

## Overview of Processing a Determination of Infeasibility

### ***Introduction***

Runoff reduction practices are stormwater Best Management Practices (BMPs) used to disconnect impervious and disturbed pervious surfaces from the storm drainage system. The purpose is to reduce post-construction stormwater runoff rates, volumes, and pollutant loads. The Runoff Reduction Volume (RR<sub>v</sub>) is the retention volume calculated to infiltrate, evapotranspire, harvest and use, or otherwise remove runoff from a post-developed condition to more closely mimic the natural hydrologic conditions.

Certain conditions, such as soils with very low infiltration rates, high groundwater, or shallow bedrock, may lead to waive or reduce the runoff reduction requirement for proposed site development on a case-by-case basis. If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.

The Practicability Policy was developed to provide guidance about the site conditions and supporting documentation that could justify a "Determination of Infeasibility" for the runoff reduction requirement. This practicability policy does not address infeasibility for linear transportation projects. Infeasibility for linear transportation projects is discussed in the Gwinnett County Unified Development Ordinance (UDO) Title III Section 800-90.2.

The practicability policy is based on the following principles:

- It is designed to help implement a process for granting a Determination of Infeasibility that supports efficient review of land development applications.
- It applies to new development and redevelopment projects for public and private stormwater BMPs and is discussed in the Gwinnett County UDO Chapter 800.
- It aligns with requirements for runoff reduction in the Gwinnett County Stormwater Management Manual (GCSMM).
- A pre-submittal meeting is recommended when pursuing a Determination of Infeasibility.

### ***Conditions that may warrant a Determination of Infeasibility***

The GCSMM provides broad guidance about conditions that may lead to waiving or reducing the runoff reduction requirement. The following conditions may warrant a Determination of Infeasibility.

- **Soil Infiltration Rate:** The soil infiltration rate is less than 0.5 inch per hour as measured over the proposed BMP location. Consideration should be given to infiltration rates throughout the soil profile.
- **Water Table:** The seasonal high-water table is less than two feet from the bottom of an infiltration practice.
- **Shallow Bedrock:** Material that cannot be excavated except by drilling or blasting AND is less than two feet from the bottom of an infiltration practice.
- **Extreme Topography:** In the proposed final condition, as shown on the Stormwater Concept Plan with the proposed post-development condition, anything steeper than 3:1 slope for more than 50% of the site.
- **Karst Topography:** Any of the existing condition is karst.

- **Hotspots/ Contamination:** Reasonable suspicion that previous uses of the site have resulted in soil contamination.
- **Historic Resources:** Buildings, structures, or historic sites included in the Georgia Historic Preservation Division's Historic Resources Survey or listed in the National Register of Historic Places or that has been recommended as a historic resource by a Preservation Professional.
- **Site Constraints:** Sites where the density or nature of the proposed development would create irreconcilable conflicts for compliance between the on-site runoff reduction requirement and other requirements such as zoning, floodplains, stream buffers, or septic fields.
- **Economic Hardship:** The cost of retaining the first 1.0 inch of rainfall onsite using runoff reduction practices is a minimum of three times greater than the cost of providing water quality practices.
- **Previously Studied Area:** Proposed development is included in a previously authorized Hydrology Study and meets all design requirements included in the previously authorized report. The previously authorized Hydrology Report is required as supporting documentation of this condition.

### ***Obtaining a Determination of Infeasibility***

If Runoff Reduction is determined to be infeasible, then the design professional will attempt to provide the maximum percentage of RRV on-site as feasible. A Determination of Infeasibility will be considered after the design professional has evaluated the Runoff Reduction options that are applicable to the site. The following process is recommended to:

1. identify conditions early,
2. provide flexibility,
3. support efficient land development application review, and
4. protect water quality to the maximum extent practicable.

### ***Does the Site Qualify for a Determination of Infeasibility?***

Answering "NO" to any of the following questions may indicate that the site qualifies for a Determination of Infeasibility:

1. Can GCSMM runoff reduction BMPs fully meet the runoff reduction volume?
2. Does the site analysis show the conditions are supportive for managing the calculated runoff reduction volume needed for the site?
3. Can better site design practices (see GCSMM, Volume 2, Section 2.3) be used to avoid challenging site conditions or constraints?
4. Can BMPs, such as green roofs and rainwater harvesting techniques, be used in ways that do not require infiltration into subsurface soils, but rather rely on evapotranspiration and reuse?
5. Can the installation of multiple runoff reduction BMPs, such as installing runoff reduction BMPs at higher elevations or in multiple sub watersheds, manage the calculated runoff reduction volume needed for the site?

### ***Prior to Construction***

- 1) The design professional identifies conditions that limit using runoff reduction methods to retain 100% of the first 1.0 inch of rainfall onsite. During a Pre-Application Meeting (PAM) prior to submittal of the construction plans, the following information will be reviewed:
  - A preliminary design that has been developed based on site analysis, and natural resources inventory (including impracticability).
  - Runoff Reduction Infeasibility requirements and potential applicability to the project site.
  - Supporting documentation that will be required at the time of submittal for permitting will be discussed.

- Review of the Runoff Reduction Infeasibility Form (provided in Appendix A) which will be required during the permitting process.
- 2) The design professional will continue to follow-up with the stormwater plan reviewer prior to permitting with any questions or concerns.
- 3) The Runoff Reduction Infeasibility Form will be presented at the time of permitting with any supporting documentation that is required.
- 4) Based on the information provided, the plan reviewer will provide one of the following determinations to the design professional:
  - Approval – preliminary Determination of Infeasibility issued
  - Approval with conditions – preliminary Determination of Infeasibility issued with conditions
  - Denial - revise the Construction Plans to obtain 100% RRv
- 5) If the request was denied or approved with conditions and the design professional does not agree with plan reviewer's determination, then the design professional can appeal the decision to the Director of Planning & Development.

### ***During Construction***

- 1) If a site condition arises during construction that would prevent the specified stormwater BMP to be constructed as shown, then a revision can be submitted. The design professional will complete a Runoff Reduction Infeasibility Form and initiate discussion with the Stormwater Plan Reviewer to discuss the findings.
- 2) The plan reviewer will evaluate the Runoff Reduction Infeasibility Form with the design professional to understand site-specific issues; and (if possible) explore potential design strategies to keep the stormwater BMPs identified in the permitted construction plans.
- 3) Based on the information provided, the plan reviewer will provide one of the following determinations to the design professional:
  - Approval – Determination of Infeasibility is issued and attached to the land development permit
  - Approval with conditions – preliminary Determination of Infeasibility issued with conditions to either:
    - i) Revise the design of runoff reduction methods to retain the first 1.0 inch of rainfall onsite.
    - ii) Meet the stormwater runoff quality/reduction standard through a combination of Runoff Reduction and Water Quality or Water Quality alone.
- 4) If the request was denied or approved with conditions and the design professional does not agree with plan reviewer's determination, then the design professional can appeal the decision to the Director of Planning & Development.

## APPENDIX A



PROJECT NAME: \_\_\_\_\_

## Runoff Reduction Infeasibility Form for Determination of Infeasibility

### SITE CONDITION APPLICABILITY

Please check the appropriate item below and confirm the supporting documentation has been included in the Hydrology Report for a Determination of Infeasibility.

Site Condition	Supporting Documentation
<input type="checkbox"/> Soil Infiltration Rate	Infiltration test(s), Soil Boring Log(s), and Report of results as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Water Table	Soil Boring Log(s) and Report with results of the seasonal high-water table assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Bedrock	Soil Boring Log(s) and Report with results of the shallow bedrock assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Extreme Topography	Site survey showing 50% of the site is steeper than 3:1 slopes and supporting documentation from the design engineer that the proposed conditions are similar to the existing conditions
<input type="checkbox"/> Karst Topography	Documentation from the design engineer that the site has Karst topography
<input type="checkbox"/> Hotspots/Contamination	Phase I Environmental Assessment Report
<input type="checkbox"/> Historic Resources	Documentation of the NAHRGIS listing OR Report of assessment from a Preservation Professional
<input type="checkbox"/> Site Constraints	Site Plan identifying development requirements that are creating irreconcilable conflicts with on-site runoff reduction
<input type="checkbox"/> Economic Hardship	An estimated cost comparison of proposed runoff reduction practices compared to the proposed water quality practices that meets the requirements shown in the Practicability Policy
<input type="checkbox"/> Previously Studied Area	Proposed development is included in a previously authorized Hydrology Study and meets all design requirements. The previously authorized Hydrology Report is required to meet this Site Condition



PROJECT NAME: \_\_\_\_\_

**STORMWATER RUNOFF QUALITY/ REDUCTION SUMMARY**

Maximum Runoff Reduction Volume Required: \_\_\_\_\_

Maximum Runoff Reduction Volume to be provided\*: \_\_\_\_\_

Remainder of Volume treated by Water Quality Best Management Practice: \_\_\_\_\_

*\*If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80% reduction in total suspended solids.*

Design Professional Printed Name: \_\_\_\_\_

Design Professional Signature: \_\_\_\_\_

**FOR GWINNETT COUNTY USE ONLY**

APPROVED: \_\_\_\_\_

APPROVED with Conditions: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

DENIED: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Reviewer:** \_\_\_\_\_

(Print Name)

(Signature)

(Date)