



## Chapter 8 REGULATED RESIDENTIAL INFILL

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### 8.1. Overview

Land development can permanently alter 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, Metro requires, in accordance with the stormwater ordinance, that stormwater management measures be utilized when construction of a home or an addition meets the definition of regulated residential infill.

### 8.2. Definition and Requirement

**Regulated Residential Infill** is the creation of 800 to 15,000 square feet of additional net impervious area (IA) for a residential dwelling(s) and any associated improvements on the property through new development, redevelopment, or rehabilitation in existing neighborhoods.

Exemptions from Regulated Residential Infill regulation are projects that:

- (1) add less than 800 square feet of net new IA,
- (2) add more than 15,000 square feet of net new IA,
- (3) are on lots larger than one acre where the scope requires a full grading permit, or
- (4) are on lots with a grading permit previously issued by Metro, as long as the post-construction IA conforms to the original grading plan.

Note a previously issued grading permit does not automatically result in an exemption. There may be sites that have had a grading permit in the past but the drainage system is currently inadequate to handle design discharges. The existence of a past grading permit allows the developer to omit use of the one-inch criteria in favor of use of any designed, constructed and maintained competent drainage system already in existence per section 8.2.2. The developer must still insure the downstream system is competent to handle the increased discharge. If the system is not competent the developer may choose to follow normal Tier I, II or III steps, or may choose simply to restore and/or improve the drainage system to handle the increased discharge from the infill site. For Tier III sites detention will still be required.



Projects on lots larger than forty thousand square feet may seek infill classification on a case-by-case basis at the discretion of MWS.

There are three tiers of infill development for non-exempt projects:

- **Tier I** - Projects creating between **800** and **2,500** square feet of net additional IA with the total lot IA percentage exceeding 30% must treat, by means of capture of the first inch of rainfall runoff, an IA equal to the net increase of added IA.
- **Tier II** - Projects creating between **2,500** and **8,000** square feet of net additional IA, without regard to total lot IA percent, must treat, by means of capture of the first inch of rainfall runoff, an IA equal to the net increase of added IA.
- **Tier III** – Projects creating between **8,000** and **15,000** square feet of net added IA, without regard to total lot IA percent, must treat, by means of capture of the first inch of rainfall runoff, an IA equal to the net increase of added IA. Additionally, the project design must insure there is no increase in the 10-year storm peak flow from the site, and the design must be certified by a professional engineer.

### *8.2.1. One-Inch Capture Requirement*

The size and type of stormwater management practices implemented must be in accordance with Appendix D, Regulated Residential Infill Guidance. These post-construction stormwater management practices must be designed to capture the first inch of rainfall runoff from an impervious area equal to the net added impervious area.

Artificial turf shall be counted as impervious surface area unless it has an eight-inch stone storage layer and meets the Permeable Pavers specification (Section II. E) in the SWMM Volume 1 Appendix D Regulated Residential Infill Guidance. Artificial turf shall not be used as a green infrastructure control practice for stormwater management. Artificial turf installations on grading permit projects must meet the Permeable Pavement specification (GIP-03) in the SWMM Volume 5 Low Impact Development.

### *8.2.2. Alternatives to One-Inch Capture*

The owner/developer of a project meeting the definition of regulated residential infill shall endeavor to treat the first one inch of rainfall runoff from net added impervious. If this treatment proves impractical two alternatives are offered to the one-inch capture requirement for each tier as described below:

#### **A) Tier I 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 in Appendix D.
2. If an adequate drainage system does not exist downstream, work with MWS 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 II 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 as described in the residential infill guidance document (requires a licensed engineer).
2. If an adequate drainage system does not exist downstream, work with MWS 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 III 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 as described in the residential infill guidance document (requires a licensed engineer).
2. If an adequate drainage system does not exist downstream, work with MWS 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.

### **8.3. Permitting**

Permitting of residential infill properties will take place through Metro's Development Services Center (see Figure 8-1).

#### *8.3.1. Pre-Application Meeting*

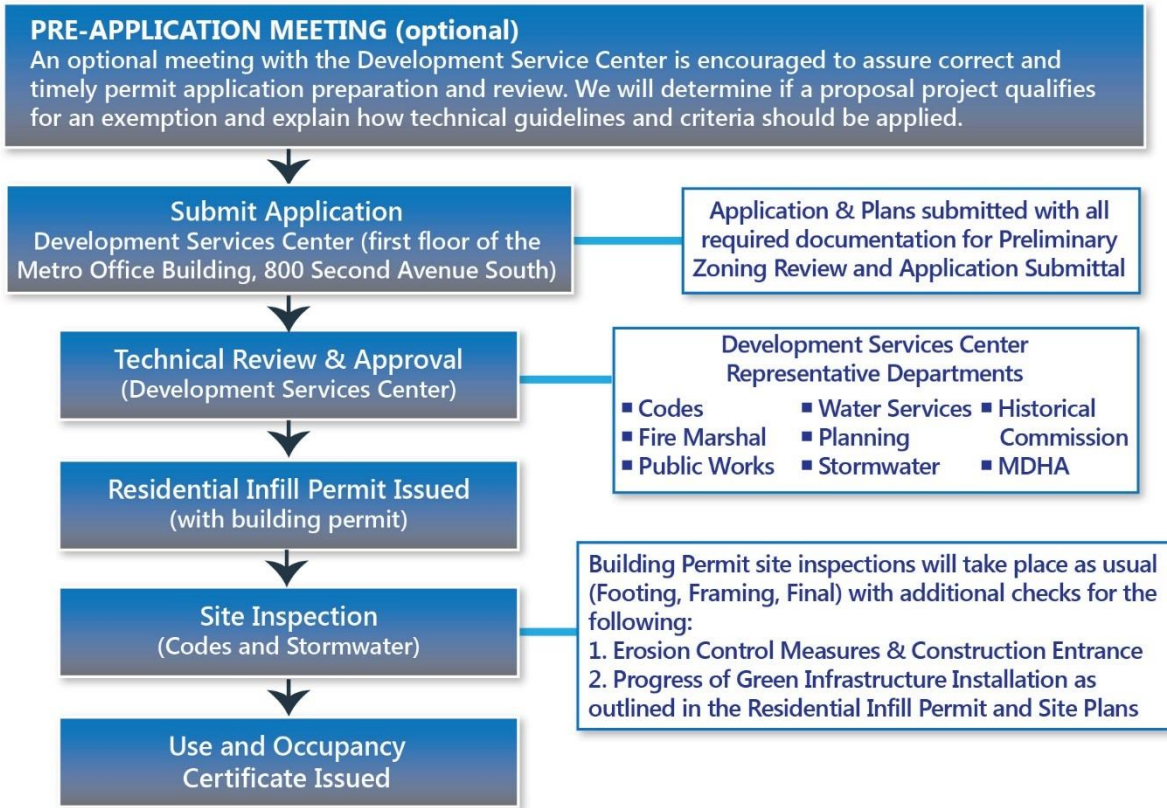
All applicants may schedule a pre-application meeting with MWS to discuss their proposed projects. While not mandatory, a pre-application meeting is encouraged to assure correct and timely permit application preparation and review. This meeting will also aid the applicant in identifying water quality buffers, special site challenges, and residential infill requirements. During this meeting, staff can determine if a proposed project qualifies for an exemption and explain how technical guidelines and criteria should be applied.



### 8.3.2. *Required Information and Checklist*

Each application for a Residential Infill Permit shall contain a sufficient site development plan and a completed Stormwater Checklist for Residential Infill Lot Developments. Plans for Tier I and II projects can be prepared and stamped by a licensed land surveyor, a professional engineer, or a licensed landscape architect. Tier III plans shall be stamped by a professional engineer. The application shall contain the following items:

- Identification of all impervious surface areas pre- and post-development;
- The net increase in impervious area;
- Proposed drainage infrastructure in right of way;
- Lot/building layout with:
  - Dimensions,
  - Contours (existing and proposed),
  - Erosion and sediment control measures (silt fence, construction entrance),
  - Green infrastructure control specifications sheets,
  - Easements,
  - All points where stormwater leaves the site,
  - Culvert/drainage pipes in right-of-way with size, capacity and material and if applicable, buffers (stream, floodway) zones,
  - Any trees receiving the infill credit,
  - 1-percent annual chance floodplain boundary, and
  - Scale on drawing;
- Proof of zero increase in 10-year peak runoff;
- Proof of competent downstream drainage;
- A previously assigned grading permit; and
- Completed Declaration of restrictions and covenants (see Appendix D).



**Figure 8.1 Regulated Residential Infill Permit Process**

8.3.3. *Application Processing*

The Development Services Center will review the application and issue a permit based on the completeness and correctness of the application.

8.3.3.1. *Initial Receipt and Resubmittals*

When residential infill projects are referred or submitted to MWS, they are logged in by date and assigned a tracking number. The applicant must complete a Stormwater Checklist for the infill project. Failure by the applicant to complete the Stormwater Checklist upon initial submission or to include the tracking number in resubmittals will result in a delay in the review of the proposed plans.

8.3.3.2. *Staff Review and Recommendation*

MWS first conducts a sufficiency review of the Residential Infill Checklist and Site Plan to determine if all basic information has been included. If it is determined that the application is incomplete, the application will be returned to the applicant along with a



request for additional information needed. The returned application will include the application tracking number that must accompany a resubmittal.

When all basic information has been supplied pursuant to section 8.3.3.1, MWS staff will conduct a technical evaluation of the permit application. This technical evaluation will be based on the technical criteria outlined in Appendix D.

#### *8.3.3.3. Installation of Erosion Control Measures*

Initial measures should be installed as detailed in the EPSC plan. **No land-disturbing activities, except what is necessary to install initial EPSC measures, shall begin prior to the issuance of a residential infill permit.**

#### *8.3.3.4. Residential Infill Permit Issuance and Expiration*

A Residential Infill Permit shall expire one year from the date of issuance. The permit holder may request an extension to the expiration date of up to 6 months. No more than two extensions can be requested for any site unless adequate justification for additional extensions is proven.

When an extension is requested, MWS staff can require additional information or additional measures on the site. Extensions will not be granted for projects not in compliance with these regulations.

#### *8.3.3.5. Revisions to Approved Plans*

If changes are anticipated prior to or during construction that would constitute a revision of plans already approved by MWS, the approved plans shall be revised and signed by a registered engineer (if applicable) and resubmitted. The resubmission shall include a letter stating why such changes from the approved plans are necessary, the residential infill permit number, and a completed Residential Infill Checklist for the project. MWS reserves the right to waive this requirement or to re-review the entire set of plans in the light of requested changes. Plan revisions must be approved by MWS prior to implementing changes to approved plans in the field. MWS reserves the right to require installed stormwater features that are not per approved residential infill permit plans and/or are not performing as designed to be removed and/or replaced.

## **8.4. Construction Procedures**

### *8.4.1. Posting of Permit*

Work requiring a Residential Infill Permit shall not begin until the permit holder or his agent posts the Residential Infill Permit, or a copy of the permit, in a conspicuous place on the front of



the premises. The permit shall be protected from the weather. The permit shall remain posted by the permit holder until the Department of Codes Administration has issued the Use and Occupancy Certificate or until Development Services Center staff verifies that the site has reached final stabilization.

#### *8.4.2. Effect of Permit*

A Residential Infill Permit issued pursuant to this section shall be construed to be a license to proceed with the work and shall not be construed as authority to violate, cancel, alter, or set aside any of the provisions of these regulations, nor shall issuance of a permit prevent MWS or the

Department of Codes Administration from thereafter requiring a correction of errors in plans, construction, or a correction of violations of these regulations. In addition to Metro Residential Infill Permit requirements, certain land disturbance activities that will impact “Waters of the State”, “Wetlands”, and/or “Sinkholes” may be required to meet certain State and Federal regulations. All such applicable regulations must be met prior to the initiation of land disturbance activities. This includes the receipt of any necessary permits.

#### *8.4.3. EPSC Permit Holder Responsibilities*

The Residential Infill Permit holder is ultimately responsible and shall be held accountable for all EPSC requirements.

#### *8.4.4. Site Inspections*

Inspections will be conducted by Development Services Staff to ensure EPSC requirements and green infrastructure practices are being installed per the submitted plan.

#### *8.4.5. Use and Occupancy*

The Use and Occupancy Certificate will be issued after all Development Services Center departments have signed off on the property.



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