

ORDINANCE #1743
ADOPTED 4/17/2017
PUBLISHED 4/19/2017

**AN ORDINANCE REPEALING SECTION 3.4 FLOODPLAIN/FLOODWAY OVERLAY
OF THE NORWICH CODE OF ORDINANCES IN ITS ENTIRETY AND ADOPTING A
NEW SECTION 3.4 FLOODPLAIN/FLOODWAY OVERLAY**

NOW THEREFORE BE IT ORDAINED BY THE COUNCIL OF THE CITY OF NORWICH that section 3.4 Floodplain/Floodway Overlay of the Norwich Zoning Ordinances, be and hereby is repealed in its entirety consisting of section 3.4.1 through and including 3.4.9 as shown on Exhibit A attached hereto and

BE IT FURTHER ORDAINED BY THE COUNCIL OF THE CITY OF NORWICH that the following provision set out in Exhibit B attached hereto be and hereby are adopted to consist of the new section 3.4 Floodplain/Floodway Overlay of the Norwich Zoning Ordinances.

This ordinance shall take effect on June 1, 2017.

EXHIBIT A

3.4 Floodplain / Floodway Overlay

- ~~3.4.1 Statement of purpose. The areas of special flood hazard and the floodway of the City of Norwich are subject to periodic inundation that may result in loss of life, property, health and safety hazards, the disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and the impairment of the tax base, all of which adversely affects the general welfare of the city and its residents.~~
- ~~3.4.2 It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses in flood-prone areas by:~~
- ~~.1 Promoting the use of floodplains and floodways on public lands for open space and passive recreation and to encourage the acquisition of such vacant open space land located within the floodway and floodplain for public lands.~~
 - ~~.2 Restricting and prohibiting uses which are dangerous to health, safety or property in times of flood or which cause increased flood heights or velocities.~~
 - ~~.3 Requiring that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction.~~
- ~~3.4.3 Lands to be regulated by these regulations. This chapter shall apply to all areas of special flood hazard and floodways identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS) for New London County, Connecticut, dated July 18, 2011, and accompanying Flood Insurance Rate Maps (FIRM), dated July 18, 2011, and other supporting data applicable to the City of Norwich, and any subsequent revisions thereto, are adopted by reference and declared to be a part of these regulations. Since mapping is legally adopted by reference into this regulation it must take precedence when more restrictive until such time as a map amendment or map revision is obtained from FEMA. The area of special flood hazard includes any area shown on the FIRM as Zones A and AE, including areas designated as a floodway on a FIRM. Areas of special flood hazard are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on a Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location.~~
- ~~.1 The requirements of these regulations shall be supplementary to the basic requirements of various zoning districts within Norwich in which a parcel or lot may lie and section 8.8.6 of these regulations.~~
 - ~~.2 Floodway violation. A structure or other development without required permits, lowest floor elevation documentation, flood proofing certificates or required floodway encroachment calculations is presumed to be in violation of this chapter until such time as all required documentation is provided to the zoning enforcement officer.~~
 - ~~.3 If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.
 - ~~.1 If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e., V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)~~~~
- ~~3.4.4 Interpretation of boundaries within the floodplain and floodway.~~
- ~~.1 The zoning enforcement officer shall determine initially upon request whether a lot or parcel of land lies wholly or partially within the floodplain and / or floodway as shown on the "flood insurance rate map" or the "flood boundary or floodway map" and any amendments thereto. The zoning enforcement officer may require that verification of elevations be provided by the applicant and / or owner of the property. Such verification shall be determined by a land surveyor licensed in the State of Connecticut and shall be based on the North American Vertical Datum (NAVD) of 1988.~~

~~2~~ In floodplain and floodway areas, where there is no base flood elevation provided, the zoning enforcement officer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other sources, including data developed for applications submitted in accordance with section 3.4.6 and section 3.4.7 of these regulations.

~~1~~ In A zones where base flood elevations have been determined, but before a floodway is designated, the floodway location shall be determined by assuming that no new construction or substantial improvements or other development (including fill) will be permitted that will increase flood heights more than one foot at any point along the watercourse when all anticipated development is considered cumulatively (cumulative is the reasonable assumption that there will be total encroachment extending on both sides of the watercourse within the floodway fringe).

~~2~~ The zoning enforcement officer may request floodway data of an applicant for watercourses without FEMA-published floodways. When such data is provided by an applicant or whenever such data is available from any other source (whether in response to the zoning enforcement officer's request or not), the zoning enforcement officer shall propose the adoption a regulatory floodway overlay zone based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than 1.0 foot at any point within the community.

~~3.4.5~~ Prohibited uses within the floodplain and floodway.

~~1~~ The following uses shall be prohibited within the designated floodplain areas:

~~1~~ The storage or processing of materials that are in times of flooding buoyant, flammable, or explosive or could be injurious to human, animal or plant life except as provided under section 3.4.6.6 of these regulations.

~~2~~ Storage of hazardous materials, substances and wastes.

~~3~~ Storage of salt except within the floodplain of the Thames River.

~~2~~ In addition to the prohibited uses in section 3.4.5.1.1, the following uses shall be prohibited in the designated floodway areas:

~~1~~ Encroachments, including fill, new construction, substantial improvements and other development unless certification, with supporting technical data, by a professional engineer registered in the State of Connecticut is provided demonstrating, through hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that encroachments shall not result in any (0.00 feet) increase in flood levels during occurrence of the base flood discharge.

~~2~~ Placement of residential structures including manufactured homes.

~~3~~ New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water unless the structure is a functionally dependent use or facility.

~~3.4.6~~ Permitted uses. The following uses shall be permitted within the floodplain and floodway upon the issuance of a zoning permit by the zoning enforcement officer, provided they are not prohibited by other ordinances, and they do not require structures (unless specifically listed) or changes in grades.

~~1~~ Agricultural and silvicultural uses according to recognized soil and water conservation practices, including the building of fences. However, no solid design fences, such as stockade, shall be allowed to be placed within the floodway portion of the floodplain unless it is oriented parallel to the flow of floodwaters.

~~2~~ Public and private open space uses such as golf courses, tennis courts, driving ranges, archery areas, parks, wildlife and nature preserves, game farms, fish hatcheries, hunting and fishing areas, hiking and horseback riding trails, provided that no such use shall pose a pollution threat to adjacent waterways. Such uses do not include any necessary associated paved parking lots, structures, dredging or filling.

~~3~~ Residential uses such as lawns, gardens, paved or dust-free stone driveways, installation of in-ground pools and associated flood proofed pump houses (not to exceed five feet by five feet and must be properly anchored to prevent flotation) and play areas. The filling in of an in-ground pool may occur provided the filling matches the surrounding topography.

~~4~~ Unpaved parking (including any required paved driveway apron) areas, provided they do not allow materials to collect in such a way that they might be washed into the adjacent waterway and provided no change in elevation is proposed.

- ~~.5 Emergency replacement of existing on-site sewage disposal system, provided immediate action is necessary as determined by the zoning enforcement officer based on recommendation from the health district, municipal, state and regional departments.~~
- ~~.6 Removal and replacement of existing fuel storage tanks and associated regrading, provided existing grading is restored after the tank is removed and / or replaced. Such tanks shall be anchored to prevent buoyancy in flood conditions.~~
- ~~.7 Required public water supply property maintenance work.~~
- ~~.8 Building demolition.~~
- ~~.9 Required minor maintenance of city roads, such as repaving of existing roads, cleaning of culverts and minor drainage improvements to existing systems.~~
- ~~.10 Installation of public utilities, provided they are designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters.~~
- ~~.11 Public safety signs and other sign supports, provided they are properly anchored to prevent flotation.~~
- ~~.12 The zoning enforcement officer may require submission of an erosion and sediment control plan, and any other information necessary to ensure compliance with these regulations, and the review of the proposed improvements by the city engineer, the technical advisor to the inland wetlands, watercourses and conservation commission, the Connecticut department of environmental protection, the New London County Soil and Water Conservation District and the U.S. Army Corps of Engineers.~~

~~3.4.7 Special permit uses within the floodplain and floodway.~~

- ~~.1 Uses enumerated. The following uses which involve structures (temporary or permanent), fill, excavation of land, storage of materials or equipment may be permitted only by the granting of a special permit by the Commission on the City Plan; however, not including those uses permitted under section 3.4.6 and those uses prohibited under section 3.4.5 of these regulations; and provided the additional provisions of section 3.4.7.6 are addressed:~~
- ~~.2 Dams, culverts, bridges, dikes and flood control projects, provided that such use has been approved by appropriate authorities at the regional, state and / or federal level, unless regional, state and / or federal regulations require local approval first.~~
- ~~.3 Paved roads, paved driveways and paved parking areas.~~
- ~~.4 Excavation of and the grading and regrading of lands including the deposition of topsoil and the grading thereof and the construction of retaining walls.~~
- ~~.5 Structures otherwise permitted in the zoning district in which the floodplain is located, provided that:~~
 - ~~.1 All new construction and substantial improvements of residential structures, including manufactured or mobile homes, shall have the lowest floor (including the basement) elevated 1½ feet above the base flood elevation (BFE). All residential structures, including manufactured or mobile homes, to be repaired as a result of substantial damage, shall be elevated so that the bottom of the lowest floor is at or above the base flood elevation (BFE).~~
 - ~~.2 All new construction and substantial improvements of nonresidential structures, including mixed-use structures, shall:~~
 - ~~(i) Have the lowest floor (including the basement) elevated 1½ feet above the base flood elevation (BFE); or~~
 - ~~(ii) Together with attendant utilities and sanitary facilities, be designed so that the structure is flood proofed 1½ feet above the base flood level elevation (BFE), 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. A professional engineer or architect licensed in the State of Connecticut shall certify to the Commission on the City Plan and the building inspector that the construction of the building will comply with this section and other requirements outlined in the building code for the construction of buildings in a floodplain.~~
- ~~.6 Additional requirements for special permits. In addition to the requirements of the particular zoning district and the requirements of section 7.7, the following are additional requirements for improvements within the floodplain district:~~

~~1 The water holding capacity of the floodplain, except those areas which are tidally influenced, shall not be reduced. Any reduction caused by filling, excavation, deposition, new construction, substantial improvements involving an increase in the footprint to the structure, storage of materials or equipment, whether permanent or temporary, shall be compensated for by deepening and / or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage, it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. This standard shall be demonstrated by technical data, prepared by a professional engineer licensed in the State of Connecticut. Compensatory storage can be provided off-site if approved by the municipality.~~

~~Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that such encroachments shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.~~

~~2 The Commission on the City Plan may permit development with varying levels of compensatory flood storage or without compensatory flood storage if the Commission on the City Plan determines it is not technically feasible to equally counterbalance the encroachment or it is not reasonable to provide such storage due to the existence of one or more of the following conditions:~~

- ~~(i) The provision of such storage would require significant blasting due to geological conditions.~~
- ~~(ii) The provision of such storage will adversely impact the historical integrity of existing structures on the site.~~
- ~~(iii) The provision of such storage will adversely impact important natural and archaeological resources on the site.~~
- ~~(iv) Such compensation will prevent the reuse of existing structures and improvements.~~

~~Technical data prepared by a qualified professional engineer licensed in the State of Connecticut shall be provided to enable the Commission on the City Plan to determine compliance with this section and section 3.4.7.6.1 and .2. The Commission on the City Plan (or the inland wetlands, watercourses and conservation commission to assist in making a recommendation) may require additional information prepared by other qualified professionals to determine if compensatory storage should be required or waived in accordance with items 1-4 of this subsection. All applicants requesting a waiver in accordance with [items] 1-4 above shall submit a request for a waiver with the application for the special permit and shall outline specific reasons substantiating the request for the waiver. If the applicant does not provide such information as part of the application, the Commission on the City Plan shall deny the waiver and the special permit application.~~

~~3 New construction and substantial improvements shall have in-structure mechanicals, such as electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities, designed and / or located so as to prevent water from entering or accumulating within the components during conditions of flooding.~~

~~4 New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement, and shall be developed using methods and practices that minimize flood damage and shall be constructed with materials resistant to flood damages.~~

A professional engineer and / or architect licensed in the State of Connecticut shall certify that such building construction complies with the provisions of this section.

- ~~.5~~ New sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- ~~.6~~ All structures and substantial improvements shall be flood proofed to 1½ feet above the base flood elevation, have mechanisms such as screens easily available to shield them from floating debris, and have mechanisms installed to eject seepage. Flood proofing methods shall be adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with flooding.
- ~~.7~~ The project shall not tend to reduce the value or usefulness of other properties in the floodplain or near the floodplain due to increase in flood heights.
- ~~.8~~ The project shall not present a potential pollution hazard to soil, ground or surface waters.
- ~~.9~~ The project will protect human life and health and limit property damage.
- ~~.10~~ The project shall not endanger public facilities such as flood control projects, water, sewer, gas, and electrical lines, streets and bridges.
- ~~.11~~ Structures shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwater and to objects and debris carried by the floodwaters.
- ~~7~~ Application procedures for special permits. Applications for approval of any special permits for improvements within the floodplain and floodway shall be submitted to the Commission on the City Plan in accordance with the specifications of section 7.4 of these regulations and this chapter, and on an application form furnished by the Commission on the City Plan. Such application shall be accompanied by the following information:
 - ~~.1~~ Five sets of plans drawn to scale, showing the nature, location, dimensions and elevation of the lot, existing and or proposed structure (indicating lowest floor elevation, including basement), fill, storage of and type of materials, location of the foregoing in relation to the floodway, floodplain, wetland areas, watercourses and any other natural resources. Such plan shall be prepared by a land surveyor and / or professional engineer licensed in the State of Connecticut, whichever is applicable.
 - ~~.2~~ Flood impact studies, certified by a professional engineer licensed in the State of Connecticut, indicating the effects of the proposed use on the drainage systems upstream and downstream, the watercourse, the floodplain and any associated wetland areas. Such studies shall also indicate how the application will comply with sections 3.4.7.5 and .63.4.7.6.1 through 3.4.7.6.11 of these regulations. The Commission on the City Plan may waive the requirement of the preparation of the flood study or impact statement by a professional engineer if in the Commission's opinion the proposed activity is insignificant and provided the city engineer and the inland wetlands, watercourses and conservation commission recommend that the preparation of such statement or study by a professional engineer is not necessary.
 - ~~.3~~ A copy of any necessary federal and state permit applications. Prior to construction, the applicant shall provide documentation to the zoning enforcement officer to assure that all necessary permits have been received. Copies of such permits shall be maintained on file with the application submitted under this section.
- ~~.8~~ Review by other regulatory bodies. Upon receipt of the application, the Commission on the City Plan shall refer the application to the inland wetlands, watercourses and conservation commission (IWWCC) for review and comment.
 - ~~.1~~ The Commission on the City Plan may also refer the application to the city engineer, the New London County Soil Conservation (Service) District, Connecticut department of energy and environmental protection, the U.S. Army Corps of Engineers and / or a competent professional consultant for review and comment.
 - ~~.2~~ The Commission on the City Plan shall request that comments be provided within 30 days of the Commission's request.
- ~~.9~~ Notification of other municipalities and agencies. The Commission on the City Plan shall notify any municipality within 500 feet of the proposed development, the department of

~~environmental protection, inland water resources division, and the Federal Emergency Management Agency prior to any alteration or relocation of a watercourse and shall submit evidence that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.~~

~~.10 Public hearings. The Commission on the City Plan shall conduct a public hearing on all requests for special permit applications for improvements within the floodplain and floodway. Such hearing shall be conducted in accordance with section 7.7.3 of these regulations.~~

~~.11 Fees. Each application for a special permit under this section, in addition to the required fee under section 1.1, shall be accompanied by a fee of one-tenth of one percent of the estimated cost of construction of the project, provided that municipal agencies shall not be required to pay a fee. The proceeds of such fees may be used by the Commission to pay for professional consultation concerning the project.~~

~~.12 Provision of flood proofing. Prior to the issuance of a zoning compliance certificate, the zoning enforcement officer shall require the applicant to provide an as-built plan prepared by a land surveyor licensed in the State of Connecticut showing the elevation of the lowest floor including the basement, the level to which any nonresidential structure has been waterproofed, and or grades for those areas re-graded.~~

~~.13 The zoning enforcement officer shall maintain a record of certification for flood proofing as required by section 3.4.7.5.1 and .2, and any other design or plan certifications as may be required under these regulations.~~

~~3.4.8 Variances. Variances of the provisions of this chapter may be granted by the zoning board of appeals in accordance with the provisions of section 8.8.4 and the following:~~

~~.1 No variance shall be granted that will result in increased flood heights more than one foot at any point along the length of the watercourse, as required by the provisions of the Flood Insurance Program.~~

~~.2 No variance shall be granted that will result in additional threats to public safety, extraordinary public expense, nuisances or victimization of the public.~~

~~.3 Upon the granting of the variance, the zoning board of appeals shall notify the applicant in writing that:~~

~~.1 The granting of the variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage.~~

~~.2 Such construction below the flood level increases risks to life and property.~~

~~.4 The notification information outlined in this section shall appear in the variance form filed with the city clerk's office.~~

~~.5 The zoning board of appeals shall maintain a record of all variances granted, including justification for their issuance and report any variance to the Federal Emergency Management Agency (FEMA) in its biennial report.~~

~~3.4.9 Municipal liability. The granting of a special permit, variance or zoning permit shall not constitute a representation, guarantee or warranty of any kind by the city, its officials, agents or employees of the practicability or safety of the proposed use or structure and shall create no liability upon the city, its agents or its employees.~~

EXHIBIT B

3.4 Floodplain / Floodway Overlay

- 3.4.1 Statement of purpose. The areas of special flood hazard and the floodway of the City of Norwich are subject to periodic inundation that may result in loss of life, property, health and safety hazards, the disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and the impairment of the tax base, all of which adversely affects the general welfare of the city and its residents.
- 3.4.2 It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses in flood prone areas by:
- .1 Promoting the use of floodplains and floodways on public lands for open space and passive recreation and to encourage the acquisition of such vacant open space land located within the floodway and floodplain for public lands.
 - .2 Restricting and prohibiting uses which are dangerous to health, safety or property in times of flood or which cause increased flood heights or velocities.
 - .3 Requiring that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction.
- 3.4.3 Lands to be regulated by these regulations. This chapter shall apply to all areas of special flood hazard and floodways identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS) for New London County, Connecticut, dated July 18, 2011, and accompanying Flood Insurance Rate Maps (FIRM), dated July 18, 2011, and other supporting data applicable to the City of Norwich, and any subsequent revisions thereto, are adopted by reference and declared to be a part of these regulations. Since mapping is legally adopted by reference into this regulation it must take precedence when more restrictive until such time as a map amendment or map revision is obtained from FEMA. The area of special flood hazard includes any area shown on the FIRM as Zones A and AE, including areas designated as a floodway on a FIRM. Areas of special flood hazard are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on a Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location.
- .1 The requirements of these regulations shall be supplementary to the basic requirements of various zoning districts within Norwich in which a parcel or lot may lie and section 8.8.6 of these regulations.
 - .2 Violation. A structure or other development without required permits, lowest floor elevation documentation, flood-proofing certificates or required floodway encroachment calculations is presumed to be in violation of this chapter until such time as all required documentation is provided to the zoning enforcement officer.
 - .3 If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.
 - .1 If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e., V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)
- 3.4.4 Interpretation of boundaries within the floodplain and floodway.
- .1 The zoning enforcement officer shall determine initially upon request whether a lot or parcel of land lies wholly or partially within the floodplain and / or floodway as shown on the "flood insurance rate map" and any amendments thereto. The zoning enforcement officer may require that verification of elevations be provided by the applicant and / or owner of the property. Such verification shall be determined by a land surveyor licensed in the State of Connecticut and shall be based on the North American Vertical Datum (NAVD) of 1988.

- .2 In floodplain and floodway areas, where there is no base flood elevation provided, the zoning enforcement officer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other sources, including data developed for applications submitted in accordance with section 3.4.6 and section 3.4.7 of these regulations.
 - .1 In AE zones where base flood elevations have been determined, but before a floodway is designated, the floodway location shall be determined by assuming that no new construction or substantial improvements or other development (including fill) will be permitted that will increase flood heights more than one foot at any point along the watercourse when all anticipated development is considered cumulatively (cumulative is the reasonable assumption that there will be total encroachment extending on both sides of the watercourse within the floodway fringe).
 - .2 The zoning enforcement officer may request floodway data of an applicant for watercourses without FEMA-published floodways. When such data is provided by an applicant or whenever such data is available from any other source (whether in response to the zoning enforcement officer's request or not), the zoning enforcement officer shall propose the adoption a regulatory floodway overlay zone based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than 1.0 foot at any point within the community.

3.4.5 Floodways.

Located within Special Flood Hazard Areas (SFHA) are areas designated as floodways on the community's Flood Insurance Rate Maps (FIRM). Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, no encroachments, including fill, new construction, substantial improvements, repairs to substantially damaged structures and other developments shall be permitted unless certification, with supporting technical data, by a registered professional engineer is provided demonstrating, through hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that encroachments shall not result in any (0.00-foot) increase in flood levels during occurrence of the base flood discharge. Fences in the floodway must be aligned with the flow and be of an open design. A permit may be given which allows encroachments resulting in increases in base flood elevations provided the community first obtains a conditional floodway revision by meeting the requirements of C.F.R. 44, Chapter 1, Subsection 65.12.

- #### 3.4.6 Permitted uses.
- The following uses shall be permitted within the floodplain upon the issuance of a zoning permit by the zoning enforcement officer, provided they are not prohibited by other ordinances, and they do not require structures (unless specifically listed) or changes in grades.
- .1 Agricultural and silvicultural uses according to recognized soil and water conservation practices, including the building of fences. However, no solid design fences, such as stockade, shall be allowed to be placed within the floodway portion of the floodplain unless it is oriented parallel to the flow of floodwaters.
 - .2 Public and private open space uses such as golf courses, tennis courts, driving ranges, archery areas, parks, wildlife and nature preserves, game farms, fish hatcheries, hunting and fishing areas, hiking and horseback riding trails, provided that no such use shall pose a pollution threat to adjacent waterways. Such uses do not include any necessary associated paved parking lots, structures, dredging or filling.
 - .3 Residential uses such as lawns, gardens, paved or dust free stone driveways, installation of in-ground pools and associated flood proofed pump houses (not to exceed five feet by five feet and must be properly anchored to prevent flotation) and play areas. The filling in of an in-ground pool may occur provided the filling matches the surrounding topography.
 - .4 Unpaved parking (including any required paved driveway apron) areas, provided they do not allow materials to collect in such a way that they might be washed into the adjacent waterway and provided no change in elevation is proposed.
 - .5 Emergency replacement of existing on-site sewage disposal system, provided immediate action is necessary as determined by the zoning enforcement officer based on recommendation from the health district, municipal, state and regional departments.

- .6 Removal and replacement of existing fuel storage tanks and associated regrading, provided existing grading is restored after the tank is removed and / or replaced. Such tanks shall be anchored to prevent buoyancy in flood conditions.
- .7 Required public water supply property maintenance work.
- .8 Building demolition.
- .9 Required minor maintenance of city roads, such as repaving of existing roads, cleaning of culverts and minor drainage improvements to existing systems.
- .10 Installation of public utilities, provided they are designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters.
- .11 Public safety signs and other sign supports, provided they are properly anchored to prevent flotation.
- .12 The zoning enforcement officer may require submission of an erosion and sediment control plan, and any other information necessary to ensure compliance with these regulations, and the review of the proposed improvements by the city engineer, the technical advisor to the inland wetlands, watercourses and conservation commission, the Connecticut department of environmental protection, the New London County Soil and Water Conservation District and the U.S. Army Corps of Engineers.

3.4.7 Special permit uses within the floodplain.

- .1 Uses enumerated. The following uses which involve structures (temporary or permanent), fill, excavation of land, storage of materials or equipment may be permitted only by the granting of a special permit by the Commission on the City Plan; however, not including those uses permitted under section 3.4.6 and those uses prohibited under section 3.4.5 of these regulations; and provided the additional provisions of section 3.4.7.6 are addressed:
- .2 Dams, culverts, bridges, dikes and flood-control projects, provided that such use has been approved by appropriate authorities at the regional, state and / or federal level, unless regional, state and / or federal regulations require local approval first.
- .3 Paved roads, paved driveways and paved parking areas.
- .4 Excavation of and the grading and regrading of lands including the deposition of topsoil and the grading thereof and the construction of retaining walls.
- .5 Structures otherwise permitted in the zoning district in which the floodplain is located, provided that:
 - .1 All new construction and substantial improvements of residential structures, including manufactured or mobile homes, shall have the lowest floor (including the basement) elevated at or feet above the base flood elevation (BFE). All residential structures, including manufactured or mobile homes, to be repaired as a result of substantial damage, shall be elevated so that the bottom of the lowest floor is at or above the base flood elevation (BFE).
 - .2 Manufactured (Mobile) Homes and Recreational Vehicles (RVs) in accordance with Chapter 12 of the City of Norwich Ordinances:

In all Special Flood Hazard Areas (SFHA), any manufactured (mobile) homes to be newly placed, undergoing a substantial improvement or repaired as a result of substantial damage, shall be elevated so that the bottom of the lowest floor is at or above the base flood elevation (BFE). The manufactured home must also meet all the construction standards per Section 3.4.7.6. This includes SFHAs outside a manufactured home park or subdivision, or in an existing manufactured home park or subdivision, or on a site in an existing park which a manufactured home has incurred substantial damage as a result of a flood.

All manufactured (mobile) homes within a SFHA shall be placed on a permanent foundation which itself is securely anchored and to which the structure is securely anchored so that it will resist flotation, lateral movement and hydrostatic pressures. Anchoring may include, but not be limited to, the use of over-the-top or frame ties to ground anchors.

All manufactured (mobile) homes within a SFHA shall be installed using methods and practices which minimize flood damage. Adequate access and drainage should be provided.

Elevation construction standards include piling foundations placed no more than ten (10) feet apart, and reinforcement is provided for piers more than six (6) feet above ground level.

Recreational vehicles placed on sites within a SFHA shall either (i) be on the site for fewer than 180 consecutive days, and (ii) be fully licensed and ready for highway use, OR (iii) meet all the general standards of Section 5.1 and the elevation and anchoring requirement of Section 3.4.7.6.4. 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 security devices, and has no permanently attached additions.

- .3 All new construction and substantial improvements of nonresidential structures, including mixed use structures, shall meet the following. However, for insurance rating purposes, floodproofing must provide protection to 1 foot above the BFE to receive rating credit. If the building is floodproofing only to the BFE, then the building's insurance rating will result in a higher premium.
 - (i) Have the lowest floor (including the basement) elevated at or above the base flood elevation (BFE); or
 - (ii) Together with attendant utilities and sanitary facilities, be designed so that the structure is flood proofed at or above the base flood level elevation (BFE), 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. A professional engineer or architect licensed in the State of Connecticut shall certify to the Commission on the City Plan and the building inspector that the construction of the building will comply with this section and other requirements outlined in the building code for the construction of buildings in a floodplain.
- .6 Additional requirements for special permits. In addition to the requirements of the particular zoning district and the requirements of section 7.7, the following are additional requirements for improvements within the floodplain district:
 - .1 The water holding capacity of the floodplain, except those areas which are tidally influenced, shall not be reduced. Any reduction caused by filling, excavation, deposition, new construction, substantial improvements involving an increase in the footprint to the structure, storage of materials or equipment, whether permanent or temporary, shall be compensated for by deepening and / or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage, it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. This standard shall be demonstrated by technical data, prepared by a professional engineer licensed in the State of Connecticut. Compensatory storage can be provided off-site if approved by the municipality. Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that such encroachments shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide

compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.

- .2 The Commission on the City Plan may permit development with varying levels of compensatory flood storage or without compensatory flood storage if the Commission on the City Plan determines it is not technically feasible to equally counterbalance the encroachment or it is not reasonable to provide such storage due to the existence of one or more of the following conditions:
 - (i) The provision of such storage would require significant blasting due to geological conditions.
 - (ii) The provision of such storage will adversely impact the historical integrity of existing structures on the site.
 - (iii) The provision of such storage will adversely impact important natural and archaeological resources on the site.
 - (iv) Such compensation will prevent the reuse of existing structures and improvements.

Technical data prepared by a qualified professional engineer licensed in the State of Connecticut shall be provided to enable the Commission on the City Plan to determine compliance with this section and section 3.4.7.6.1 and .2. The Commission on the City Plan (or the inland wetlands, watercourses and conservation commission to assist in making a recommendation) may require additional information prepared by other qualified professionals to determine if compensatory storage should be required or waived in accordance with items 1 - 4 of this subsection. All applicants requesting a waiver in accordance with [items] 1 - 4 above shall submit a request for a waiver with the application for the special permit and shall outline specific reasons substantiating the request for the waiver. If the applicant does not provide such information as part of the application, the Commission on the City Plan shall deny the waiver and the special permit application.

- .3 New construction and substantial improvements shall have the bottom of all in-structure mechanicals, such as electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities, elevated at or above the base flood elevation to prevent water from entering or accumulating within the components during conditions of flooding. This includes, but is not limited to, furnaces, oil or propane tanks, air conditioners, heat pumps, hot water heaters, ventilation ductwork, washer and dryer hook-ups, electrical junction boxes, and circuit breaker boxes.
- .4 New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement, and shall be developed using methods and practices that minimize flood damage and shall be constructed with materials resistant to flood damages. A professional engineer and / or architect licensed in the State of Connecticut shall certify that such building construction complies with the provisions of this section.
- .5 New sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- .6 Fully Enclosed Areas Below The Base Flood Elevation Of Elevated Buildings.

All new construction, substantial improvements, or repair to structures that have sustained substantial damage, whether residential or non-residential, that include fully enclosed areas formed by a foundation and other exterior walls shall have the lowest floor elevated at or above the base flood elevation. The elevated building shall be designed to preclude finished living space below the lowest floor and be designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls (wet flood-proofing). Designs for complying with this requirement must either be certified by a registered professional engineer or architect, or meet the following minimum criteria listed in sections (a)-(g) below:

- (a) Provide a minimum of two (2) openings (hydraulic flood vents) having a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding. These hydraulic openings must be located on at least two different walls. Only the area (square footage) that lies below the BFE can be used in the calculation of net area of vents required. If the structure has more than one enclosed area, openings must be installed in the exterior walls of each enclosed area so that flood waters can enter directly from the outside;
 - (b) The bottom of all openings shall be no higher than one (1) foot above grade. At least one side of the structure's fully enclosed area must be at or above grade. Fill placed around the foundation walls must be graded so that the elevation inside the enclosed area is equal to or higher than the adjacent outside elevation on at least one side of the building. The finished floor of the enclosed area shall be no lower than the bottom of the foundation openings. The foundation slab of a residential structure, including the slab of a crawlspace, must be set equal to the outside finished grade on at least one side of the building;
 - (c) The openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic entry and exit of flood waters in both directions without any external influence or control such as human intervention, including the use of electrical and other non-automatic mechanical means. Other coverings may be designed and certified by a registered professional engineer or approved by the zoning enforcement officer;
 - (d) The area cannot be used as finished living space. Use of the enclosed area shall be the minimum necessary and shall only be used for the parking of vehicles, building access or limited storage. Access to the enclosed area shall be the minimum necessary to allow for the parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator). The enclosed area shall not be used for human habitation or partitioned into separate rooms;
 - (e) All interior walls, floor, and ceiling materials located below the BFE shall be unfinished and resistant to flood damage.
 - (f) Electrical, plumbing, HVAC ductwork, machinery or other utility equipment and connections that service the structure (including, but not limited to, furnaces, oil or propane tanks, air conditioners, heat pumps, hot water heaters, ventilation, washers, dryers, electrical junction boxes, circuit breaker boxes and food freezers) are prohibited in the fully enclosed area below the BFE. Utilities or service equipment located in this enclosed area, even if elevated above the BFE in the space, will subject the structure to increased flood insurance rates.
 - (g) A residential building with a structurally attached garage having the floor slab below the BFE is considered an enclosed area below the BFE and must meet the standards of Sections 3.4.7.6.6 (a)-(f). A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of floodwaters in both directions. Flood openings or vents are required in the exterior walls of the garage or in the garage doors. The human intervention necessary to open garage doors when flooding occurs is not an acceptable means of meeting the openings requirements. In addition to the automatic entry of floodwaters, the areas of the garage below BFE must be constructed with flood resistant materials. Garages attached to non-residential structures must also meet the aforementioned requirements or be dry floodproofed as per the requirements of Section 3.4.7.5.2.
- .7 The project shall not tend to reduce the value or usefulness of other properties in the floodplain or near the floodplain due to increase in flood heights.
 - .8 The project shall not present a potential pollution hazard to soil, ground or surface waters.
 - .9 The project will protect human life and health and limit property damage.
 - .10 The project shall not endanger public facilities such as flood-control projects, water, sewer, gas, and electrical lines, streets and bridges.

- .11 Structures shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwater and to objects and debris carried by the floodwaters.
- 7 Application procedures for special permits. Applications for approval of any special permits for improvements within the floodplain and floodway shall be submitted to the Commission on the City Plan in accordance with the specifications of section 7.4 of these regulations and this chapter, and on an application form furnished by the Commission on the City Plan. Such application shall be accompanied by the following information:
 - .1 Five sets of plans drawn to scale, showing the nature, location, dimensions and elevation of the lot, existing and or proposed structure (indicating lowest floor elevation, including basement), fill, storage of and type of materials, location of the foregoing in relation to the floodway, floodplain, wetland areas, watercourses and any other natural resources. Such plan shall be prepared by a land surveyor and / or professional engineer licensed in the State of Connecticut, whichever is applicable.
 - .2 Flood impact studies, certified by a professional engineer licensed in the State of Connecticut, indicating the effects of the proposed use on the drainage systems upstream and downstream, the watercourse, the floodplain and any associated wetland areas. Such studies shall also indicate how the application will comply with sections 3.4.7.5 and .63.4.7.6.1 through 3.4.7.6.11 of these regulations. The Commission on the City Plan may waive the requirement of the preparation of the flood study or impact statement by a professional engineer if in the Commission's opinion the proposed activity is insignificant and provided the city engineer and the inland wetlands, watercourses and conservation commission recommend that the preparation of such statement or study by a professional engineer is not necessary.
 - .3 A copy of any necessary federal and state permit applications. Prior to construction, the applicant shall provide documentation to the zoning enforcement officer to assure that all necessary permits have been received. Copies of such permits shall be maintained on file with the application submitted under this section.
- 8 Review by other regulatory bodies. Upon receipt of the application, the Commission on the City Plan shall refer the application to the inland wetlands, watercourses and conservation commission (IWWCC) for review and comment.
 - .1 The Commission on the City Plan may also refer the application to the city engineer, the New London County Soil Conservation (Service) District, Connecticut department of energy and environmental protection, the U.S. Army Corps of Engineers and / or a competent professional consultant for review and comment.
 - .2 The Commission on the City Plan shall request that comments be provided within 30 days of the Commission's request.
- 9 Notification of other municipalities and agencies. The Commission on the City Plan shall notify any municipality within 500 feet of the proposed development, the department of environmental protection, inland water resources division, and the Federal Emergency Management Agency prior to any alteration or relocation of a watercourse and shall submit evidence that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- .10 Public hearings. The Commission on the City Plan shall conduct a public hearing on all requests for special permit applications for improvements within the floodplain and floodway. Such hearing shall be conducted in accordance with section 7.7.3 of these regulations.
- .11 Fees. Each application for a special permit under this section, in addition to the required fee under section 1.1, shall be accompanied by a fee of one-tenth of one percent of the estimated cost of construction of the project, provided that municipal agencies shall not be required to pay a fee. The proceeds of such fees may be used by the Commission to pay for professional consultation concerning the project.
- .12 Provision of flood proofing. Prior to the issuance of a zoning compliance certificate, the zoning enforcement officer shall require the applicant to provide an as-built plan prepared by a land surveyor licensed in the State of Connecticut showing the elevation of the lowest floor including the basement, the level to which any nonresidential structure has been waterproofed, and or grades for those areas re-graded.

- .13 The Zoning Enforcement Officer or City Planner shall maintain a record of certification for flood proofing as required by section 3.4.7.5.1 and .2, and any other design or plan certifications as may be required under these regulations.
- 3.4.8 Variances. Variances of the provisions of this chapter may be granted by the zoning board of appeals in accordance with the provisions of section 8.8.4 and the following:
- .1 No variance shall be granted that will result in increased flood heights more than one foot at any point along the length of the watercourse, as required by the provisions of the Flood Insurance Program.
 - .2 No variance shall be granted that will result in additional threats to public safety, extraordinary public expense, nuisances or victimization of the public.
 - .3 Upon the granting of the variance, the zoning board of appeals shall notify the applicant in writing that:
 - .1 The granting of the variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage.
 - .2 Such construction below the flood level increases risks to life and property.
 - .4 The notification information outlined in this section shall appear in the variance form filed with the city clerk's office.
 - .5 The zoning board of appeals shall maintain a record of all variances granted, including justification for their issuance and report any variance to the Federal Emergency Management Agency (FEMA) in its biennial report.
- 3.4.9 Municipal liability. The granting of a special permit, variance or zoning permit shall not constitute a representation, guarantee or warranty of any kind by the city, its officials, agents or employees of the practicability or safety of the proposed use or structure and shall create no liability upon the city, its agents or its employees.

Alderwoman Stacy Gould