



DATE: March 26, 2021
TO: All Architects, Builders, Contractors, Developers, Engineers, Surveyors, and Property Owners
FROM: Greg Emanuel, Director, Department of Environmental Services (DES)
SUBJECT: New Land Disturbing Activity/Stormwater Management (LDA/SWM) Permit Requirements Related to Stormwater Quantity for Individual Single-Family Homes Regulated Under Chapter 60 (Stormwater Management Ordinance)
EFFECTIVE DATE: September 13, 2021

SUMMARY

New LDA/SWM requirements related to stormwater quantity for single-family home development (SFD) projects will improve mitigation of off-lot stormwater impacts, especially protection of downhill properties, while ensuring continued regulatory water quality credit under the County's Municipal Separate Storm Sewer System (MS4) permit.

This LDA/SWM Program upgrade, referred to as 'LDA 2.0,' will manage more runoff on-site by adding detention tanks as well as requiring soil amendments to maximize absorption of rainfall and runoff, while minimizing the increase in compliance effort and maintaining construction and operational feasibility.

LDA 2.0 responds to County Board direction and reflects Arlington's comprehensive 'lot to river' stormwater program. At the lot scale, the Program complements the significant public investments being made at the stormwater system scale to increase flood resiliency. While single family homes are being replaced at a strong pace of ~8% every decade, ~75% of Arlington's single-family housing stock was built before 1960. Much more redevelopment is yet to come. The new Program is today's opportunity to change our trajectory towards stronger mitigation of impacts from tomorrow's single-family infill redevelopment—at the source.

Overall, LDA 2.0 reflects future-focused and balanced responsiveness to a diverse customer base that includes downhill neighbors, property owners, and builders.

BACKGROUND

The LDA/SWM Program is implemented under Chapter 60 of the Arlington County Code. Regulation of runoff from individual SFD projects began under the previous ordinance in 2012. With the 2014 adoption of Chapter 60, the County Board chose the option in State code to continue to regulate development of individual single-family homes. These projects are responsible for the majority of impervious surface increases from regulated development activity. Expanded development footprints cause more water to reach other properties, the storm drain system, and streams more quickly. This dynamic is reinforced by high clay content soils being placed and compacted in the finished upper layers of soil, effectively

adding even more impervious characteristics to the entire lot, as evidenced by a recent post-construction analysis of soil permeability.

While stormwater 'quality' is the current computational measure of LDA compliance for SFD projects, the Program is changing emphasis so that both quality and quantity have explicit performance standards. The shift in emphasis is crucial as infill development continues year after year alongside increasing rainfall intensity, which together not only increase lot-to-lot runoff but also add cumulative runoff impacts to downhill neighbors, the storm drain system, and local streams.

DETAILS

Consistent with the clear need to manage more runoff, more effectively before it leaves the lot, State stormwater quantity performance standards will now be required for SFD projects, in addition to the stormwater quality performance standards currently required.

LDA 2.0 will also offer an alternative compliance option to the State stormwater quantity requirements that will be more feasible and effective in most cases and less onerous for the homeowner responsible for maintaining stormwater management facilities.

This option will offer standardized plan templates to shorten the time for plan review and approval, avoid complicated engineering and detention system design (including the potential use of pumps for outflow), as well as prevent likely conflicts between detention systems and trees, other landscaping, and utilities on tight lots.

The alternative compliance option includes:

- For redevelopment: Detention of three (3) inches of runoff from increased impervious surfaces.
- For vacant lots: Detention of 1.7 inches of runoff from post-development impervious surfaces.
- Addition of a new tool: Gravity detention tanks to promote a 'slow it down and soak it in' strategy to capture and release runoff slowly as a more robust and reliable way to handle intense rainfall.
- Capping stormwater quality compliance requirements at 75% of full compliance (or no net increase, whichever is more stringent).
- 'Right-sized' quantity credits for tree conservation and planting.
- Standardized plan templates to streamline plan preparation and review, with the objective of reducing plan review times relative to the existing program.

In addition, for all SFD LDA projects, the Program will also:

- Require soil de-compaction and amendment to restore essential soil functions to absorb rainfall and runoff and support grass, tree, and other plant growth.
- Ensure runoff is not concentrated or released closely to downhill properties.
- Account for existing trees to encourage conservation.
- Address potential off-lot impacts from retaining walls and fill.
- Address the future addition of impervious surfaces (e.g., large patios) after issuance of a certificate of occupancy (CO). A recent sampling of projects found this is occurring frequently. To make it easy and cost-effective for future owners who wish to add features like patios after occupancy, an opportunity will be offered with the SFD LDA permit to include design and mitigation measures to account for these future features.

Systems that rely solely on infiltration for release are currently discouraged for SFD projects due to their high failure rates and accompanying burdens on builders and property owners at the end of construction. A recently issued [‘Notice to Industry’](#) emphasized these risks, and staff now require that plans with proposed infiltration systems provide a ‘Plan B’ compliance design. Systems that rely solely on infiltration for release (except for bioretention systems located downstream from tanks) will not be permitted under the alternative compliance option in order to avoid the increase in plan preparation and review time associated with providing the required ‘Plan B’ design as well as potential added time and cost at the end of construction.

Comprehensive updates to the Stormwater Manual will provide further details and specifications for the new LDA 2.0 requirements.

ROLLOUT AND ENGAGEMENT

SFD LDA applications submitted on/after September 13, 2021, will be required to comply with LDA 2.0.

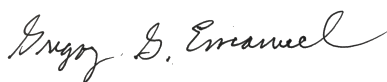
The public engagement and training plan will include:

- Informational meeting on April 23, 2021, at 10 AM (meeting invitation pending)
- Training session for engineers in May 2021 (to be announced)

Both sessions will be recorded and posted on the Stormwater Management Ordinance homepage. Stormwater program staff are also available for one-on-one consultations and questions. Please email StormwaterManagement@arlingtonva.us to request an appointment.

The Stormwater Manual updates will be posted by July 12, 2021.

Program staff will implement a customer-intensive approach during early implementation of LDA 2.0, providing frequent touchpoints with builders and engineers to work through project-specific questions and challenges. Following 12 to 18 months of implementation, the time necessary for the first projects subject to LDA 2.0 to complete construction, staff will conduct a review, including gathering customer and other stakeholder (e.g., adjacent property owners) feedback, and identify whether to make any modifications to the Program.



Greg Emanuel, Director
Department of Environmental Services






SWM Ordinance - LDA 2.0 NTI v1

Final Audit Report

2021-03-25

Created:	2021-03-25
By:	Antonio Escalante (aescalante@arlingtonva.us)
Status:	Signed
Transaction ID:	CBJCHBCAABAAzzJIs52VtigsYMZYmbwqHyUECzaWFEm6

"SWM Ordinance - LDA 2.0 NTI v1" History

-  Document created by Antonio Escalante (aescalante@arlingtonva.us)
2021-03-25 - 7:06:48 PM GMT- IP address: 158.59.25.32
-  Document emailed to Gregory Emanuel (gemanuel@arlingtonva.us) for signature
2021-03-25 - 7:07:09 PM GMT
-  Email viewed by Gregory Emanuel (gemanuel@arlingtonva.us)
2021-03-25 - 7:32:24 PM GMT- IP address: 104.47.56.254
-  Document e-signed by Gregory Emanuel (gemanuel@arlingtonva.us)
Signature Date: 2021-03-25 - 7:40:21 PM GMT - Time Source: server- IP address: 158.59.25.32
-  Agreement completed.
2021-03-25 - 7:40:21 PM GMT