Tennessee
Floodplain Management
Permitting Guide (FMPG)

Contains:

Permitting Guide
Sample Permit
Permit Review Checklist
Elevation Certificate Checklist
TN Property Viewer Instructions

TN Department of Military | TEMA

Introduction

The documents in this package were developed by State of Tennessee NFIP Office and FEMA RIV to help any community participating in the National Flood Insurance Program (NFIP) to develop and maintain a credible floodplain development permitting system.

44 CFR 59.2 (b) and (c) mandate that to participate in the National Flood Insurance Program (NFIP) and be eligible for the sale of flood insurance, a community must adopt and enforce at least the minimum floodplain development provisions in 44 CFR 60.3. In addition, Sections 60.3 (a)(1) and (b)(1) state that permits – floodplain development permits – are required for all proposed construction or development. In short, a community adopts floodplain management provisions and makes those provisions their own (literally) through the adoption of an ordinance or court order.

Those provisions must be met and enforced. The only way to enforce and monitor proper floodplain development is the conscientious use of a well-designed permitting system.

The attached documents include:

- **Permitting Guide**: details permitting standards and processes for the various types of floodplain development in a community.
  - Specifies development standards and criteria that must be uniformly applied and enforced throughout the Special Flood Hazard Area.

- **Sample Permit**: a comprehensive permit application that details the nature, location and type of development within the Special Flood Hazard Area.
  - FEMA defines ***development*** as: any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filing, grading, paving, excavation or drilling operations or storage of equipment or materials.
  - ***Other human activities that are considered development include but are not limited to:*** alterations of a structure through additions, demolition and remodeling, fences, retaining wall, moving/placement of remanufactured or mobile homes, campgrounds, storage of equipment, vehicles, or materials (storage yards, salvage yards).

- **Permit Review Checklist**: checklist that compares an applicant's development permit and any other additional documentation needed for compliance.
  - Documentation of elevation information, confirmation of foundation openings and submission of hydraulic and hydrologic (H&H) analysis for stream and floodway encroachments.

- **Elevation Certificate Checklist**: checklist that verifies a structure was built in compliance with a community's flood damage prevention regulations.
  - Documentation of elevation information, confirmation of foundation openings and machinery and equipment anchoring and elevation.

- **TN Property Viewer Instructions**: guidance on obtaining floodplain determination of a lot or structure for counties listed on the website. Users provided instructions to help perform mapping determination and print pdf maps.

These documents are all inclusive. No single community will use all the information contained in them. Review them to improve your own permitting system and to ensure no important elements are left out.

If you have any questions or suggestions, please contact Amy J. Miller, CFM, State NFIP Coordinator at 615-532-

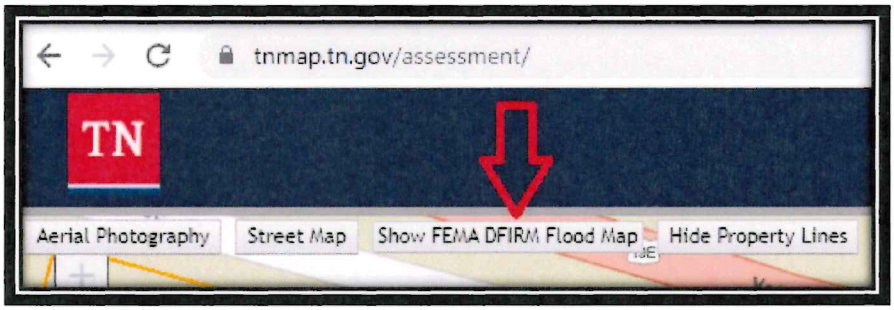
6683 or Amy.J.Miller@tn.gov.

Floodplain Development Process

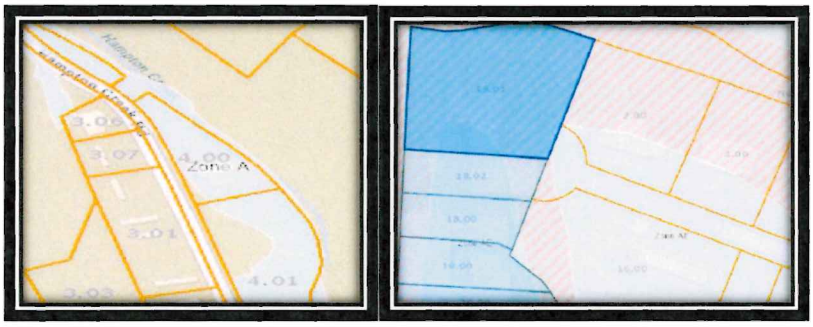
Map Determination

Step 1: Determine if Property or Parcel is in the Floodplain

- **Tools for Determination**:
  - **Tennessee Property Viewer**
    - Website: https://tnmap.tn.gov/assessment/
    - Steps:
      1. Select **"County"**
      2. Choose the **Search Type**: Parcel Number, Owner Name, Property Address or Subdivision
      3. Enter information for specific Search type
      4. Click **"Search"**
      5. Click on the name of the parcel number, Owner Name, Property Address or Subdivision
      6. Select **"Show FEMA DFIRM Flood Map"**



  - If a property is in a floodplain, it will be shaded blue with the Zone listed. If it is in the floodway, it will have cross-hatching in pink.



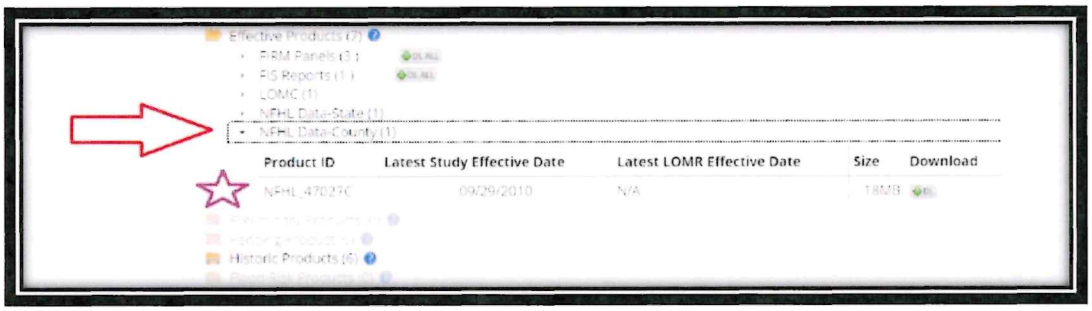
  - **FEMA Map Service Center**
    - Website: https://msc.fema.gov/portal/home
    - Steps:
      1. Enter the **Address**
      2. Click **"Search"**
      3. Print a map of the parcel as a **FIRMette**

Step 2: Require a Floodplain Development Permit

- Community may use statewide model permit, building permit or other application to document development in the floodplain.
- **Development**- any man-made change to improve or unimproved real estate including but not limited to mining, dredging, grading, paving, filing, excavating, drainage facilities, and storage of machinery or equipment and structures.

Step 3: Require a Site Plan Delineating the Floodplain and where "development" is Occurring

- **Plans in duplicate** should be **drawn to scale** and should **show the nature**:
  - location, dimensions, and elevations of the area in question and existing or proposed structures, earthen fill placement, storage of materials or equipment, and drainage facilities.
- Surveyors should use the **National Flood Hazard Layer** (NFHL) download on the site plan:
  - Website: FEMA Flood Map Service Center | Welcome!
  - Steps:
    1. Click **"Search All Products"**
    2. Select: **State**, **County** and **Community**
    3. Click **"Search"**
    4. Click **"Effective Products"**
    5. Click **"NFHL County"**
    6. **Download** GIS Layer



Development Standards: Residential and Nonresidential

- **Structures**
  - Rules for Elevation:
    - **Zone A:** 3' above the Highest Adjacent Grade (HAG)
    - **Zone AE**: 1' above the Base Flood Elevation (BFE) derived from the Flood Insurance Study (FIS) profile
- **Crawlspace Construction**
  - If crawlspace footers are **below** BFE, flood openings are required for the structure.
    - Rules:
      - 1 square inch of vents per 1 square foot of living space
        - Example: For 1,500 square foot home, 1,500 square inches required.
      - Foundation openings must have automatic openings and **not** need human intervention.
      - Foundation openings need to be within 1' of natural grade, either interior or exterior grade.
- **Improvements to the Structure**
  - Requirements:
    - SD/SI Cost Estimate Sheets (provided by floodplain administrators)
    - Itemized cost of materials, and labor, or estimates of materials and labor (prepared by licensed contractors or professional construction cost estimators)
    - Building valuation (from County's Property Assessor) **or** tables (published by building code organizations) and Cost-estimating manuals and tools (from professional building cost-estimating services)
    - Qualified estimate of costs (prepared by local official using professional judgement and knowledge of local and regional construction costs)

- **Substantial Improvement**
  - Steps:
    1. SD/SI Cost estimate sheets (provided by floodplain administrators)
    2. Review cost estimates vs. structure's Fair Market value
       - If the cost of improvements is under 50% of the fair market value, issue the floodplain development permit and allow construction.
       - If the cost of improvements is over 50% of the fair market value, the floodplain administrator documents that the structure must be brought up into compliance with the community's flood damage prevention regulations. The finished floor of the entire structure must be elevated for Zone AE: 1' above the BFE, or for Zone A: 3' above the HAG.
- **Substantial Damage**
  - Steps for Floodplain Administrator:
    1. Visit structure and use Substantial Damage Estimator software or spreadsheet to document damages
    2. Calculate damage
    3. Write letter
  - Notes:
    - Under 50% the structure is damaged and can be fixed to correct structural and interior damage.
    - Over 50% structure is substantially damaged and must be brought up into compliance with the community's flood damage prevention regulations for new construction.
    - **New construction**- "start of construction" commenced on or after the effective date of the initial floodplain management Ordinance and includes any subsequent improvements to such structure.
- **Utilities**
  - Rules:
    - All electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located to prevent water from entering or accumulating within the components during conditions of flooding.
    - Elevation:
      - **Zone AE**: 1' above BFE
      - **Zone A**: 3' above HAG
    - New and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system.
    - New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
    - On-site waste disposal systems must be located and constructed to avoid impairment to them or contamination from them during flooding.
- **Stream Alterations**
  - Steps:
    1. Notify adjacent communities and State NFIP Office **prior** to any alteration or relocation of a watercourse and submit evidence of such notification to FEMA.
    2. For altered or relocated watercourse, submit engineering data/analysis within six (6) months to FEMA to ensure accuracy of community FIRMs through the Letter of Map Revision process.
    3. Assure that the flood carrying capacity within an altered or relocated portion of any watercourse is maintained.

- **Zone A** (Large Lot Subdivisions or Acreage)
  - Rules:
    - All new subdivision proposals and other proposed developments greater than 50 lots or 5 acres, whichever is the lesser, include within such proposals BFE data
      - Applicant must hire an Engineer
      - Engineer completes Hydraulic and Hydrologic (H&H) analysis
      - Analysis must be reviewed by State NFIP Office for compliance of standard engineering practice
- **Manufactured Homes**
  - Rules:
    - Must be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
    - Elevation:
      - **Zone AE with BFE**: lowest floor of the manufactured home is elevated on a permanent foundation to no lower than one (1) foot above the level of the BFE
      - **Zone A without BFE**: manufactured home chassis is elevated and supported by reinforced piers (or other foundation elements of at least equivalent strength) that are at least three (3) feet in height above the HAG (as defined in Article II).
- **Recreational Vehicles (RV)**
  - Rules:
    - Require site plan and location of RV
    - Permits issued for 180 Days
      - After 180 Days, RV must be moved **or** new permit and site plan
    - Must be road ready
    - Quick disconnect from utilities
    - **No** permanently attached structures or additions
- **Floodway/Stream development**
  - Stream or floodway encroachment
    - Fill, new construction, substantial improvement or other development within the adopted floodway or stream buffer area triggers an engineering analysis.
    - Steps for Engineer:
      1. Request HEC-RAS **or** engineering models from FEMA's Engineering Library
      2. Project narrative
      3. Topographic work map
      4. Engineering models include Effective, Duplicate Effective, Corrected Effective, Existing Conditions, and Proposed Conditions Model
      5. Cross-Section plots
      6. Property surveyor
      7. As-Built certifications
         - Conditional Letter of Map Revision (pre-construction) **and** Letter of Map Revision (post-construction) required for any increases in the BFE, base flood discharge or floodway widths.
- **Shaded Zone X** (0.2% Floodplain)
  - Steps for Printing Maps:
    1. Visit:
       - **TN Property Viewer** (see website on page 1)
         - Enter the property address (see above for detailed instructions)
         - Print pdf of Map
       - **FEMA Map Service Center** (see website on page 1)
         - Enter the property address (see above for detailed instructions)
         - Turn on FEMA Flood Layer

    - Print a map of the parcel as a FIRMette
2. Require site plan to ensure the structure or development is in Shaded X Zone from the National Flood Hazard Layer (NFHL).
    - If confirmed that it is entirely in the shaded X zone, it doesn't fall under the NFIP regulations
3. If structure or any non-structural development is in a Zone X or Shaded Zone X, an Elevation Certificate is **not required** unless if you have adopted/written regulations requiring such documentation.