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Council Member Werner asked the staff how they devised a meaning to "significant change". Mr. Small responded that the staff had looked at FEMA's guidelines, reviewed other studies and determined that the staff could measure a change of 6 inches.

Council Member Preston said she was disappointed that the ordering or format of the sections had not been changed to that of the citizens' proposal. She commented that she thought this had been agreed upon by the Council at its work session.

Council Member Pasquini asked why the staff had designated the measurable change in velocity to one foot per second as the standard for a permitted use. Mr. Small replied that the staff felt that any change of less than one foot per second would be difficult to measure.

ORDINANCE 87-7-13/O-1B WITH REVISIONS PASSED UNANIMOUSLY, (9-0).

The ordinance, as adopted, reads as follows:

AN ORDINANCE REVISING PROVISIONS OF THE DEVELOPMENT ORDINANCE DEALING WITH THE RESOURCE CONSERVATION DISTRICT (87-7-13/O-1B)

WHEREAS the Town of Chapel Hill manages development in and along watercourses in the Town's planning jurisdiction through use of a Resource Conservation District; and

WHEREAS the Council of the Town of Chapel Hill adopted a Resource Conservation District Ordinance on February 11, 1985; and

WHEREAS the experience with implementation of this ordinance over the past two years has highlighted the need for changes in the ordinance; and

WHEREAS the Federal Emergency Management Agency (FEMA) has changed its regulations governing participation by municipalities in the National Flood Insurance Program; and

WHEREAS the Chapel Hill Resource Conservation District Ordinance needs to be revised in order to comply with FEMA requirements; and

WHEREAS the Council finds that revisions to the Resource Conservation District provisions are necessary both to correct manifest errors and to respond to changing regulatory conditions;

NOW, THEREFORE, BE IT ORDAINED by the Council of the Town of Chapel Hill that the following amendments be made to the Chapel Hill Development Ordinance:

SECTION I

REPLACE the existing "Article 10, Resource Conservation District," with a new Article 10, Subsections 10.1 through 10.13, as described on the following pages.

ARTICLE 10 RESOURCE CONSERVATION DISTRICT

10.1 Intent

The Resource Conservation District (herein sometimes RCD) is intended to be applied to the areas within and along watercourses within the Town's planning jurisdiction in order to preserve the water quality of the Town's actual or potential water supply sources, to minimize danger to lives and properties from flooding in and near the watercourses to preserve the water-carrying capacity of the watercourses and to protect them from erosion and sedimentation, to retain open spaces and greenways to protect their environmentally-sensitive character, to preserve urban wildlife and plant life habitats from the intrusions of urbanization, to provide air and noise buffers to ameliorate the effects of development, and to preserve and maintain the aesthetic qualities and appearance of the Town.

In the interpretation and application of this Article, all provisions shall be: (a) considered as minimum requirements, (b) strictly construed in favor of the public interest and community benefit, and (c) deemed neither to limit nor repeal any other powers provided by Town ordinance or State statute.

10.2 Definitions

Definitions of terms used in this Article, where not otherwise defined in this Article, are contained in Article 18.

10.3 Establishment of Resource Conservation District

10.3.1 Resource Conservation District Elevation

A Resource Conservation District Elevation is hereby established, and defined to be the elevation two (2) feet above the 100-year floodplain elevation (with reference to mean sea level), as:

- 1). The regulatory floodplain as delineated in the latest revision of the Flood Insurance Rate Maps, Flood Boundary Floodway Maps, and Flood Insurance Study, for the Town of Chapel

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Hill, North Carolina, Orange, Durham, and Chatham Counties, as designated by the Associate Director of the Federal Emergency Management Agency, or

- 2) calculated for unmapped or undefined areas using engineering methodology compatible (as determined by the Town Manager) with that used to develop the Flood Insurance Rate Maps, Flood Boundary, Floodway Maps, and Flood Insurance Study.

10.3.2 Resource Conservation District Established

The Resource Conservation District is hereby established as a district that overlays other zoning districts established in Article 3. The Resource Conservation District shall consist of 1) the Resource Conservation District Elevation, and 2) the areas within buffer zones established as follows:

- a. Seventy-five (75) feet from the stream bank of a perennial stream draining less than one square mile.
- b. One hundred (100) feet from the stream bank of a perennial stream draining one square mile or more.

These distances shall be measured as the horizontal, linear distance from the stream banks.

10.4 Development in Resource Conservation District

10.4.1 Development in Resource Conservation District after March 19, 1984.

Development and land-disturbing activities within the RCD are prohibited after the effective date (March 19, 1984) of this Article unless exempted by this Section, or permitted by Section 10.5, or allowed pursuant to a variance authorized by this Article and approved by the Board of Adjustment.

10.4.2 Application of Resource Conservation District Ordinance to Development Existing on March 19, 1984 Outside of the Regulatory Floodplain.

This Article shall not apply to the continued use, operation or maintenance of any development (outside of the regulatory floodplain) existing, or for which construction had substantially begun, on or before March 19, 1984. With respect to the requirements of this Article, such development shall not be considered

as nonconforming within the meaning of Article 14 of this Chapter.

10.4.3

Application of the Resource Conservation District Ordinance to the Expansion, Reconstruction, Rehabilitation, or Renovation of Development Existing on March 19, 1984 Outside of the Regulatory Floodplain.

- a) Within the part of the Resource Conservation District (outside of the regulatory floodplain), the expansion, reconstruction, rehabilitation, or renovation of a development existing, or for which construction had substantially begun, on or before March 19, 1984, is prohibited unless:
 - 1) the expansion, reconstruction, rehabilitation, or renovation is permitted by Section 10.5 and meets the design standards of Section 10.6; or
 - 2) the expansion, reconstruction, rehabilitation, or renovation is permitted by a variance authorized by this Article and approved by the Board of Adjustment;
- b) Provided however, outside of the regulatory floodplain:
 - 1) that the provisions of this Article shall not prohibit the expansion, reconstruction, rehabilitation, or renovation of any single-family or two-family dwelling, or single dwelling unit within a townhouse development existing, or for which construction had substantially begun, on or before March 19, 1984. With respect to the requirements of this Article, the dwelling or dwelling unit, as expanded, reconstructed, rehabilitated, or renovated, shall not be considered as nonconforming within the meaning of Article 14 of this Chapter;
 - 2) that the provisions of this Article shall not prohibit the reconstruction, rehabilitation, or renovation of a development on a single zoning lot to the extent of 50% or less of its assessed taxable value on February 11, 1985. The exemption provided under this subsection shall not apply in cases where a development has been reconstructed, rehabilitated, or renovated one or more times since February 11, 1985, and where the past and proposed reconstructions, rehabilitations, and/or renovations would increase the

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development's assessed taxable value by a total of more than 50% of its assessed taxable value on February 11, 1985 and;

- 3) that the provisions of this Article shall not prohibit the expansion of a development on a single zoning lot to the extent of 10% or less of its footprint existing on February 11, 1985. The exemption provided under this subsection shall not apply in cases where a development has been expanded one or more times since February 11, 1985, and where the past and proposed expansions would increase the development's footprint by a total of more than 10% of its footprint on February 11, 1985.

10.4.4 Application of the Resource Conservation District to the Expansion, Reconstruction, Rehabilitation or Renovation of Development Existing Within the Regulatory Floodplain.

Within the part of the RCD within the regulatory floodplain, any alteration, repair, reconstruction, or improvements to a structure, and/or a development shall meet the requirements of Section 10.6 of this Article.

10.4.5 Development Within Floodway Portion of the Regulatory Floodplain.

Within the part of the RCD within a floodway, no development, maintenance, or land disturbance shall be permitted without certification (with supporting technical data) from a registered professional engineer that base flood heights will not be increased.

10.5 Permitted Uses Within Resource Conservation District

10.5.1 Permitted Uses

Provided they are permitted within the underlying zoning district, and subject to the provisions of Sections 10.6 and 10.8, the following uses shall be permitted uses within the Resource Conservation District:

- a) pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, and other similar agricultural and related uses that do not require extensive land-disturbing activities or extensive use of fences or walls;
- b) ground level loading areas, parking areas, and other similar ground level area uses;

- c) lawns, gardens, play areas and other similar uses;
- d) golf courses, driving ranges, archery ranges, picnic grounds, parks, hiking or horseback riding trails, open space, and other similar public and private recreational uses that do not require extensive use of fences or walls;
- e) public utility and storm drainage facilities where there is no practical alternative to their location within the Resource Conservation District;
- f) streets, bridges, and other similar transportation facilities where there is no practical alternative to their location within the Resource Conservation District;
- g) accessory land-disturbing activities ordinarily associated with a single-family or two-family dwelling, such as driveways, utility service lines, gardens, and similar uses;
- h) public maintenance of streets, bridges, other similar transportation facilities and/or public utility and storm drainage facilities;
- i) lakes, ponds, and associated infrastructure, such as dams, spillways, riser pipes and stilling basins, that are located outside of the regulatory floodplain, shall be permitted with a Special Use Permit pursuant to Article 8 of this chapter.

10.5.2 Intensity Regulations

10.5.2.1 Land Use Intensity Regulations

In lieu of the intensity regulations generally applicable to the underlying zoning district, the following LUI ratios shall be applicable within the Resource Conservation District:

LUI Rating	Use Group	FAR	OSR	LSR	RSR
6	A,B,C	.019	.93	.85	N/A

Application of these regulations shall be established in Section 5.8 of this chapter.

10.5.2.2 Additional Intensity Regulations

Any development in the Resource Conservation District shall be subject to the following limitations on the

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amount of impervious surface and land disturbance on any zoning lot.

Impervious Surface Limitation: In sewered areas: thirty percent (30%) of land within the Resource Conservation District;

In unsewered areas: twelve percent (12%) of land within the Resource Conservation District.

In Town-Designated Water Critical Areas: Six percent (6%) of land within the Resource Conservation District.

Land Disturbance Limitation: Forty percent (40%) of land within the Resource Conservation District.

10.6

Standards for Development in Resource Conservation District

The following standards and criteria shall apply to any portion of a development or, as appropriate, to any land disturbance, within the Resource Conservation District:

- a) the lowest floor elevation of all permanent structures shall be placed at least eighteen (18) inches above the Resource Conservation District elevation and in such a manner as not to adversely impede the flow of waters; (This clause refers to floors of buildings. It does not refer to bridges or roads.)
- b) wherever practicable, a natural vegetative buffer at least fifty (50) feet wide from either bank of the channel shall be retained;
- c) wherever practicable no stormwater discharge shall be allowed directly off an impervious surface into the channel of a watercourse;
- d) safe and convenient access, such as streets and driveways shall be provided to any development at or above the Resource Conservation District elevation unless otherwise authorized by the Town Manager; utility lines, roads and driveways shall be located, as much as practicable, parallel to the flow of waters. Where a road, driveway, or utility line necessarily must cross a watercourse, such crossing shall be located and designed so as to allow convenient access by wildlife through and beyond such crossing, and shall be designed to safely convey floodwaters to the same extent as before construction of said crossings;

- e) street crossings, utility lines, recreational and greenway facilities and recreational-related surfaces may be permitted in the vegetative buffer required in Section 10.6.b, but only to the minimum extent necessary;
- f) the site plan shall be designed to minimize adverse environmental and flooding effects on the Resource Conservation District and to achieve the purposes of this ordinance; permanent structures shall be located, to the maximum extent feasible, as far from the watercourse, and as close to the outer boundary of the Resource Conservation District, as is practical, permanent structures shall be clustered as much as practical, to minimize land disturbance, to maximize undeveloped open space, and to maximize retention of natural vegetation and buffers;
- g) water supply, sanitary sewer, on-site waste disposal systems, shall be designed to;
 - 1) prevent the infiltration of flood waters into the system(s),
 - 2) prevent discharges from the system(s) into flood waters and,
 - 3) avoid impairment during flooding to minimize flood damage; finished floor elevations to be served by sanitary sewer shall be at or above the rim elevation of the nearest upstream manhole cover or be otherwise approved by the Town Manager; sanitary sewer manholes must be provided with locking, watertight manhole covers, or be elevated to a height sufficient to prevent submersion or infiltration by floodwaters; all sewer and sewer outfall lines shall use gravity flow to a point outside the Resource Conservation District or be otherwise approved by the Town Manager and OWASA;
- h) electrical, heating, ventilation, plumbing, gas, air-conditioning, and other service/utility facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding during the base flood discharge;
- i) to the maximum extent feasible, all utility and service facilities shall be installed, constructed and otherwise protected so as to remain

operational should floodwaters reach the Resource Conservation District elevation;

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- j) land disturbing activity shall be kept to the minimum feasible; the smallest practicable area of land shall be exposed at any one time during development; such minimal area shall be kept exposed as short a duration of time as is practical; temporary vegetation or mulching shall be used as needed to protect exposed areas; natural plant covering and vegetation shall be retained and protected to the maximum degree practical when developing the site, as shall natural features and terrain;
 - k) Cutting or filling shall be permitted within the watercourse only if the resulting change to the hydraulic characteristics of the watercourse will:
 - 1) Reduce or maintain the watersurface elevation during the base flood discharge in the vicinity of the development; provided however, that in no case will cutting or filling be permitted within the watercourse if greater than a one foot per second increase in the velocity would result; or
 - 2) Reduce or maintain the velocity of flow during the base flood discharge in the vicinity of the development; provided however, that in no case will cutting or filling be permitted within the watercourse if greater than 1/2 foot rise in the base flood elevation would result.
 - l) all new construction and/or substantial improvements (including the placement of prefabricated buildings and manufactured homes) shall be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure;
 - m) all manufactured homes permitted to be placed within Resource Conservation District shall be anchored to resist flotation, collapse, or lateral movement by meeting the minimum requirements of the North Carolina Building Code (latest revision).
 - n) any manufactured home, new manufactured home park or new manufactured home subdivision permitted to be placed within the Resource Conservation District shall:

- 1) have stands or lots elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be at or above the Resource Conservation District elevation;
 - 2) have adequate surface drainage;
 - 3) provide access for haulers;
 - 4) have lots large enough to permit steps when the mobile home is placed on pilings;
 - 5) have pilings placed in stable soils no more than ten (10) feet apart, and reinforcement shall be provided for pilings more than six feet above ground level.
- o) development shall not be permitted if it results in any increased regulatory floodway elevation, during base flood discharge, as certified by a registered professional engineer;
- p) for all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other covering or devices provided that they permit the automatic entry and exit of floodwaters.

10.7 Variance From Board of Adjustment

10.7.1 Application

An owner of property who alleges that the provisions of this Article leave no legally reasonable use of the property may apply to the Board of Adjustment for a variance. An application for a variance shall be filed with the Town Manager in accord with the provisions of Subsection 16.4.1. In addition to the materials required by that subsection, the application must also comply with the submittal requirements of Section 10.8.

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On receipt of a complete application, the Town Manager shall cause an analysis to be made by appropriate Town staff based on the findings required in Subsection 10.7.2. Within a reasonable period of time, the Town Manager shall submit the application and a report of his or her analysis to the Board of Adjustment.

10.7.2 Required Findings

- a) The review of the Board of Adjustment shall extend to the entire zoning lot that includes area within the Resource Conservation District. The Board of Adjustment shall grant a variance, subject to the protections of this Article, if it finds:
 - 1) That the provisions of this Article leave an owner no legally reasonable use of the portion of the zoning lot outside of the regulatory floodplain; and
 - 2) That a failure to grant the variance would result in extreme hardship.

In making such findings, the Board of Adjustment shall consider the uses available to the owner of the entire zoning lot that includes area within the Resource Conservation District.

- b) The Board of Adjustment shall grant the minimum variance necessary to afford appropriate relief under this section. The Board may attach such reasonable conditions to the grant of a variance as it deems necessary to achieve the purposes of this Article.
- c) The Board of Adjustment shall not grant any variance if it finds that such a variance would:
 - 1) result in any increased regulatory floodway water surface elevation during the base flood discharge as certified by a registered professional engineer; or
 - 2) result in significantly increased velocity of flow or deposit of sediment; or
 - 3) result in significantly increased erosion, significant additional threats to public safety; or
 - 4) result in significant threats to water quality; or

- 5) result in the removal of significant wildlife habitat; or
 - 6) result in extraordinary public expense; or
 - 7) result in public nuisance; or
 - 8) impede the provision of greenway paths called for by the Town's Greenway Plan; or
 - 9) conflict with the provisions of any other law or ordinance.
- d) The Board of Adjustment may refuse to grant any variance if it finds that the owner of a lot, or any predecessor in interest, has subdivided such lot or has otherwise acted in an attempt to avoid or evade the provisions or intent of this Article.

10.7.3 Burden of Proof

Any owner of property applying to the Board of Adjustment for a variance from the provisions of this Article shall have the burden of establishing that such variance should be granted by the Board.

10.7.4 Presumption

Notwithstanding 10.7.3, a showing that the portion of the Resource Conservation District outside of a regulatory floodplain overlays more than seventy-five percent (75%) of the area of a zoning lot, shall establish a rebuttable presumption that the Resource Conservation District leaves the owner no legally reasonable use of the zoning lot outside of the regulatory floodplain. Such presumption may be rebutted by substantial evidence before the Board of Adjustment.

10.7.5 Referral

The Board of Adjustment, before taking final action on an application for a variance, may refer such application to Town advisory boards or commissions.

10.7.6 Review Criteria

In reviewing applications for variances pursuant to this Article, the Board of Adjustment shall consider all technical evaluations, all relevant factors, other provisions of statute or ordinance, and:

- a) the danger to life and property due to flooding, sedimentation, and/or erosion damage at the site;

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- b) the danger that structures or materials may be swept onto other lands to the injury of others;
 - c) the danger to life and property from flood waters backed up or diverted by any obstruction or by debris collected by the obstruction;
 - d) the susceptibility of the proposed development and its contents to flood damage and the effect of such damage on the individual owner;
 - e) the importance of the services provided by the proposed development to the community;
 - f) the necessity to the facility of a waterfront or low-lying location, where applicable;
 - g) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - h) the compatibility of the proposed use with existing and anticipated development within the vicinity;
 - i) the relationship of the proposed use to the comprehensive plan and the stormwater management program for that area;
 - j) the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k) the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site;
 - l) the effects of the proposed development on the heights, velocity, duration, and rate of rise of the flood waters upstream and downstream of the proposed site;
 - m) the costs of maintaining or restoring public services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges;
 - n) the susceptibility of water supply and sanitation systems to contamination and unsanitary conditions during and after floods; and
 - o) the danger that issuance of the variance will set a precedent for future development in the Resource

Conservation District which cumulatively may increase the flood hazard.

- p) the impact of the proposed use on the Town's open spaces and Greenway System.
- q) the effect to water quality of the Town's actual or potential water supply sources.
- r) the effect on urban wildlife and plant life habitats.
- s) the effect on air and noise buffers which ameliorate the effects of development.
- t) the degree to which drainage and flooding conditions in the vicinity would be improved by the proposed development.

10.8

Requirements for Development Applications

Every application which proposes development or land-disturbing activities wholly or partially within the Resource Conservation District, shall include the following, unless affirmatively exempted by the Town Manager in part or entirely, for the whole area covered by the application:

- a) a utilities plan;
- b) a grading plan showing existing and final contours;
- c) a sedimentation and erosion control plan;
- d) a storm water management plan;
- e) a soils analysis;
- f) plans view showing: the topography of the site at a minimum horizontal scale of 1:60, at two-foot contour intervals; the location of streams, watercourses, stormwater runoff channels, etc; the limits of the floodway and floodplain; existing or proposed storm and sanitary sewers and sewer outfalls; septic tank systems and outlets, if any; existing and proposed structures and development; and the 100-year, 10-year flood, and RCD elevations and limits; existing and proposed tree lines;
- g) profile view showing: at a minimum horizontal scale of 1:60, and minimum vertical scale of 1:10, the elevations of the watercourses bed; waterway

openings of existing and proposed culverts and bridges within or near the site; size and elevation of existing or proposed sewer and drain outlets; the 100-year and 10-year flood water surface elevations and limits; and the elevation of the Resource Conservation District.

- h) a description of existing vegetation, including significant trees and shrubs; and a landscape plan for the completed development;
- i) a description of wildlife habitats, noting the types of habitat on site and their potential as habitats for various species of wildlife and identifying any relevant limiting factors;
- j) description of proposed storage of materials and of waste disposal facilities;
- k) certificate from a registered professional engineer or architect, with respect to floodproofing, or from a registered professional engineer or surveyor with respect to elevation, that any floodproofing measures on nonresidential uses or finished elevations meet the requirements of this article.
- l) copies of notifications to and responses by adjacent communities, the North Carolina Department of Crime Control and Public Safety, and the Federal Emergency Management Agency regarding any proposed alteration or relocation of a riverine watercourse.
- m) the increase in elevation of the 100-year flood upstream from the development, velocity changes and rate of rise changes, runoff, water quality change, sediment deposit rate changes, and the duration of the flood. The Town Manager shall approve the methodology used to determine the changes.

All applications shall include a list of owners of properties located within 500 feet of the subject property boundaries with the full name and address of each property owner, and shall include stamped, pre-addressed mailing envelopes for each owner on the mailing list.

10.9

Correction of Violations

The owner of any land within the Resource Conservation District shall be presumed responsible for any violation of this Article committed on his or her property.

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The owner of any land within the Resource Conservation District shall be responsible for correcting any activity undertaken therein in violation of this Article. In addition, any other person found in violation of this article shall be liable as provided by law. The Town may institute any appropriate action to restrain or prevent any violation of this ordinance or to require any person who has committed any such violation to correct the violation or restore the conditions existing before the violation. The Town Manager shall enforce this article as provided for in Article 17.

10.10 Warning and Disclaimer of Liability

With respect to flood hazard, the degree of protection required by this Article is considered reasonable for regulatory purposes. Larger floods than anticipated or protected against herein will occur on occasion. This Article does not imply that land outside the Resource Conservation District or uses or variances permitted or allowed within such district will be free from flooding or flood damages. This Article shall not create any liability on the part of the Town, or any officer or employee thereof, for any flood damages that result from reliance on this Article or any administrative decision or process lawfully made thereunder.

10.11 Other Approvals Required

No permit or approval required to be issued by the Town under the provisions of this article shall be valid until all other permits or variances for the same proposal required by any other ordinance of the Town or statute of the State of North Carolina or United States have been received from those agencies from which such permits or variances are required.

10.12 Records and Filings

The Town Manager shall maintain records of all development permits, approvals, certification of as-built finish floor elevation(s), certification of floodproofing measures, or variances regarding development within the Resource Conservation District. Such records shall include all actions on applications for such permits, approvals, or variances, as well as any conditions attached thereto. The Town Manager shall report variances granted for the relocation or alteration of riverine watercourses to adjacent communities, the N.C. Department of Crime Control and Public Safety and the Federal Emergency Management Agency. Such report shall contain assurance that the relocation or

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alteration maintains the watercourse's flood carrying capacity.

The Town Manager shall notify any applicant in writing of the decision on any application for any permit, approval, or variance with respect to property within the Resource Conservation District and shall file a copy of it with the Town's Planning Department.

The applicant shall record any variance with the Orange County Register of Deeds within sixty (60) days after written notice of approval of such variance by the Board of Adjustment.

10.13

Resource Conservation District Guide

The Town Manager shall cause to be prepared a Resource Conservation District Guide. Such guide shall contain appropriate descriptive maps, presumptive criteria and guidelines for interpretation of this Article and evaluation of applications to develop or disturb land within the Resource Conservation District, as well as design and construction standards, consistent with the general performance standards contained in this Article.

SECTION II

DELETE from Article 18, "Definitions,". Section 18.32: "18.32 - Development: The division, use, or occupancy of any land or structure, or the construction, erection, alteration, or moving of any structure."

SECTION III

AMEND Article 18, "Definitions," by including the following definitions, inserted in appropriate alphabetical order: (definitions appear on following pages)

DEFINITIONS

Above Average Rainfall: The hydrologic condition that exists when rainfall for the preceding 30 days is greater than 120% of the average rainfall for the same period, as recorded by the National Weather Service.

Area of shallow flooding: A designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity may be evident.

Area of special flood hazard: The land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year.

Base Flood: The flood having a one percent chance of being equaled or exceeded in any given year (the 100 year flood).

Basement: That portion of a building between floor and ceiling, that is wholly or partly below grade.

Channel: The defined course (eg. bed, ditch, or depression) where a natural or man-made stream of water is transmitted.

Development: Any man-made change to improved or unimproved real estate, including, but not limited to: the construction, erection, structural alteration, enlargement, or rehabilitation of any buildings or other structures, including farm buildings; mining; dredging; filling; grading; paving; excavation or drilling operations; clearing of vegetation; any division of a parcel of land into two (2) or more parcels and any use or change in use of any structures or land.

Drought: The hydrologic condition that exists when rainfall for the proceeding 30 days is less than 80% of the average rainfall for the same period, as recorded by the National Weather Service.

Flood or flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from:

- 1) the overflow of inland or tidal waters;
- 2) the unusual and rapid accumulation of runoff of surface waters from any sources.

Flood Hazard Boundary Map (FHBM): The official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to Chapel Hill.

Flood Insurance Study: The official report provided by the Federal Emergency Management Agency containing flood profiles as well as the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

Floor: The top surface of an enclosed area in a building (including basement), i.e. - top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

Footprint: The area bounded by the external walls of any structure.

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Highest Adjacent Grade: The highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

Manufactured Home: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site.

Manufactured Home Park or Subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level: The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the flood plain. For purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD). For purposes of national flood insurance programs, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

National Geodetic Vertical Datum (NGVD): A vertical control, as corrected in 1929, used as a reference for establishing varying elevations within the flood plain.

Normal Flow: The volume of water carried by a stream in times other than droughts or above average rainfall.

Perennial Stream: Those areas shown as streams on the Town's Aerial Topographic Maps, subject to field verification, in addition to streams confirmed to be perennial after onsite inspection by the Town Engineering Department. The presence of a perennial stream shall be confirmed by the presence of two (2) or more of the following:

- water,
- aquatic and/or water-loving vegetation,
- aquatic craniate vertebrates (fish), and/or aquatic arthropods having a chitinous (or calcaerous and chitinous) exoskeleton (crayfish), or evidence of such recent presence.

Regulatory Flood Plain: Areas of inundation during the base flood discharge as delineated on the Flood Hazard Boundary Maps and Flood Insurance Study for the Town of Chapel Hill, North Carolina, Orange, Durham, and Chatham Counties, latest revisions, as defined by the Associate Director of the Federal Emergency Management Agency.

Regulatory Floodway: The channel of a river or other watercourse and the adjacent land areas as delineated on the Flood Hazard Boundary Maps and Flood Insurance Study for the Town of Chapel Hill, North Carolina, Orange, Durham, and Chatham Counties, latest revisions, as defined by the Associate Director of the Federal Emergency Management Agency, that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot above the 100 year flood water surface elevation.

Riverine: Areas formed by, or resembling a river.

Stream Bank: The point(s) where the wetted perimeter of a stream's cross section has the highest elevation (as referenced to mean sea level) during normal flow.

Substantial Improvement: Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the assessed taxable value of the structure, either (1) before the improvement or repair is started, or (2) if the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

Watercourse: Any area of a perennial stream or regulatory flood plain which is inundated during the base flood discharge.

Wetted Perimeter: The line of intersection between water and any other part of a stream's cross section.

SECTION IV

That these revised provisions shall apply to all development approved on or after the date of adoption of these revisions. All development approved prior to this date shall be governed by provisions of the Resource Conservation District Ordinance in place at the time of approval. All variances and conditions of approval of developments or variances in place prior to the date of adoption of these revisions shall remain intact and unchanged by these revisions.

SECTION V

That all ordinances and portions of ordinances in conflict herewith are hereby repealed.

This the 13th day of July, 1987.