TOWN OF KILL DEVIL HILLS

Land Where Flight Began

MEMORANDUM June 10, 2020

TO: KDH Board of Commissioners

FROM: Debora P. Diáz, Town Manager

REF: New Business

1. Chapter 151, Flood Damage Prevention Ordinance – 2020 revision, including new FEMA flood maps (Attached NB-1)

At the Board's January 22, 2020, meeting, Planning Director Meredith Guns presented information on the updated FEMA Flood Insurance Rate Maps (FIRMs), and a draft Flood Damage Prevention Ordinance. The new ordinance includes State mandates for changes and Staff recommendations for improved clarity and consistency. The State has conducted its review of Staff's recommendations, which have been endorsed. The maps and ordinance must be adopted by June 19, 2020, in order for the Town to remain in the National Flood Insurance Program (NFIP).

Through consensus, the Board directed the item to be placed on its March 25, 2020, meeting agenda for further discussion, which, along with the regular April 6, 2020, meeting, was not held due to COVID-19 safety precautions. At its April 22, 2020, meeting, the BOC rescheduled this item for public hearing for June 8, 2020, at 6:00 p.m., with potential action for this recessed meeting.

A motion will be in order to adopt the proposed Chapter 151 Flood Damage Prevention Ordinance and the associated FEMA flood maps, with an effective date of Friday, June 19, 2020.

Town of Kill Devil Hills
Chapter 151 FLOOD DAMAGE PREVENTION ORDINANCE

151.01 STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

(A) STATUTORY AUTHORIZATION.

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Article 6 of Chapter 153A; Article 8 of Chapter 160A; and Article 7, 9, and 11 of Chapter 160D (Effective January 1, 2021) of the North Carolina General Statutes, delegated to local governmental units the authority to adopt regulations designed to promote the public health, safety, and general welfare.

Therefore, the Board of Commissioners of Kill Devil Hills, North Carolina, does ordain as follows:

(B) FINDINGS OF FACT

1. The flood prone areas within the jurisdiction of Kill Devil Hills are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

2. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

(C) STATEMENT OF PURPOSE

It is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by establishing provisions designed to:

1. Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;

2. Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;

3. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;

4. Control filling, grading, dredging, and all other development that may increase erosion or flood damage; and

5. Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.

(D) OBJECTIVES

The objectives of this ordinance are to:

1. Protect human life, safety, and health;

2. Minimize expenditure of public money for costly flood control projects;

3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of

the general public;

4. Minimize prolonged business losses and interruptions;

5. Minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;

6. Minimize damage to private and public property due to flooding;

7. Make flood insurance available to the community through the National Flood Insurance Program;

8. Maintain the natural and beneficial functions of floodplains;

9. Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and

10. Ensure that potential buyers are aware that property is in a Special Flood Hazard Area *or an area subject to potential flooding; and*;

11. Mitigate flood risks in all areas of Kill Devil Hills by implementing local elevation standards for all Special Flood Hazards Areas and Shaded X and X Zones

151.02. DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance it's most reasonable application.

"Accessory Structure (Appurtenant Structure)" means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building. For floodplain management purposes, accessory structures are considered structures used for parking and storage only. The definition used for floodplain management purposes may vary from similar definitions found in the Kill Devil Hills Zoning Ordinance.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure.

"Appeal" means a request for a review of the Floodplain Administrator's interpretation of any provision of this ordinance.

"Area of Shallow Flooding" means a designated Zone AO or AH on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

"Area of Special Flood Hazard" see "Special Flood Hazard Area (SFHA)".

"Base Flood" means the flood having a 1% percent chance of being equaled or exceeded in any given year.

"Base Flood Elevation (BFE)" means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a "Special Flood Hazard Area", it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the "Freeboard", establishes the "Regulatory Flood Protection Elevation".

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Breakaway wall" A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

"Building" see "Structure".

"Chemical Storage Facility" means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

"Coastal Area Management Act (CAMA)" means North Carolina's Coastal Area Management Act, this act, along with the Dredge and Fill Law and the Federal Coastal Zone Management Act, is managed through North Carolina Department of Environmental Quality' (NCDEQ's) Division of Coastal Management (DCM).

"Coastal A Zone (CAZ) " means an area within a special flood hazard area, landward of a V zone or landward of an open coast without mapped V zones; in a Coastal A Zone, the principal source of flooding must be astronomical tides, storm surges, seiches, or tsunamis, not riverine flooding. During the base flood conditions, the potential for wave heights shall be greater than or equal to 1.5 feet. Coastal A Zones are not normally designated on FIRMs. (see Limit of Moderate Wave Action (LiMWA))

"Coastal Barrier Resources System (CBRS)" consists of undeveloped portions of coastal and adjoining areas established by the Coastal Barrier Resources Act (CoBRA) of 1982, the Coastal Barrier Improvement Act (CBIA) of 1990, and subsequent revisions, and includes areas owned by Federal or State governments or private conservation organizations identified as Otherwise Protected Areas (OPA).

"Coastal High Hazard Area" means a Special Flood Hazard Area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on a FIRM, or other adopted flood map as determined in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas* and *Section C Establishment of a Local Elevation Standards for Shaded X and X Zones.* of this ordinance, as Zone VE *and any property east of NC12.*

"Design Flood" See "Regulatory Flood Protection Elevation"

"Development" means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

"Development Activity" means any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

"Digital Flood Insurance Rate Map (DFIRM)" means the digital official map of a community, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

"Disposal" means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

"Elevated Building" means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

"Enclosure/Enclosed Area" mean that portion of an elevated building below the lowest elevated floor that is either partially or fully shut in by rigid/solid walls and located either partially or fully below the Regulatory Flood Protection Elevation (RFPE).

"Encroachment" means the advance or infringement of uses, fill, excavation, buildings, structures or development into a special flood hazard area, which may impede or alter the flow capacity of a floodplain.

"Existing building and existing structure" means any building and/or structure for which the "start of construction" commenced before May 4, 1973.

"Existing Manufactured Home Park or Manufactured Home Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a

minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the initial effective date of the floodplain management regulations adopted by the community, *dated May 4, 1973.*

"Flood" or "Flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(a) The overflow of inland or tidal waters; and/or
(b) The unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Insurance" means the insurance coverage provided under the National Flood Insurance Program.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)

"Flood Insurance Study (FIS)" means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the FEMA. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

"Flood Prone Area" see "Floodplain"

"Flood Zone" means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

"Floodplain" means any land area susceptible to being inundated by water from any source.

"Floodplain Administrator" is the individual appointed to administer and enforce the floodplain management regulations.

"Floodplain Development Permit" means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

"Floodplain Management Regulations" means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

"Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

"Flood-Resistant Material" means any building product [material, component or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

"Floodway" means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

"Freeboard" means the height added to the BFE to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, blockage of bridge or culvert openings, *storm surge, precipitation exceeding the base flood* and the hydrological effect of urbanization of the

watershed. The BFE plus the freeboard establishes the "Regulatory Flood Protection Elevation".

"Free of Obstruction" means the required space below the lowest floor of an elevated structure located in the coastal high-hazard, V Zone or east of NC12 that must be open and designed to be free and clear to allow floodwaters to flow freely beneath the structure. The space below the lowest floor that is unobstructed shall be a minimum vertical distance of 12 inches measured from the bottom of the lowest horizontal structural member of the lowest floor to the highest adjacent grade directly beneath the structure. Non-bearing breakaway walls, open lattice panels and insect screening are not considered obstructions and may be allowed below the lowest floor.

"Functionally Dependent Facility" means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, limited to a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

"Hazardous Waste Management Facility" means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

"Highest Adjacent Grade (HAG)" means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

"Historic Structure" means any structure that is:

(a) Listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
(b) Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
(c) Individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or
(d) Certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program."

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Office as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

"Letter of Map Change (LOMC)" means an official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

(a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
(b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
(c) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
(d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

"Light Duty Truck" means any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

(a) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle, or
(b) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
(c) Available with special features enabling off-street or off-highway operation and use.

"Limit of Moderate Wave Action (LiMWA)" means the boundary line given by FEMA on coastal map studies marking the extents of Coastal A Zones (CAZ).

"Local Elevation Standard" means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) in Shaded X and X Zones or used in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, as depicted on the FIRMs for Kill Devil Hills.

"Lowest Adjacent Grade (LAG)" means the lowest elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

"Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

"Manufactured Home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

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

"Map Repository" means the location of the official flood hazard data to be applied for floodplain management. It is a central location in which flood data is stored and managed; In North Carolina, FEMA has recognized that the application of digital flood hazard data products carries the same authority as hard copy products. Therefore, the NCEM's Floodplain Mapping Program websites house current and historic flood hazard data. For effective flood hazard data the NC FRIS website (https://FRIS.NC.GOV/FRIS) is the map repository, and for historical flood hazard data the FloodNC website (http://FLOODNC.GOV/NCFLOOD) is the map repository

"Market Value" means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

"New Construction" means structures for which the "start of construction" commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such structures.

"Non-Conversion Agreement" means a document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is considered a violation of the ordinance and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed with the Dare County Register of Deeds.

"Non-Encroachment Area (NEA)" means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 1 foot as designated in the Flood Insurance Study report.

"Otherwise Protected Area (OPA)" see "Coastal Barrier Resources System (CBRS)".

"Post-FIRM" means construction or other development for which the "start of construction" occurred on or after May 4, 1973, the effective date of the initial Flood Insurance Rate Map.

"Pre-FIRM" means construction or other development for which the "start of construction" occurred before May 4, 1973, the effective date of the initial Flood Insurance Rate Map.

"Primary Frontal Dune (PFD)" mean a continuous or nearly continuous mound or ridge of sand with relatively steep seaward

and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the Primary Frontal Dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope. This definition is used for flood management purposes only and varies from the definition from the Coastal Area Management Act regulations.

"Principally Above Ground" means that at least 51% of the actual cash value of the structure is above ground.

"Public Safety" and/or "Nuisance" means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

"Recreational Vehicle (RV)" means a vehicle, which is:

(a) Built on a single chassis;
(b) 400 square feet or less when measured at the largest horizontal projection;
(c) Designed to be self-propelled or permanently towable by a light duty truck;
(d) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use, and
(e) Is fully licensed and ready for highway use.

For the purposes of this chapter, "Tiny Homes/Houses" and Park Models that do not meet the items listed above are not considered Recreational Vehicles and should meet the standards of and be permitted as residential structures.

"Reference Level"

- For structures within the Special Flood Hazard Areas designated as Zones AE and AO the reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower, with only flood resistant materials located below the reference level.
- For structures within the Special Flood Hazard Areas designated as Zone VE, the reference level is the bottom of the lowest horizontal structural member of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower.
- For structures within Zones Shaded X or X, the reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower, with only flood resistant materials located below the reference level.

"Regulatory Flood Protection Elevation (RFPE)" In Special Flood Hazard Areas means the "Base Flood Elevation" plus the "Freeboard" for those areas where base flood elevations have been determined on the FIRM; the base flood depth above the highest adjacent grade or local elevation standards for those areas identified as AO zones of the FIRM, or the local elevation standard for those areas identified as Shaded X or X zones on the FIRM.

For Kill Devil Hills the RFPE is as follows:

- In VE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus one foot free of obstruction.
- In AE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 3 feet of freeboard OR an elevation to above 8 feet NAVD 1988, whichever is greater.
- In AO zones, the RFPE is the designated base flood depth on the effective FIRM, *plus a freeboard of 1 foot,* above the highest natural adjacent grade OR an elevation to or above 8 feet NAVD 1988, whichever is greatest.
- In Shaded X and X zones west of NC12, the RFPE is 8 feet NAVD 1988 OR the natural grade elevation if the natural grade is greater than 8 feet NAVD 1988.
- In Shaded X and X Zones east of NC12, the RFPE is 8 feet NAVD 1988 or natural grade elevation if the natural grade is greater than 8 feet NAVD 1988 plus one foot of free of obstruction.

"Remedy a Violation" means to bring the structure or other development into compliance with State and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

"Riverine" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

"Salvage Yard" means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

"Sand Dunes" means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"Secondary Structure" means a structure that features habitable conditioned space above the RFPE located on the same parcel as a primary use structure. A secondary structure is not an accessory structure as defined in this section.

"Shaded X Zone" means areas of moderate flood hazard shown on the FIRM and are the areas between the limits of the base flood and the 0.2% annual chance for flood. Also commonly referred to as the 500-year flood.

"Shear Wall" means walls used for structural support but not structurally joined or enclosed at the end (except by breakaway walls). Shear walls are parallel or nearly parallel to the flow of the water.

"Solid Waste Disposal Facility" means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a)(35).

"Solid Waste Disposal Site" means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

"Special Flood Hazard Area (SFHA)" means the land in the floodplain subject to a 1% or greater chance of being flooded in any given year, as determined in 151.03(B), *Basis for Establishing The Special Flood Hazard Areas* and *Section C Establishment of a Local Elevation Standards for Shaded X and X Zones* of this ordinance.

"Start of Construction" includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

"Substantial Damage" means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to it's before damaged condition would equal or exceed 50% of the market value or current tax value of the structure before the damage occurred. See definition of "Substantial Improvement." The one-year period shall commence on the date of Certificate of Occupancy/Certificate of Compliance.

"Substantial Improvement" means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50% of the market value or current tax value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "Substantial Damage", regardless of the actual repair work performed. The one-year period shall commence on the date of Certificate of Occupancy/Certificate of Compliance. The term does not, however, include either:

(a) Any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or

(b) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to 151.04(E)

Variance Procedures of this ordinance.

"Technical Bulletin" and "Technical Fact Sheet" means a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

"Temperature Controlled" means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

"Variance" is a grant of relief from the requirements of this ordinance.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

"Water Surface Elevation (WSE)" means the height, in relation to NAVD 1988 or approved datum applicable at the time of construction, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

"X Zone" means the areas of minimal flood hazard shown on the FIRM which are areas outside of the Special Flood Hazards Areas and higher than the elevation of the 0.2% annual flood chance. Also referred to as "Unshaded X" Zone in this Ordinance.

151.03. GENERAL PROVISIONS

(A) ***LANDS TO WHICH THIS ORDINANCE APPLIES*** This ordinance shall apply to all areas within the jurisdiction of the Town of Kill Devil Hills.

(B) BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS

The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated **June 19, 2020** for ***Dare County*** and associated Digital Flood Insurance Rate Map (DFIRM) panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance **and all revisions thereto after January 1, 2021.** Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of **Kill Devil Hills** are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 3 months.

(C) ESTABLISHMENT OF LOCAL ELEVATION STANDARD TO SERVE AS REGULATORY FLOOD PROTECTION ELEVATION IN SHADED X AND UNSHADED X ZONES

A locally adopted elevation standards shall apply to any Shaded X or X Zones as identified on the effective DFIRMs for Kill Devil Hills or used in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, as depicted on the FIRMs for Kill Devil Hills. These areas may be vulnerable to flooding from storm surge, wind-driven tides, and excessive rainfall associated with storm systems. Many of these areas have flooded during past storm events and continue to remain at risk to flooding. Therefore, a local elevation standard and other floodplain development standards including Regulatory Flood Protection Elevation have been determined by the Town of Kill Devil Hills to be appropriate for these Shaded X and X Zones as defined in 151.02 Definition. All development activities in any Shaded X or X Zone shall conform to the provisions set forth in this Chapter.

(D) ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the

commencement of any development activities in AE, AO, VE, Shaded X and X zone areas.

(E) COMPLIANCE

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

(F) ABROGATION AND GREATER RESTRICTIONS

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(G) INTERPRETATION

In the interpretation and application of this ordinance, all provisions shall be:

1. Considered as minimum requirements;
2. Liberally construed in favor of the governing body; and
3. Deemed neither to limit nor repeal any other powers granted under State statutes.

(H) WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Kill Devil Hills or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

(I) PENALTIES FOR VIOLATION

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than $100.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Kill Devil Hills from taking such other lawful action as is necessary to prevent or remedy any violation.

151.04 ADMINISTRATION

(A) DESIGNATION OF FLOODPLAIN ADMINISTRATOR

The Planning Director, or their designee, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of this ordinance. In instances where the Floodplain Administrator receives assistance from others to complete tasks to administer and implement this ordinance, the Floodplain Administrator shall be responsible for the coordination and community's overall compliance with the National Flood Insurance Program and the provisions of this ordinance.

(B) FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION REQUIREMENTS.

(1) **Application Requirements** Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities. The following items shall be presented to the Floodplain

Administrator to apply for a Floodplain Development Permit:

(a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:

(i) The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;

(ii) The boundary of any Special Flood Hazard Area, as determined in 151.03(B), *Basis For Establishing The Special Flood Hazard Areas* and Shaded X or X Zones as delineated on the FIRM or other flood map, or a statement that the entire lot is within the Special Flood Hazard Area;

(iii) Flood zones including X and Shaded X designation of the proposed development area as determined on the FIRM or other flood map as determined in 151.03(B), *Basis For Establishing The Special Flood Hazard Areas;*

(iv) The boundary of the floodway(s) or non-encroachment area(s) as determined in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*;

(v) The Base Flood Elevation (BFE) and/or Regulatory Flood Protection Elevation where provided as set forth in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*; and *151.03(C) Establishment of a Local Elevation Standards for Shaded X and X Zones*, 151.04(C) *Duties And Responsibilities Of The Floodplain Administrator*; or 151.05(D) *Standards For Floodplain Without Established Base Flood Elevations*;

(vi) The old and new location of any watercourse that will be altered or relocated as a result of proposed development; and

(vii) The boundary and designation date of the Coastal Barrier Resource System (CBRS) area or Otherwise Protected Areas (OPA), if applicable; and

(viii) The certification of the plot plan by a registered land surveyor or professional engineer.

(b) Proposed elevation, and method thereof, of all development including but not limited to:

(i) Elevation in relation to NAVD 1988 or approved datum applicable at time of construction of the proposed reference level (including basement) of all structures;

(ii) Elevation in relation to NAVD 1988 or approved datum applicable at time of construction to which any non-residential structure in Zones A, AE, AH, AO, A99, Shaded X or X Zone will be floodproofed; and

(iii) Elevation in relation to NAVD 1988 or approved datum applicable at time of construction to which any proposed utility systems will be elevated or floodproofed.

(c) If floodproofing, a Floodproofing Certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of floodproofing measures.

(d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:

(i) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter walls, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and

(ii) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with 151.05(B)(4)(d) *Specific Standards, Elevated Buildings* when solid foundation perimeter walls are used in Zones A, AE, AH, AO, A99, Shaded X or X Zone.

(iii) The following, in Coastal High Hazard Areas, in accordance with the provisions of 151.05(B)(4)(e) *Specific Standards, Elevated Buildings* and 151.05(G)*Coastal High Hazard Area*

(1) V-Zone Certification with accompanying plans and specifications verifying the engineered structure and any breakaway wall designs; In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.

(2) Plans for open wood latticework or insect screening, if applicable; and

(3) Plans for non-structural fill, if applicable. If non-structural fill is proposed, it must be demonstrated through coastal engineering analysis that the proposed fill would not result in any increase in the BFE or otherwise cause adverse impacts by wave ramping and deflection on to the subject structure or adjacent properties.

(e) Usage details of any enclosed areas below the lowest floor.

(f) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.

(g) Certification that all other Local, State and Federal permits required prior to Floodplain Development Permit issuance have been received.

(h) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of 151.05(B)(4) *Specific Standards. Elevated Buildings*, 151.05(B)(6) *Recreational Vehicles* and 151.05(B)(7) *Temporary Non-residential Structures*, of this ordinance are met.

(i) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

(2) **Permit Requirements.** The Floodplain Development Permit shall include, but not be limited to:

(a) A complete description of all the development to be permitted under the Floodplain Development Permit (e.g. house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).

(b) The flood zone determination for the proposed development in accordance with available data specified in 151.03*(B) Basis For Establishing The Special Flood Hazard Areas* and 151.03(C) Establishment of a Local Elevation Standards for Shaded X and X Zones.

(c) The Regulatory Flood Protection Elevation required for the reference level and all attendant utilities.

(d) The Regulatory Flood Protection Elevation required for the protection of all public utilities.

(e) All certification submittal requirements with timelines.

(f) The flood openings requirements, if in Zones A, AE, AH, AO, A99, Shaded X or X Zone.

(g) Limitations of below RFPE enclosure uses -- parking, building access and limited storage only.

(h) A statement, if in Zone VE, that there shall be no alteration of sand dunes which would increase potential flood damage.

i) A statement, if in Zone VE, that there shall be no fill used for structural support.

(j) A statement, that all materials below RFPE must be flood resistant materials.

(3) Certification Requirements.

(a) Elevation Certificates for AE, AO, VE, Shaded X and X Zones

(i) An elevation certificate is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation reference level in relation to NAVD 1988 or other approved datum applicable at time of construction. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. In shaded X and X Zones, a survey or other approved FEMA form prepared by a licensed professional may be used to demonstrate the natural grade of the parcel exceeds the RFPE of 8 feet instead of an elevation certificate.

(ii) An under construction elevation certificate is required, for the AE, AO, and VE Zones only, prior to completion of the framing inspection by Kill Devil Hills. It shall be the duty of the permit holder to submit to the Floodplain Administrator or his or her designee, a certification of the under-construction elevation of the reference level in relation to NAVD 1988. The under construction certificate shall be submitted at the time a framing inspection is scheduled with the Kill Devil Hills Building Inspector. The Floodplain Administrator or his or her designee shall review the certificate and report any deficiencies to the permit holder immediately and such deficiencies shall be corrected immediately prior to further work being permitted to proceed. Failure to submit the under-construction elevation certificate or failure to make required corrections shall be cause to issue a stop work order for the project.

(iii) A final Finished Construction Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" × 3". Digital photographs are acceptable. In Shaded X and X Zones, an as built survey or other approved FEMA form prepared by a licensed professional may be used to demonstrate the natural grade of the parcel exceeds the RFPE of 8 feet instead of an elevation certificate.

(b) Floodproofing Certificate

(i) If non-residential floodproofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988 or other approved datum applicable at time of construction. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to withhold

the issuance of a Certificate of Compliance/Occupancy.

(ii) A final Finished Construction Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988 or other approved datum applicable at time of construction. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.

(c) If a manufactured home is placed within Zones A, AE, AH, AO, A99, Shaded X and X Zone and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required in accordance with the provisions of 151.05(B)(3)(b) *Specific Standards, Manufactured Homes.*

(d) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.

(e) Certification Exemptions. The following structures, if located within Zones A, AE, AH, AO, A99, Shaded X and X zone are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:

(i) Recreational Vehicles meeting requirements of 151.05(B)(6)(a) *Specific Standards, Recreational Vehicles*;

(ii) Temporary Structures meeting requirements of 151.05(B)(7) *Specific Standards, Temporary Non-residential Structure*; and

(iii) Accessory Structures that are 150 square feet or less and meeting requirements of 151.05(B)(8) *Specific Standards, Accessory Structures.*

(f) A V-Zone Certification with accompanying design plans and specifications is required prior to issuance of a Floodplain Development Permit within Coastal High Hazard areas. It shall be the duty of the permit applicant to submit to the Floodplain Administrator said certification to ensure the design standards of this ordinance are met. A registered professional engineer or architect shall develop or review the structural design, plans, and specifications for construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this ordinance. This certification is not a substitute for an Elevation Certificate. In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.

(g) A signed, completed Non-Conversion Agreement (see Appendix A attached) is required prior to the issuance of a Flood Development Permit. This agreement shall be completed by the property owner of record (if different than the permit holder) and shall be recorded with the Dare County Register of Deeds. A copy of the recorded agreement shall be provided to the Kill Devil Hills Building Inspector prior to the issuance of the building permit. Failure to submit the certification shall be cause denial of a permit. This Non-Conversion Agreement shall be required for all new construction and substantial improvements which feature an enclosure below the RFPE and with walls greater than 4 feet in height that may be converted after occupancy of the structure.

(h) Release of restrictive covenant (see Appendix B attached). If a property which is bound by a Non-Conversion Agreement is modified to remove enclosed areas below RFPE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

(i) Acknowledgement forms (Appendix C attached to this ordinance for AE, AO, Shaded X and X Zones and Appendix D attached to this ordinance for VE Zones) for construction shall be signed and completed by property owners at the time construction permits are issued by the Kill Devil Hills Building Inspector. These acknowledgement forms indicate the specific flood zone designation for the subject property, outlines the construction standards for elevation of the structure to the regulatory flood elevation and explains the use restrictions associated with the property.

(4) **Determinations for existing buildings and structures** Applications for building permits to improve buildings and structures, including alterations, movement, relocation, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

(a) Estimate the market value, current tax value or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of the proposed construction; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;

(b) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;

(c) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and

(d) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required.

(C) DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR The Floodplain Administrator shall perform, but not be limited to, the following duties:

(1) Review all floodplain development applications and issue permits for all proposed development to assure that the requirements of this ordinance have been satisfied.

(2) Review all proposed development to assure that all necessary local, state and federal permits have been received, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

(3) Notify adjacent communities and the North Carolina Department of Public Safety, North Carolina Division of Emergency Management, and State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).

(4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.

(5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of 151.05(F) *Floodways And Non-Encroachment Areas* are met.

(6) Obtain actual elevation (in relation to NAVD 1988 or other approved datum applicable at time of construction) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with the provisions of 151.04(B)(3) *Floodplain Development Application, Permit And Certification Requirements, Certification Requirements.*

(7) Obtain actual elevation (in relation to NAVD 1988 or other approved datum applicable at time of construction) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of 151.04(B)(3) *Floodplain Development Application, Permit And*

Certification Requirements, Certification Requirements.

(8) Obtain actual elevation (in relation to NAVD 1988 or other approved datum applicable at time of construction) of all public utilities in accordance with the provisions of 151.0(B)(3) *Floodplain Development Application, Permit And Certification Requirements, Certification Requirements.*

(9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of 151.04(B)(3) *Floodplain Development Application, Permit And Certification Requirements, Certification Requirements* and 151.05(B)(2) *Specific Standard, Non Residential Construction*

(10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas, Shaded X or X Zones floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

(11) When BFE data has not been provided in accordance with the provisions of 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*, obtain, review, and reasonably utilize any BFE data, along with floodway data or non-encroachment area data available from a federal, state, or other source, including data developed pursuant to 151.05(D)(2)(c) *Standards For Floodplains Without Established Base Flood Elevations,* in order to administer the provisions of this ordinance.

(12) When BFE data is provided but no floodway or non-encroachment area data has been provided in accordance with the provisions of 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a federal, state, or other source in order to administer the provisions of this ordinance.

(13) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

(14) Make on-site inspections of work in progress. As the work pursuant to a Floodplain Development Permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.

(15) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

(16) Revoke Floodplain Development Permits as required. The Floodplain Administrator may revoke and require the return of the Floodplain Development Permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any Floodplain Development Permit mistakenly issued in violation of an applicable State or local law may also be revoked.

(17) Make periodic inspections throughout the Special Flood Hazard Areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement

action.

(18) Follow through with corrective procedures of 151.04(D) *Corrective Procedures*.

(19) Review, provide input, and make recommendations for variance requests.

(20) Maintain a current map repository to include, but not limited to, historical and effective FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with the provisions of 151.03(B) *Basis For Establishing The Special Flood Hazard Areas,* of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.

(21) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

(D) <u>CORRECTIVE PROCEDURES</u>

(1) Violations to be corrected: When the Floodplain Administrator finds violations of applicable state and local laws; it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.

(2) Actions in Event of Failure to Take Corrective Action: If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:

(a) That the building or property is in violation of the floodplain management regulations;

(b) That a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

(c) That following the hearing, the Floodplain Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.

(3) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, he or she shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than 60 calendar days, nor more than **180 days**. Where the Floodplain Administrator finds that there is imminent danger to life or other property, he or she may order that corrective action be taken in such lesser period as may be feasible.

(4) Appeal: Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the Floodplain Administrator and the clerk within 10 days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(5) Failure to Comply with Order: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a Class 1 Misdemeanor, pursuant to NC G.S. § 143-215.58 and shall be punished at the discretion of the Court.

<u>(E) VARIANCE PROCEDURES</u> ***These procedures apply in AE Zones, AO Zones, VE Zones, Shaded X Zones and X Zones as depicted on the FIRMs for Kill Devil Hills.***

(1) The Kill Devil Hills Board of Adjustment as established by Kill Devil Hills, hereinafter referred to as the "Appeal

Board", shall hear and decide requests for variances from the requirements of this ordinance.

(2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

(3) Variances may be issued for:

(a) The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure;

(b) Functionally dependent facilities if determined to meet the definition as stated in 151.02 of this ordinance, provided provisions of 151.04(E)(9)(b), (c), and (e) *Variance Procedures, Conditions for Variances* have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or

(c) Any other type of development provided it meets the requirements of this Section.

(4) In passing upon variances, the Appeal Board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

(a) The danger that materials may be swept onto other lands to the injury of others;

(b) The danger to life and property due to flooding or erosion damage;

(c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(d) The importance of the services provided by the proposed facility to the community;

(e) The necessity to the facility of a waterfront location as defined under 151.02 of this ordinance as a functionally dependent facility, where applicable;

(f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

(g) The compatibility of the proposed use with existing and anticipated development;

(h) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(i) The safety of access to the property in times of flooding for ordinary and emergency vehicles;

(j) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

(k) The costs of providing governmental 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.

(5) A written report addressing each of the above factors shall be submitted with the application for a variance.

(6) Upon consideration of the factors listed above and the purposes of this ordinance, the Appeal Board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.

(7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the RFPE and the elevation to which the structure is to be built and that such construction below the RFPE increases risks to life and property, and that the issuance of a variance to construct a structure below the RFPE may result in increased premium rates for flood insurance up to $25 per $100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.

(8) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to FEMA and the

State of North Carolina upon request.

(9) Conditions for Variances:

(a) Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or Local laws, regulations, or ordinances.

(b) Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.

(c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(d) Variances shall only be issued prior to development permit approval.

(e) Variances shall only be issued upon:

(i) A showing of good and sufficient cause;

(ii) A determination that failure to grant the variance would result in exceptional hardship; and

(iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(10) A variance may be issued for Solid Waste Disposal Facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located at *elevations below the RFPE located in the SFHA and Shaded X and X zones.* as provided that all of the following conditions are met.

(a) The use serves a critical need in the community.

(b) No feasible location exists for the use outside the Special Flood Hazard Area.

(c) The reference level of any structure is elevated or floodproofed to at least the Regulatory Flood Protection Elevation.

(d) The use complies with all other applicable Federal, State and Local laws.

(e) **Kill Devil Hills** has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

151.05 PROVISIONS FOR FLOOD HAZARD REDUCTION

(A) GENERAL STANDARDS The following provisions are required:

(1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.

(2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements.*

(3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.

(4) All new electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall be located at or above the RFPE or designed and installed to prevent water from entering or accumulating within the components during the occurrence of the base flood. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, water heaters, and

electric outlets/switches.

(a) Replacements that are part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.

(b) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure.

(5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

(6) All New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.

(7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

(8) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

(9) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in 151.04(E)(10) *Variance Procedures*. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified in accordance with the provisions of 151.04(B)(3) *Floodplain Development Application, Permit And Certification Requirements.*

(10) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.

(11) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

(12) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(13) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

(14) When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.

(15) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest **RFPE** shall apply.

(B) SPECIFC STANADRDS The following provisions, in addition to the provisions of 151.05(A) *General Standards*, are required:

(1) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in 151.02 *Definitions* of this ordinance.

(2) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory

Flood Protection Elevation, as defined in 151.02 *Definitions* of this ordinance. Structures located in Zones A, AE, AH, AO, A99 **Shaded X and X zone** may be floodproofed to the Regulatory Flood Protection Elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the Regulatory Flood Protection Elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with 151.05(H)(2) *Standards For Areas of Shallow Flooding (Zone AO)*. A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in 151.04(B)(3) *Floodplain Development Application, Permit And Certification Requirements*, along with the operational plan and the inspection and maintenance plan.

(3) Manufactured Homes.

(a) New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in 151.02 *Definitions* of this ordinance.

(b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance, pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.

(c) All enclosures or skirting below the lowest floor shall meet the requirements of 151.05(B)(4) *Specific Standards, Elevated Build*ings.

(d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management Coordinator.

(4) Elevated Buildings Enclosed area/enclosure, as defined in 151.02 *Definitions*, of new construction and substantially improved structures, which is below the lowest floor in AE, AO, AH, Shaded X or X zones or below the lowest horizontal structural member in VE Zones:

(a) Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

(b) Shall not be temperature-controlled or conditioned. Non-temperature controlled dehumidifiers may be used in enclosed areas and shall not result in the enclosed area being determined to be conditioned space.

(c) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation; and

(d) Shall include, in Zones A, AE, AH, AO, A99, Shaded X and X Zones flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:

(i) A minimum of two (2) flood openings on different sides of each enclosed area subject to flooding;

(ii) The total net area of all flood openings must be at least 1 square inch for each square foot of enclosed area subject to flooding *or a minimum of 1 engineered square inch for each square foot of enclosed area for an engineered opening;*

(iii) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;

(iv) The bottom of all required flood openings shall be no higher than 1 foot above the higher of the interior or exterior adjacent grade;

(v) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

(vi) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

(e) Shall, in Coastal High Hazard Areas, be free of obstruction which allows construction with breakaway walls, open wood latticework or insect screening, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building. The following design specifications shall be met:

(i) Material shall consist of open wood or plastic lattice or insect screening; or

(ii) Breakaway walls shall meet the following design specifications:

(1) Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or

(2) Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

(f) Property owners shall be required to execute and record a Non-Conversion Agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished or otherwise converted to habitable space. This agreement shall be recorded with the Dare County Register of Deeds and shall transfer with the property in perpetuity. *Kill Devil Hills will have the right to inspect the enclosed areas.*

(g) Release of restrictive covenant. If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below RFPE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

(5) <u>Additions/Improvements/Conversions</u>

(a) In AE, AO and VE Zones

(i) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(ii) Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.

(iii) A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and

the addition must comply with the standards for new construction.

(b) Additions to pre-FIRM or post-FIRM structures that are a substantial improvement with no modifications/rehabilitations/improvements to the existing structure other than a standard door in the common wall, shall require only the addition to comply with the standards for new construction.

(c) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(i) Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction consistent with the code and requirements for the original structure.

(ii) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

(d) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during 1-year period, where the cumulative cost of which equals or exceeds 50% of the market value or tax value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the 1-year period begins on the date of the Certificate of Compliance of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:

(i) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the Code Enforcement Official and that are the minimum necessary to assume safe living conditions.

(ii) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

(e) Areas in existing structures shall not be converted for use as conditioned, temperature controlled space unless the reference level is located to or above the RFPE.

(f) In Shaded X and X Zones:

(i) The substantial improvement/substantial damage definitions as established in 151.02, *Definitions*, do not apply to Shaded X and Z zones.

(ii) Laterals additions (increase in the footprint of the conditioned, temperature-controlled space) to existing structures shall have the reference level elevated to or above the RFPE that was applicable at the time of construction.

(iii) Remodeling or renovations of existing structures with the reference level located below the current applicable RFPE that do not increase the footprint of the structure may be authorized at the existing reference level or higher.

(iv) Reconstruction of damaged portions of a structure may be authorized at the existing reference level or higher; however, if a structure is entirely demolished for whatever reason, the replacement structure shall be constructed to or above the RFPE.

(v) Structures that are relocated on the same site or to another site shall be elevated to or above the RFPE.

(vi) Areas in existing structures shall not be converted for use as conditioned, temperature controlled space unless the reference level is located to or above the RFPE.

(6) Recreational Vehicles. Recreational vehicles shall either:

(a) Temporary Placement

(i) Be on site for fewer than 180 consecutive days; or

(ii) Be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions.)

(b) Permanent Placement. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.

(7) Temporary Non-Residential Structures Prior to the issuance of a Floodplain Development Permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval:

(a) A specified time period for which the temporary use will be permitted. Time specified may not exceed 3 months, renewable up to 1 year;

(b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;

(c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);

(d) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and

(e) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

(8) Accessory Structures The following criteria shall be met:

(a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas)

(b) Accessory structures shall not be temperature-controlled;

(c) Accessory structures shall be designed to have low flood damage potential;

(d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

(e) Accessory structures shall be firmly anchored in accordance with the provisions of 151.05(A)(1) *General Standards*;

(f) Accessory Structures, regardless of size or cost, shall not be permitted below elevated structures;

(g) All service facilities such as electrical shall be installed in accordance with the provisions of 151.05*(A)*(4) *General Standards*; and

(h) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with the provisions of 151.05*(*B)(4)(d) *Specific Standards, Elevated Buildings*. The Floodplain Administrator shall certify installation of required flood openings in compliance with the provisions of 151.05*(*B)(4)(d) *Specific Standards, Elevated Buildings*.

(i) Other structures located on the same parcel in addition to a principal use structure which feature

conditioned, temperature controlled areas elevated above the regulatory flood protection elevation shall be constructed consistent with 151.04(B)(3)(a) *Certificate Requirements* and 151.05(A) *General Standards* and 151.05(B) *Specific Standards.*

(9) Tanks Gas and liquid storage tanks shall meet the following criteria:

(a) Underground tanks Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty; or

(b) Above-ground tanks, elevated. Above-ground tanks in flood hazard areas may be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area; or

(c) Above-ground tanks, not elevated. *Above ground tanks that do not meet the elevation standards of 151.05, Section B(2)Specific Standards, Non-Residential Construction of the ordinance shall not be permitted in VE zones.* Above-ground tanks in flood hazard areas may be located below the regulatory flood protection elevation provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy and lateral movement, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.

(d) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be located at or above the regulatory flood protection elevation or fitted with covers designed to prevent lateral movement, the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood.

(C) RESERVED.

(D) STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS.

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*, where no BFE data has been provided by FEMA, the following provisions, in addition to the provisions of 151.05(A) *General Standards*, shall apply:

(1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of 20 feet each side from top of bank or 5 times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(2) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on the following criteria:

(a) When BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in 151.05(A) *General Standards* and 151.05(B) *Specific Standards*

(b) When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of 151.05(B) *Specific Standards* and 151.05(F) *Floodways* and *Non-Encroachment Areas.*

(c) All subdivision, manufactured home park and other development proposals shall provide BFE data if development is greater than 5 acres or has more than 50 lots/manufactured home sites. Such BFE data shall be adopted by reference in accordance with 151.03(B) *Basis For Establishing The Special Flood Hazard Areas* and

utilized in implementing this ordinance.

(d) When BFE data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or floodproofed (nonresidential) to or above the Regulatory Flood Protection Elevation, as defined in 151.02 *Definitons*. All other applicable provisions of 151.05(B) *Specific Standards* shall also apply.

(E) STANDARDS FOR RIVERINE FLOODPLAINS WITH BASE FLOOD ELEVATIONS BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS.

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

(1) Standards of 151.05(A) *General Standards* and 151.05(B) *Specific Standards*; and

(2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than 1 foot at any point within the community.

(F) FLOODWAYS AND NON-ENCROACHMENT AREAS

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in 151.0(A) *General Standards* and 151.05(B) *Specific Standards*, shall apply to all development within such areas:

(1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:

(a) It is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood discharge, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of Floodplain Development Permit; or

(b) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within six months of completion of the proposed encroachment.

(2) If 151.05(F)(1) *Floodways And Non-Encroachment Areas* is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.

(3) Manufactured homes may be permitted provided the following provisions are met:

(a) The anchoring and the elevation standards of 151.05(B)(3) *Specific Standards Manufactured Homes*; and

(b) The encroachment standards of 151.05(F)(1) *Floodways And Non-Encroachment Areas*.

(G) COASTAL HIGH HAZARD AREA

Coastal High Hazard Areas Special Flood Hazard Areas established in 151.02 *Definitions*. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, all new construction and substantial improvements shall meet the following provisions in addition to the provisions of 151.05(A) *General Standards* and 151.05(B) *Specific Standards*:

(1) All new construction and substantial improvements shall *be located landward of the reach of mean high tide and* comply with all applicable setback standards of the Town's Zoning Ordinance;

(2) All new construction and substantial improvements shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is no lower than the regulatory flood protection elevation plus free of obstruction. Floodproofing shall not be utilized on any structures in Coastal High Hazard Areas to satisfy the regulatory flood protection elevation requirements.

(3) All new construction and substantial improvements shall have the space below the bottom of the lowest horizontal structural member of the lowest floor free of obstruction so as not to impede the flow of flood waters, with the following exceptions:

(a) Open wood or plastic latticework or insect screening may be permitted below the lowest floor for aesthetic purposes only and must be designed to wash away in the event of wave impact and in accordance with the provisions of 151.05(B)(4)(e)(i) *Specific Standards, Elevated Buildings*. Design plans shall be submitted in accordance with the provisions of 151.04(B)(1)(d)(iii)(2) *Floodplain Development Application, Permit And Certification Requirements*; or

(b) Breakaway walls may be permitted provided they meet the criteria set forth in 151.05(B)(4)(a),(b),(c)&(e)(ii) *Specific Standards, Elevated Buildings*. Design plans shall be submitted in accordance with the provisions of 151.04(B)(1)(d)(iii)(1) *Floodplain Development Application, Permit And Certification Requirements*.

(4) All new construction and substantial improvements shall be securely anchored to pile or column foundations. All pilings and columns and the structure attached thereto shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.

(a) Water loading values used shall be those associated with the base flood.

(b) Wind loading values used shall be those required by the current edition of the North Carolina State Building Code.

(5) For concrete pads, including patios, decks, parking pads, walkways, driveways, pool decks, etc. the following is required:

(a) Shall be structurally independent of the primary structural foundation system of the structure and shall not adversely affect structures through redirection of floodwaters or debris; and

(b) Shall be constructed to breakaway cleanly during design flood conditions, shall be frangible, and shall not produce debris capable of causing damage to any structure; and Note: The installation of concrete in small segments (approximately 4 feet x 4 feet) that will easily break up during the base flood event, or score concrete in 4 feet x 4 feet maximum segments is acceptable to meet this standard

(c) Reinforcing, including welded wire fabric, shall not be used in order to minimize the potential for concreted pads being a source of debris; and

(d) Pad thickness

i) shall not exceed 4 inches; or

ii) shall be certified by a design professional that the design and method of construction to be used shall be compliant with the applicable criteria of this section.

(6) For swimming pools and spas, the following is required:

(a) Be designed to withstand all flood-related loads and load combinations.

(i) Be elevated so that the lowest horizontal structural member is elevated above the RFPE; or

(ii) Be designed and constructed to break away during design flood conditions without producing debris capable of causing damage to any structure; or

(iii) Be sited to remain in the ground during design flood conditions without obstructing flow that results in damage to any structure.

(b) Registered design professionals must certify to local officials that a pool or spa beneath or near a VE Zone

building will not be subject to flotation or displacement that will damage building foundations or elevated portions of the building or any nearby buildings during a coastal flood.

(7) All elevators, vertical platform lifts, chair lifts, etc., the following is required:

(a) Elevator enclosures must be designed to resist hydrodynamic and hydrostatic forces as well as erosion, scour, and waves.

(b) Utility equipment in Coastal High Hazard Areas must not be mounted on, pass through, or be located along breakaway walls.

(c) The cab, machine/equipment room, hydraulic pump, hydraulic reservoir, counter weight and roller guides, hoist cable, limit switches, electric hoist motor, electrical junction box, circuit panel, and electrical control panel shall:

i) be elevated to or above the regulatory flood protection elevation; or

ii) constructed using flood damage-resistant components/materials.

(8) Accessory Structures, regardless of size or cost, shall not be permitted below the elevated structure.

(9) A registered NC Design professional shall certify that the design, specifications and plans for construction are in compliance with the provisions of 151.04(B) *Floodplain Development Application, Permit And Certification Requirements* and 151.05(G)(3) and (4) *Coastal High Hazard Area*, on the current version of the North Carolina V-Zone Certification Form or equivalent local version. In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.

(10) Fill/Grading: *Fill shall not be used for structural support of building.* Minor grading and the placement of minor quantities of nonstructural fill may be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways. *Fill shall not prevent free passage of floodwaters and waves beneath elevated buildings. Fill must not divert floodwaters or deflect waves such that increased damage is sustained by adjacent or nearby buildings.*

(11) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

(12) No manufactured homes shall be permitted except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and elevation standards of this Section have been satisfied.

(13) Recreational vehicles may be permitted in Coastal High Hazard Areas provided that they meet the Recreational Vehicle criteria of 151.05Z(B)(6)(a) *Specific Standards, Recreational Vehicles.*

(14) A deck that is structurally attached to a building or structure shall have the bottom of the lowest horizontal structural member at or above the Regulatory Flood Protection Elevation and any supporting members that extend below the Regulatory Flood Protection Elevation shall comply with the foundation requirements that apply to the building or structure, which shall be designed to accommodate any increased loads resulting from the attached deck. The increased loads must be considered in the design of the primary structure and included in the V-Zone Certification required under 151.04(B)(3)(f) *Floodplain Development Application, Permit And Certification Requirements, Certification Requirements.*

(15) A deck or patio that is located below the Regulatory Flood Protection Elevation shall be structurally independent from buildings or structures and their foundation systems, and shall be designed and constructed either to remain intact and in place during design flood conditions or to break apart into small pieces to **minimize debris during**

flooding that is capable of causing structural damage to the building or structure or to adjacent buildings and structures.

(16) In Coastal High Hazard Areas, development activities other than buildings and structures shall be permitted only if also authorized by the appropriate state or local authority; if located outside the footprint of, and not structurally attached to, buildings and structures; and if analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent buildings and structures. Such other development activities include but are not limited to:

(a) Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures;

(b) Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the design flood or otherwise function to avoid obstruction of floodwaters.

(c) *Docks, piers and similar structures.*

(H) STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AO)

Located within the Special Flood Hazard Areas established in 151.03(B) *Basis For Establishing The Special Flood Hazard Areas*, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to 151.05(A) *General Standards* and 151.05(B) *Specific Standards*, all new construction and substantial improvements shall meet the following requirements:

(1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard *of 1 foot*, above the highest adjacent grade; or at 8 feet NAVD 1988 whichever is greater above the highest adjacent grade if no depth number is specified.

(2) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in 151.05(H)(1) *Standards For Areas of Shallow Flooding (Zone AO),* so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with 151.04(B)(3) *Floodplain Development Application, Permit And Certification Requirements* and 151.05(B)(2) *Specific Standards, Non-Residential Construction.*

(3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

151.06 LEGAL STATUS PROVISION

(A) EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION ORDINANCE.

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted **May 4, 1973** as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of Kill Devil Hills enacted on **May 4, 1973** as amended, which are not reenacted herein are repealed.

The date of the initial Flood Damage Prevention for Dare County is October 6, 1978.

(B) EFFECT UPON OUTSTANDING FLOODPLAIN DEVELOPMENT PERMITS.

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a Floodplain Development Permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of 6 months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

(C) SEVERABILITY

If any section, clause, sentence, or phrase of the ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this ordinance.

(D) EFFECTIVE DATE.

This ordinance shall become effective **June 19, 2020.**

(E) ADOPTION CERTIFICATION.

I hereby certify that this is a true and correct copy of the Flood Damage Prevention Ordinance as adopted by the **Board of Commissioners of Town of Kill Devil Hills**, North Carolina, on the _____ day of _____.

WITNESS my hand and the official seal of **James Michael O'Dell, Deputy Town Clerk**, this the _____day of _____,_____.

_____
(signature)

This amendment to Chapter 151, Flood Damage Prevention, shall be in full force and effect from and after the nineteenth day of June, 2020. Adopted and approved by the Board of Commissioners of the Town of Kill Devil Hills at a recessed meeting held on the _____ day of _____, 2020, by a vote of _____ in favor and _____ opposed.

SEAL

_____
Ben Sproul
Mayor

ATTEST:

_____
James Michael O'Dell
Deputy Town Clerk

APPROVED AS TO FORM:

_____
Casey C. Varnell
Town Attorney

The undersigned hereby certifies that the foregoing official amendment, designated AN ORDINANCE AMENDING CHAPTER 151, Flood Damage Prevention, was placed in the Kill Devil Hills Town Code Book on the _____day of _____, 2020 at _____ ___.m.

_____
James Michael O'Dell
Deputy Town Clerk