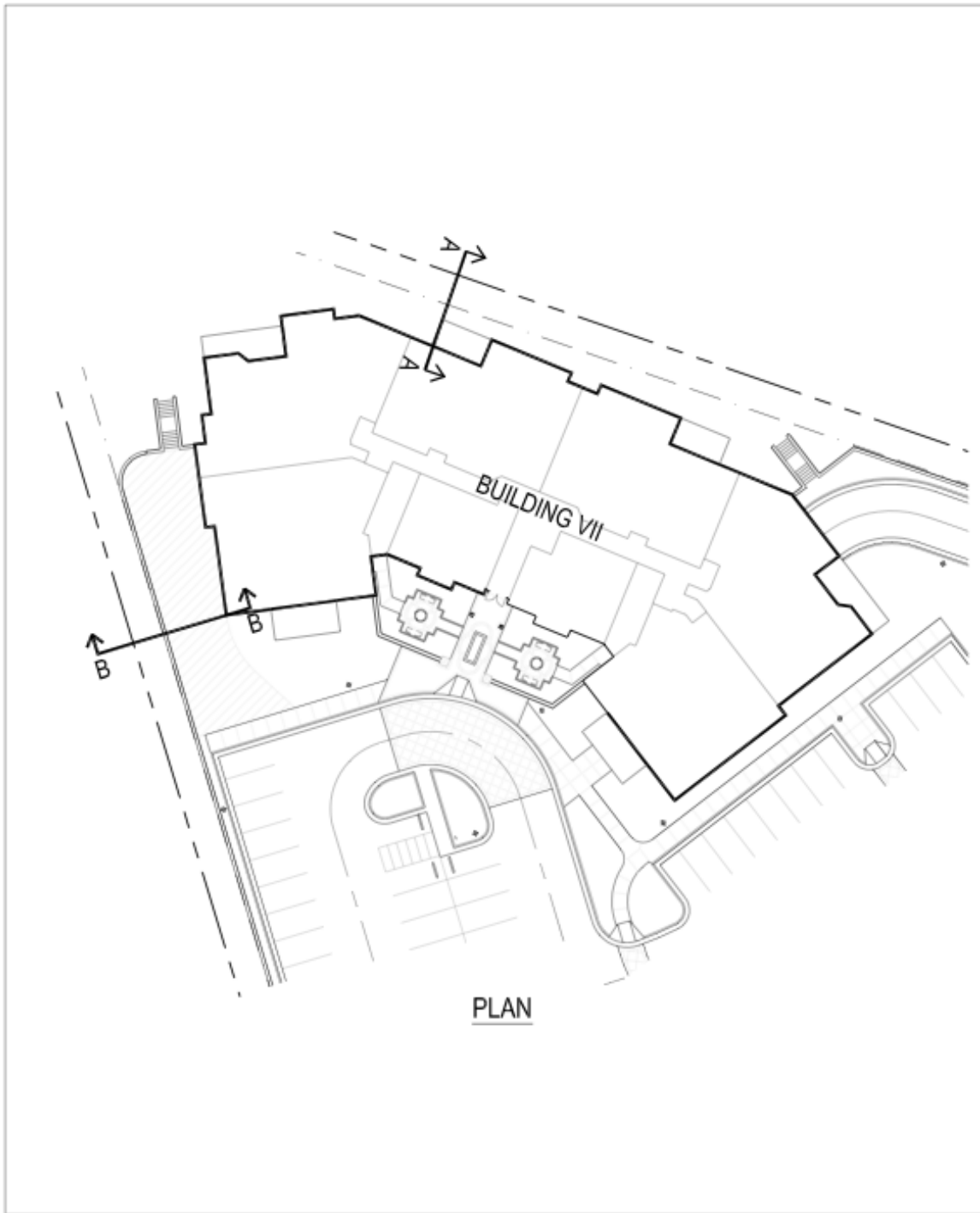
Table 7
Condominium Height – Army Corps of Engineers Side

Standard	R-SS-C	Aydan Court	Proposed Modification to Regulation
Height – Primary at minimum setback line.	39'	n/a	n/a
Height at Building Setback (16')	47'	61'	14 Ft.
Height – Secondary Maximum	60'	61'	1.0 Ft.

Requested Modification for Building Height

The applicant requests 3 minor modifications to the height standards:

- 1) A one (1) feet Secondary Height modification to allow the condominium building to have a maximum secondary height of sixty-one (61) feet.
- 2) A seven (7) feet modification to the building height standard for the west side of the condominium building at the proposed building setback line.
- 3) A fourteen (14) feet modification to the building height standard for the east side of the condominium building at the proposed building setback line.



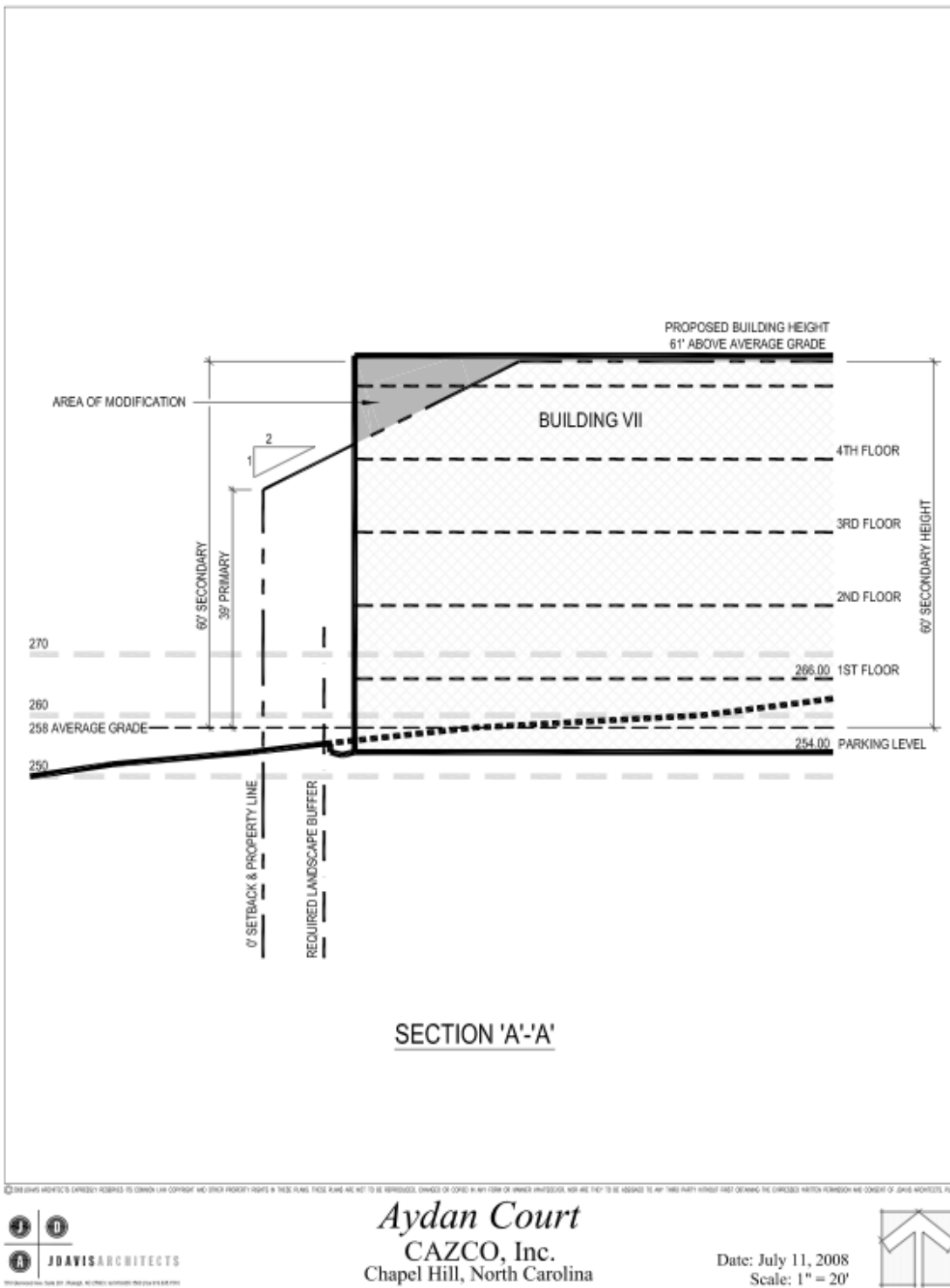
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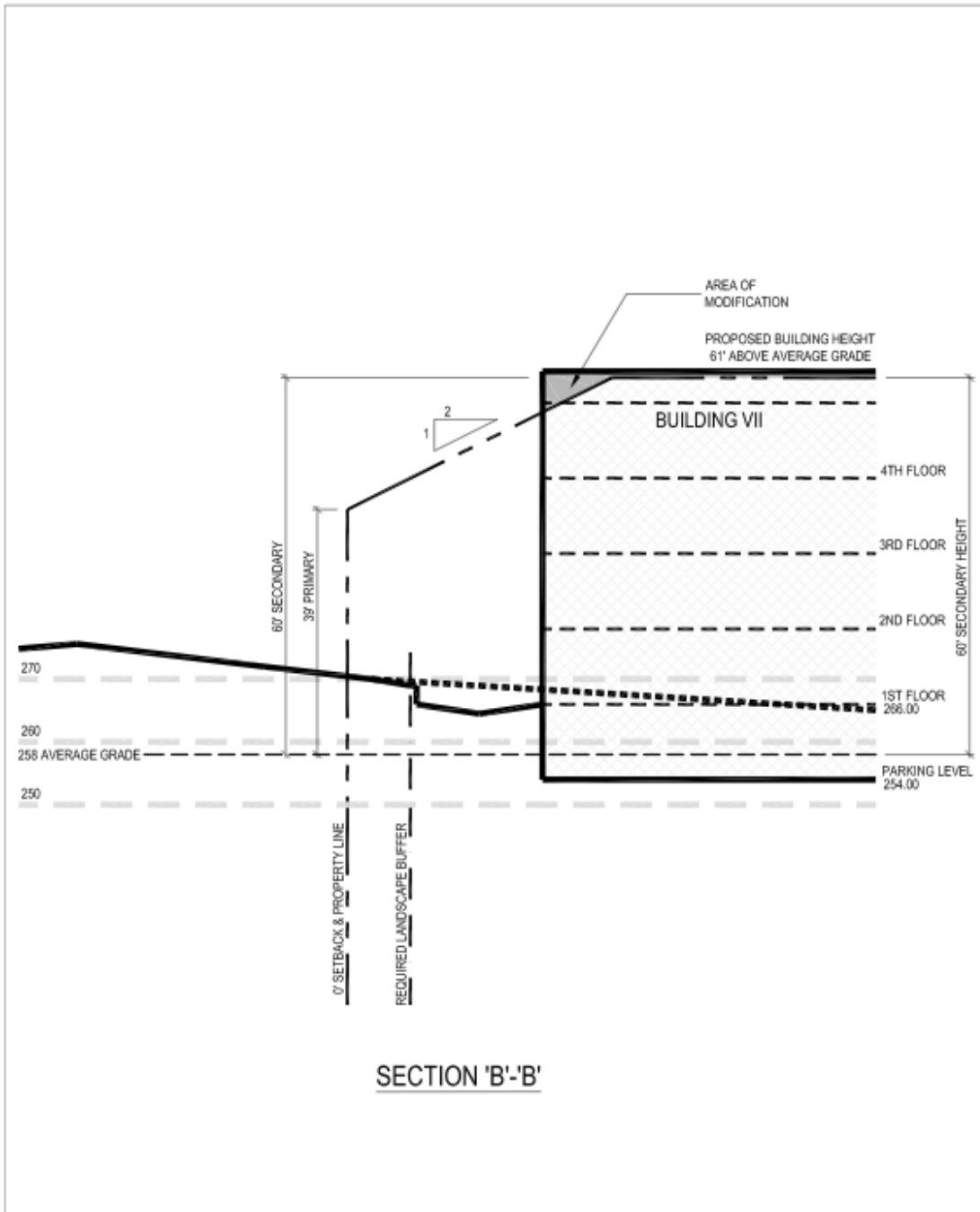
Aydan Court
 CAZCO, Inc.
 Chapel Hill, North Carolina

Date: April 30, 2008
 Scale: 1" = 40'





Army Corps of Engineers side of site.



SECTION 'B'-'B'

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Aydan Court
CAZCO, Inc.
 Chapel Hill, North Carolina

Date: July 11, 2008
 Scale: 1" = 20'



[University of North Carolina at Chapel Hill Foundation Inc. side of site.](#)

D. Ephemeral Stream Land Disturbance

In October 2006 the stormwater management department made a field visit and determined that the Aydan Court site has an ephemeral stream running parallel to NC 54 and located about 2/3rds of the way to the back of the site. The word “barely” was used to describe the ephemeral stream.

An ephemeral stream is a shallow depression (natural draw) in the land that can capture water during and shortly after periods of heavy rainfall. It is not the same as intermittent or seasonal water bodies or perennial water bodies. It is defined in the Chapel Hill Land Use Management Ordinance (see below) and does not have a resource conservation district associated with it.

“Ephemeral stream: A feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.”¹

“The presence of an ephemeral stream as defined in Appendix A does not place the underlying and nearby land within the Resource Conservation District. Restrictions associated with ephemeral streams are contained in section 5.4.”²

LUMO Section 5.4.6 General Performance Criteria for Stormwater Management subsection (d) states:

“Land disturbance within the stream channel of any ephemeral stream shall be minimized, and prohibited unless explicitly authorized by issuance of a Zoning Compliance Permit after demonstration of the necessity for this disturbance.”

Proposed Disturbance and Necessity

The applicant proposes to disturb the “ephemeral stream” drainage depression. The necessity for disturbing the ephemeral stream is a direct result of two off-site and one on-site design requirements:

1. Providing sanitary sewer service to the site with a gravity flow drainage system that connects to the existing pump station in The Cedars portion of Meadowmont.

This can be accomplished only from the north central portion of the Aydan Court Site, with any and all development of the front half of the property needing the sewer line to cross the ephemeral stream for service.

2. A connection to UNC Foundation property at a location that permits UNC to have an internal road system providing areas suitable for future development.

¹ Appendix A definition.

² LUMO statement p. 41.

After examining the location of roadway access from Meadowmont and NC 54 to the UNC Foundation property, the applicant has talked with UNC staff on numerous occasions about utility and roadway access issues that affect both Aydan Court and UNC Foundation property. The roadway location that best provides a connection to Meadowmont and serves the internal needs for Aydan Court and for UNC is 400± feet into the site from the NC 54 right-of-way. That location provides the UNC Foundation site with suitable development areas both to the north and south of a roadway that would connect Aydan Court to Meadowmont. This roadway connection location enters the Aydan Court site in the topographic area of the “ephemeral” stream.

3. An internal road and drive network that provides full access to the fronts and rears of all buildings for public safety and public service vehicles.

Town Council and CDC members that reviewed the original concept plan did not feel that the circulation system shown provided for an acceptable flow of service and emergency vehicles. They suggested a more grid-like internal flow providing full access to the fronts and rears of all residential developments. The Fire Department in their review of the SUP submission also requested full access to the fronts and rear of all buildings and that all parts of all buildings be within 150 feet of a fire truck placement on the site. Because of these factors, the condominium building and its associated service drives and parking areas were redesigned and resubmitted in early December 2007.

The present plan provides for the full circulation as requested by Council and the Fire Department. In the design of the site, the connection to UNC Foundation property allows the creation of an internal “grid.” The topographic feature that makes this system possible is the “ephemeral” depression that changes grade as it crosses the site west to east.

The Applicant wishes to point out that the SUP submittal on August 30, 2007 showed this channel to be disturbed and provided a justification within the SUP Statement of Justification submitted at that time. Town staff did not raise a question about ephemeral stream disturbance until February 27, 2008 – six months after original submission and at a time when the project design has been largely fixed.

Statement of Public Necessity

The applicant believes that the disturbance of the ephemeral stream corridor benefits the public and the residents of Aydan Court because:

1. **The proposed internal drive system provides for the emergency vehicle access requested by the Fire Marshall,**
2. **The location of the internal roadway allows the logical and functionally correct location for vehicular, bicycle and pedestrian access to the UNC Foundation property, and**
3. **Permits the sanitary sewer lines that will enter the site from the North to traverse the site and eliminate the need for a pump station.**