



## PLANNING & INSPECTIONS DEPARTMENT

Post Office Box 10, Atlantic Beach, NC 28512

(252) 726-4456

Fax (252) 726-7043

# Memorandum

**To:** Mayor / Council / Planning Board  
**From:** Michelle Shreve, Planning and Development Director  
**Date:** August 27, 2018  
**Re:** UDO Amendments – Fill Regulations

Increased redevelopment over the past several years has brought several issues to the forefront, one of which being filling & grading requirements. The UDO update included standards for land disturbance permits, but more specific requirements may be necessary in order to regulate the height and expanse of fill dirt brought onto lots. Regulation of fill, especially those in areas already experiencing stormwater flooding issues, is important to consider for a town that is primarily facing redevelopment. The addition of elevation to a lot can increase velocity and volume of stormwater runoff onto neighboring properties. Continued filling of lots can lead to exacerbated and isolated stormwater flooding issues for the remaining lots.

These requirements are good to have in place, but are vague and tend to be administered inconsistently without well-defined standards. This issue is experienced by every municipality and each regulates it a little differently. The following towns have requirements within their ordinances to alleviate problems associated with filling and grading. (This list is paraphrased and summarized – full ordinances can be found on each municipality's website.)

- Morehead City
  - Fill regulations are applied within the Flood Plain Development Ordinance (FPDO), so they only apply to properties within the Special Flood Hazard Area (SFHA) (VE & AE flood zones)
  - Fill no greater than 6" above the level of the street or curb-line, whichever is greater
  - If fill greater than 6" is brought in, a design professional (like an engineer) must create a plan showing that the added fill will not affect surrounding properties
- Emerald Isle
  - If 2ft of fill is added to a lot, an engineered storm water plan indicating that the use of fill shall in no way create a burden on adjacent property must be provided
  - Where land disturbance has resulted in a slope greater than 3:1, a retaining wall is required
- Duck
  - Limits the maximum height of fill to 3ft at any point on a lot
  - Requires the fill to have a maximum 3:1 slope
  - Fill must be set back 5' from adjacent property lines

- Caswell Beach
  - The amount of fill will be no greater than 1ft above the crown of road
  - Cannot exceed the height of the adjacent lots that have been developed by more than 1ft, or provide retaining wall or “satisfactory containment device” to prevent the fill and surface water from running on the lower lot.
- Nags Head
  - Fill isn’t permitted within 5’ of a property line except for the grading of driveway entrances
  - A maximum slope of 3:1 is allowed, and the toe of the slope must terminate at least 5’ from the property line
  - A drainage swale can be installed within the 5ft setback
  - Retaining walls
    - Only permitted where the naturally occurring slope is greater than 3:1 or where a wall is required in order to maintain the 5’ setback of fill
    - Can’t retain more than 2’ of fill
    - Can’t exceed 2’ maximum height from final grade
  - Within the V zone
    - The addition of landscape fill is permitted up to 2ft above pre-development grade or up to base flood elevation, whichever is lower
    - The fill footprint can’t exceed 10% of the lot area (excluding septic system area).
    - No retaining walls are allowed
  - Within all other flood zones (including AE and X)
    - Fill cannot exceed base flood elevation
    - Use of fill that is equal or less than 2ft above pre-development grade requires a stormwater plan (non-engineered) that captures and stores 1.5” of runoff
    - Use of fill that is greater than 2’ above pre-development grade requires an engineered stormwater plan that captures and stores 2.15” of runoff

These are just some examples of ordinances in place in coastal towns in North Carolina. The maximum slope of 3:1 seems to be a consistent requirement among municipalities. The use of the 3:1 slope or retaining wall would reduce the impact that stormwater runoff from filled areas have on neighboring properties.

The 5ft setback of fill also seems to be a recurring requirement. This prevents the slope of fill from terminating at the property line, which would pour the stormwater runoff directly onto the neighboring property. Setbacks within residential zoning districts in Atlantic Beach are no less than 5ft (depending on the district), so that dimensional requirement could be consistent with our current standards.

Staff’s recommendation is to amend the existing Land Disturbance Permit requirements to include the dimensional standards for slope and setback, height of fill that requires an engineer’s stormwater management plan, or a combination of both. Morehead City and Nags Head specify the application of the ordinance based on the floodplain designation of the lot, but stormwater flooding affects all of Atlantic Beach so staff recommends that the ordinances apply uniformly despite floodplain designation. The proposed ordinances are included with this memo, showing the deleted sections in red and the newly proposed sections in blue.

# PROPOSED AMENDMENTS

## Section 18.2.4.M. Land Disturbance Permit

### 1. Applicability

In order to avoid groundwater contamination, sediment accumulation in drainage conveyances and surface waters, and unnecessary loss of erodible soils, land-disturbing activities require approval of a land disturbance permit in accordance with this section, prior to commencement. For the purposes of this section, "land disturbing activities" include, but are not limited the following:

- a. Excavation or movement of sand or soil in an amount exceeding 100 square feet;
- b. Deposition of soil or fill material in a manner that raises the ground elevation by six or more than five inches generally ~~or more than three inches within three feet of a lot line~~;
- c. Installation, ~~repair,~~ or removal of underground equipment such as a well, wastewater treatment system, irrigation, or stormwater retention device;
- d. Installation of a wall or edging material that will obstruct the flow of stormwater between lot lines; or
- e. Shoreline stabilization in any form.

### 2. Exemptions

The following activities are exempted from the requirement to obtain a land disturbance permit:

- a. Land disturbing activities subject to permit approval by the North Carolina Department of Environmental Quality;
- b. Gardening;
- c. Installation, removal, or maintenance of landscaping material, provided it does not increase the ground elevation by six or more than three inches within three five feet of a lot line; or
- ~~d. Construction or development activity conducted in accordance with an approved Building or Zoning Permit.~~

### 3. Land Disturbance Permit Procedure

- a. *Pre-Application Conference*  
Optional (see Section 18.2.3.C, Pre-Application Conference).
- b. *Application Submittal and Acceptance*  
Applicable (see Section 18.2.3.F, Application Submittal and Acceptance).
- c. *Staff Review and Action*

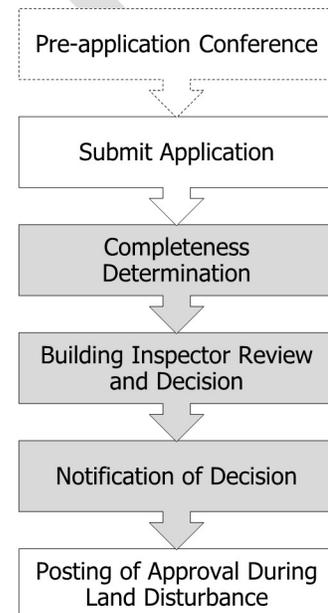
- i. Applicable (see Section 18.2.3.G, Staff Review and Action).
- ii. The Building Inspector shall review and decide the application in accordance with Section 18.2.4.M.4, Land Disturbance Permit Review Standards.

### 4. Land Disturbance Permit Review Standards

A land disturbance permit shall be approved, provided the:

- a. Land disturbance shall not result in accelerated stormwater runoff leaving the site;
- b. In no instance shall more than two feet of fill be placed on any part of a lot, as measured from the natural grade.
- c. Fill shall not be placed within five feet of a property line, except for the grading of driveway entrances

**FIGURE 18.2.4.M LAND DISTURBANCE PERMIT PROCEDURE**



d. Fill shall be stabilized by one of the following methods:

i. A retaining wall, or

ii. Grading with a maximum of 3:1 horizontal to vertical fill slope.

b.e. Activity requiring a land disturbance permit shall not cause sediment, trash, debris or other material to leave the site subject to the permit;

c.f. Disturbed land shall be stabilized by vegetation, mulching, sodding, or other approved means no later than 21 days after the land disturbing activity takes place.

5. **Effect**

a. Applicable (see Section 18.2.3.O, Effect of Development Approval).

b. The applicant shall post the approved land disturbance permit in a prominent location on the site where the land disturbance is occurring at all times while it is in effect.

6. **Amendment**

Amendment of a land disturbance permit may only be reviewed and considered in accordance with the procedures and standards established for its original approval.

7. **Expiration**

The land disturbance permit shall be null and void if work authorized is not completed within one year from the issuance of the permit.

8. **Appeal**

Appeals may be filed in accordance with the procedure in Section 18.2.4.C, Appeal.