ORDINANCE NO. O-21-09-28-80

AN ORDINANCE OF THE CITY OF OAK HILL, TENNESSEE AMENDING STORMWATER REGULATIONS IN THE CITY OF OAK HILL

Ordinance to Amend Ordinance No. O-20-11-02-80 to replace Section 1. B. of the ordinance.

WHEREAS, the current storm water regulations do not address components identified under all single-family residential zoning classifications; and

WHEREAS, to provide direction to City officials in enforcing stormwater management provisions, this ordinance sets out policies and procedures to guide City staff in determining adequate stormwater management provisions; and

WHEREAS, the City believes that it is in the best interest of the citizens of Oak Hill to have appropriate standards for stormwater management; and

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF OAK HILL, TENNESSEE, AS FOLLOWS:

Section 1. That the following aspects of the Metropolitan Nashville Storm Water Management Ordinances be adopted and made a part of the City of Oak Hill stormwater management program:

a. Metropolitan Nashville Storm Water Management Manual

b. ~~Metropolitan Nashville~~ Oak Hill Regulated Residential Infill Guidance

c. Metropolitan Nashville Water Quality Buffers

Section 2. All stormwater plan reviews will be required to pay a fee of $500.00 for each review required to meet the above prescribed standards.

Passed First Reading: **September 28, 2021**

Passed Second Reading: **October 26, 2021**

Mayor Dale Grimes

ATTEST:

City Recorder Victoria Talbott

Approved as to form and legality:

City Attorney Marshall Albritton

City of Oak Hill
Regulated Residential Infill Guidance

Introduction

This document was produced based upon the City of Atlanta's *Green Infrastructure for Single Family Residences* and the Metropolitan Government of Nashville and Davidson County Appendix H – Regulated Residential Infill Guidance.

Background and Purpose

Land development permanently alters the way in which stormwater flows across a site due to grading, compaction, and the installation of impervious cover. In order to mitigate these impacts, the City of Oak Hill requires that development follow Metro Nashville Stormwater Management Manual to address stormwater impacts. Metro Nashville requires, in accordance with Municipal Code 15.64.010 et seq. , post development stormwater management measures be utilized when constructing a new home or an addition that meets the criteria outlined in the Stormwater Management Manual Volume 1 Chapter 8, *Regulated Residential Infill Requirements and Procedures*.

The purpose of this document is to provide a guideline for selecting and installing the appropriate stormwater management measures when constructing a home.

This guideline employs simplified design standards more applicable to the homeowner/builder experience, thus avoiding the necessity for complex engineering calculations and analysis.

Which projects are included and what is required?

Projects that create 500 to 15,000 square feet of additional net impervious area (IA) through new development, redevelopment, or rehabilitation of a residential structure in existing neighborhoods are included in the regulations below.

Tier I - Projects creating between **500** and **2,500** square feet of net additional impervious area and with the total lot impervious area percentage exceeding 20% must treat, by means of capture of the first inch of rainfall runoff, an impervious area equal to the net increase of added impervious area.

Tier II - Projects creating between **2,500** and **8,000** square feet of net additional impervious area, without regard to total lot impervious area percent must treat, by means of capture of the first inch of rainfall runoff, an impervious area equal to the net increase of added impervious area.

Tier III – Projects creating between **8,000** and **15,000** square feet of net added impervious area, without regard to total lot impervious area percent, must treat, by means of capture of the first inch of rainfall runoff, an impervious area equal to the net increase of added impervious area. Additionally, the project design must insure there is no increase in runoff for the 2, 5, 10, 25, 50 and 100-year storm peak flow from the site, and a professional engineer must certify the design.

What are the exemptions?

Exemptions from Regulated Residential Infill regulation are projects that:

1. add less than 500 square feet of net new IA,
2. add more than 15,000 square feet of net new IA,

Alternatives to One-Inch Capture

With each Tier classification, there are alternative pathways for the project to meet the City of Oak Hill's infill requirement. The alternatives presented below are not the City of Oak Hill's preference for meeting the requirement of one inch capture, but are offered to the owner/developer if using the stormwater management practices listed in this document prove to be impractical.

A) Tier 1 Alternatives (Net addition of between 800 and 2,500 square feet of impervious area)

1. Demonstrate that an adequate drainage system is present downstream by using the Simple Method described Section D of this document.
2. If an adequate drainage system does not exist downstream, work with the City Engineer and a licensed engineer to devise a solution to improve the drainage downstream to accommodate the increase in flow resulting from the added impervious area.

B) Tier 2 Alternatives (Net addition of between 2,500 and 8,000 square feet of impervious area)

1. Demonstrate that an adequate drainage system is present downstream by analyzing the on and off-site drainage for the 10-year peak flow (requires a licensed engineer).
2. If an adequate drainage system does not exist downstream, work with the City Engineer and a licensed engineer to devise a solution to improve the drainage downstream to accommodate the increase in flow resulting from the added impervious area.

C) Tier 3 Alternatives (Net addition of between 8,000 and 15,000 square feet of impervious area)

1. Demonstrate that an adequate drainage system is present downstream by analyzing the on and off-site drainage for the 10-year peak flow (requires a licensed engineer).
2. If an adequate drainage system does not exist downstream, work with the City Engineer and a licensed engineer to devise a solution to improve the drainage downstream to accommodate the increase in flow resulting from the added impervious area.

What portions of residential projects require Stormwater Management?

These requirements intend to capture the residential impervious areas. Impervious cover is defined as the portion of a parcel of property that is covered by any material, including without limitation roofs, streets, sidewalks, and parking lots paved with asphalt, concrete, compacted sand, compacted gravel, or clay, that substantially reduces or prevents the infiltration of storm water. Impervious area shall not include natural undisturbed surface rock.

The area draining to any practice is called the "contributing drainage area" and normally consists of 100% impervious area, though for rain gardens and filter strips incidental small pervious areas shall be included if unavoidable, and the areas are stabilized to eliminate soil erosion.

What are the principles for managing stormwater on residential developments?

Residential developments are not required to provide the same types of stormwater management as conditional use projects; however, certain requirements must be met to ensure that stormwater runoff does not overwhelm stormwater infrastructure; impact water quality in our streams; or impact adjacent property. The key principles for managing stormwater from a residential lot are:

- Proper grading techniques and Erosion Control BMPs during construction;
- Runoff Reduction (see section below);
- Reliance on infiltration only where the water table or bedrock layer is at least two feet below the bottom of the practice in use; and,
- Proper installation and maintenance of downspouts, channels, or any other sources of concentrated flow.

What is Runoff Reduction?

The term 'Runoff Reduction' means the interception, evapotranspiration, infiltration or capture and reuse of stormwater runoff. Examples of runoff reduction techniques on a single-family residential development include any appropriate combination of the following techniques termed Green Infrastructure Practices:

1. installing a rain garden or bioretention area,
2. replacing traditionally impervious surfaces (driveways, patios, etc.) with pervious paving,
3. routing downspouts to underground dry wells,
4. routing downspouts to modified French drains,
5. using cisterns for reuse or irrigation, or
6. directing sheet flow to adequately sized vegetated filter strips, or any appropriate combination of techniques.

The goal of these techniques is to reduce the volume of runoff generated by the first one inch of rainfall runoff.

How are Runoff Reduction techniques sized on residential developments?
The amount of volume to be reduced on site is directly related to the drainage area contributing runoff to the treatment technology.

What needs to be submitted?

Applicants must develop a site plan using the checklist available in the Development Services Center. The checklist items relevant to stormwater management include the following:

- Location, configuration and finished elevations for existing and proposed impervious areas;
- Proposed drainage infrastructure in ROW
- Lot/building layout with dimensions;
- Existing and proposed ground contours and elevations;
- Sanitary and storm sewer, structures, and easements;
- Erosion and sediment control practices in conformance with the Metro Stormwater Management Manual Volume 4;
- Selected Green Infrastructure Control & Practice Tear Sheets
- All points where stormwater leaves the site (if applicable);
- Locations of buffer (stream, floodway) zones (if applicable);
- 100-year floodplain boundary (if applicable);
- Proof of zero increase in peak runoff (if applicable);
- Proof of competent downstream drainage (if applicable); and

What is in the rest of this document?

The remainder of the document contains:

1. A set of six information/specification sheets, one for each of the six Green Infrastructure Controls recommended for use. For each, the last two pages are a tear-off set of specifications that can be filled in and stapled to construction plans.
2. Section A that describes how the preservation of trees can be credited.
3. Section B that describes how to conduct infiltration testing.
4. Section C that describes the types of vegetation recommended for use for those Controls that feature vegetation as part of the treatment approach.
5. Section D that describes the simple method to determine adequate drainage for Tier 1 infill projects.