

***Floodplain Construction Requirements**

The construction of new buildings, improvements to existing buildings, and land disturbing activities located in the floodplain must meet the requirements of local floodplain regulations. These requirements are contained in the “Specific Standards” section of the floodplain regulations which is included below. The entire local floodplain regulations for the City of Charlotte and each of the six towns may be viewed online by going to <http://charmeck.org/stormwater> and selecting “Regulations”

***The floodplain construction standards listed below are taken the City of Charlotte Floodplain Regulations. The standards for the six towns are very similar to the City of Charlotte but there are some minor variations. For specific requirements in one of the six towns, please refer to the appropriate town floodplain regulations.**

Section. 9-102. Specific standards.

(a) In all Community and FEMA Special Flood Hazard Areas where Community and FEMA Base Flood Elevation data have been provided, as set forth in Section 9-37, the following provisions are required:

1. Residential construction.

New Construction or Substantial Improvement of any residential structure shall have the Lowest Floor, elevated to the Flood Protection elevation. Where a lot is impacted by FEMA and/or Community Base Flood Elevations from both the Catawba River and a stream flowing into the Catawba River, the higher of the FEMA and/or Community Base Flood Elevations will apply.

- a. Substantial Improvement - Community Base Flood Elevation Exemption.
Existing buildings having the Lowest Floor located at least one foot above the FEMA Base Flood Elevation, but less than one foot above the Community Base Flood Elevation that are proposing a Substantial Improvement, are exempt from elevating the Lowest Floor above the Flood Protection Elevation. However, the property owner must record an Affidavit of Floodplain Construction below Community Base Flood Elevation (“Affidavit”) with the Mecklenburg County Register of Deeds Office prior to the issuance of a building permit. The Affidavit (provided in the Technical Guidance Document) will acknowledge that the property owner elected to proceed with the renovations/rehabilitations, and was made aware of the Community Base Flood Elevations and that in the future there will be:
 - i. potential for flood losses,
 - ii. potential for mandatory purchase of flood insurance,
 - iii. potential for FEMA substantial improvement rules to apply, and
 - iv. no local funds available for flood mitigation assistance (buyouts, elevations, etc).
- b. Non-substantial Improvements Notice

Renovations/rehabilitations costing between 25% and 50% of the Market Value of the existing building and said building having the Lowest Floor below the Flood Protection Elevation, will require the property owner to record a Notice of Floodplain Improvements (provided in the Technical Guidance Document) with the Mecklenburg County Register of Deeds Office prior to the issuance of a Building Permit.

2. Nonresidential construction.

New Construction or Substantial Improvement of any commercial, industrial or nonresidential structure shall meet the requirements for residential construction in Section 9-102 (a), 1 above, or the structure may be floodproofed in lieu of elevation, provided that all areas of the structure below the required 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 effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in Section 9-62 (3).

3. New Buildings Removed From the FEMA Special Flood Hazard area by Fill.

When new buildings have been constructed on land that has been removed from the FEMA Special Flood Hazard Area by the placement of fill, they must have the Lowest Floor (including basement) elevated at least one foot (two feet on the Catawba River) above the Community Base Flood Elevation.

4. Elevated buildings.

New Construction or Substantial Improvement of elevated buildings, that include fully enclosed areas formed by foundation and other exterior walls below the Community Base Flood Elevation shall meet the requirements of Section 9-102 (a), and shall be designed to preclude finished living space and shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. The walls shall be designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

- a. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - i. Provide a minimum of two (2) openings, having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;
 - ii. The bottom of all openings shall be no higher than one (1) foot above adjacent grade at the opening ;
 - iii. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions;
 - iv. Openings must be on different sides of the enclosed area if possible; and
 - v. If the building has more than one enclosed area, each must have openings.
- b. Foundation enclosures:

- i. Vinyl or sheet metal skirting is not considered an enclosure for regulatory and flood insurance rating purposes. Therefore such skirting does not require hydrostatic openings as outlined above.
 - ii. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires hydrostatic openings as outlined above to comply with this ordinance.
- c. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or enter to the living area (stairway or elevator).
 - d. The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.
 - e. shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation; and

5. **Dryland Access.** Access to Habitable Buildings during a flood event is extremely hazardous. Dryland Access must be provided to new or Substantially Improved Habitable Buildings according to the following criteria:

Dryland Access is required if any portion of either the Habitable Building or vehicular access route, connecting the Habitable Building to a public street, is within the Floodplain. If Dryland Access cannot be obtained, a Variance to the requirement for Dryland Access may be granted by the Board of Adjustment. Plans and details for the Dryland Access must be submitted by a registered professional engineer or surveyor and approved by the Floodplain Administrator.

The following are exempt from the Dryland Access requirement.

- a. Substantial Improvement to an existing Habitable Building where the property does not have any access to a Dry Public Street.
 - b. Construction of a new Habitable Building where both the Habitable Building and the access route connecting it to a public street, are located entirely outside the Community Encroachment Area and where the property does not have any access to a Dry Public Street. Under this exemption, access from the Habitable Building to the public street must;
 - i. Connect to the highest point of the public street adjacent to the property;
 - ii. Be constructed of gravel, pavement or concrete and be at least 12' wide; and
 - iii. Be constructed entirely at or above the elevation of highest point of the public street adjacent to the property.
6. **FEMA Floodway and Community Encroachment Area.** The FEMA Floodway and the Community Encroachment Area are very hazardous areas due to the velocity of floodwaters which carry debris and potential projectiles and have erosion potential. The following provisions shall apply within each of these designated areas:

- a. Community Encroachment Area. No Encroachments, requiring an Individual Floodplain Development Permit (Section 9-62), including fill, New Construction, Substantial Improvements and other Development shall be permitted within the Community Encroachment Area unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that such Encroachment would not result in increased flood heights of greater than 0.10' during the occurrence of a Community Base Flood. Such certification and associated technical data by a registered engineer shall be approved by the Floodplain Administrator. Any change which would cause a rise of more than 0.10' in the Community Base Flood Elevation will require notification of impacted property owners, and a Community Conditional Letter Of Map Revision (CoCLOMR) from the Floodplain Administrator. If approved and constructed, as-built plans must be submitted and approved by the Floodplain Administrator and a Community Letter of Map Revision (CoLOMR) issued. A Certificate of Occupancy will not be issued without the above stated Community Letter of Map Revision.

Projects impacting existing Habitable Buildings that increase the Community Base Flood Elevation more than 0.00' will not be allowed without a Variance.

- b. FEMA Floodway. No Encroachments requiring an Individual Floodplain Development Permit (Section 9-62), including fill, New Construction, Substantial Improvements and other Development shall be permitted within the FEMA Floodway unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that such Encroachment would not result in any (0.00') increase in the FEMA Base Flood Elevations during the occurrence of a FEMA Base Flood and no increase in the Community Base Flood Elevations during the occurrence of the Community Base Flood. Such analysis performed by a registered professional engineer shall be approved by the Floodplain Administrator. Any change which would cause a rise in the FEMA Base Flood Elevation or an increase in the FEMA Floodway width during the occurrence of the FEMA Base Flood will require notification of impacted property owners, and a Conditional Letter Of Map Revision from FEMA. If approved and constructed, as-built plans must be submitted by the property owner and approved by FEMA and a Letter Of Map Revision issued. A Certificate of Occupancy will not be issued without the above stated Conditional Letter of Map Revision.

Any change which would cause a rise in the Community Base Flood Elevation or an increase in the width of the Community Encroachment Area during the occurrence of the Community Base Flood will require notification of impacted property owners, and a Community Conditional Letter Of Map Revision (CoCLOMR).

Projects which cause a rise of greater than 0.00' in the FEMA Base Flood Elevation and impact an existing Habitable Building, will not be allowed.

- c. 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 the elevation standards of Section 9-102 (a)(8) are met.

7. Additions/Improvements.

- a. Additions and/or improvements to pre-FIRM structures whereas the addition and/or improvements in combination with any interior modifications to the existing structure
 - i. are 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.
 - ii. are a Substantial Improvement, both the existing structure and the addition and/or improvements must comply with the standards of Section 9-102, (a), 1.
- b. Additions to post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall require only the addition to comply with the standards of Section 9-102, (a), 1
- c. Additions and/or improvements to post-FIRM structures whereas the addition and/or improvements in combination with any interior modifications to the existing structure
 - i. are not a Substantial Improvement, the addition and/or improvements only must comply with the standards for New Construction.
 - ii. are a Substantial Improvement, both the existing structure and the addition and/or improvements must comply with the standards of Section 9-102, (a), 1.

8. Manufactured Homes:

- a. New and replaced Manufactured homes shall be elevated such that the Lowest Floor of the manufactured home is elevated at least one (1) foot above the Community Base Flood Elevation.
- b. Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, or lateral movement, either by certified engineered foundation system, or in accordance with the Regulations for Mobile Homes and Modular Housing adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by raising the chassis at least 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above 36 inches in height an engineering certification is required.
- c. An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivision located within the Special Flood Hazard Area. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management Coordinator.
- d. All enclosures or skirting below the lowest floor shall meet the requirements of Section 9-102 (4).

9. Recreational Vehicles shall either:

- a. be on site for fewer than 180 consecutive days and 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); or
- b. meet all the requirements for New Construction.

10. Temporary Structures. Prior to issuance of a Floodplain Development Permit for a temporary structure the following requirements must be met:

- a. All applicants must submit to the Floodplain Administrator a plan for removal of such structure(s) in the event of a hurricane or flash flood notification. The plan must include the following information:
 - i. a specified time period for which the temporary use will be permitted. The time specified may not exceed three months, and is renewable up to one year;
 - ii. the name, address, and phone number of the individual responsible for the removal of the structure;
 - iii. the time frame prior to the event at which a structure will be removed;
 - iv. a copy of the contract or other suitable instrument with a trucking company to ensure the availability of removal equipment when needed; and
 - v. designation, accompanied by documentation, of a location outside the floodplain to which the temporary structure will be removed.
- b. The above information shall be submitted in writing to the Floodplain Administrator for review and written approval.

11. Accessory Structure. When accessory structures (sheds, detached garages, etc.), are to be placed in the Floodplain 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 be designed to have a low flood damage potential;
- c. Accessory structures shall be firmly anchored in accordance with Section 9-101(a)(1); and
- d. Service facilities such as electrical and heating equipment shall be elevated in accordance with Section 9-101 (a)(5).
- e. Accessory structures shall have hydrostatic openings per Section 9-102 (a)(4).
- f. Accessory structures under 150 square feet do not require an elevation or floodproofing certificate.
- g. Accessory structures shall not be temperature-controlled

12. All parking areas for new or substantially improved non-single family Habitable buildings must be at an elevation such that water depths would be less than 6" deep in any parking

space during the occurrence of a Community Base Flood.

13. **Levees.** In all Community and FEMA Special Flood Hazard Areas where Community and FEMA Base Flood Elevation data have been provided, the following provisions for Levees are required as set forth in Section 9-37.