



CITY OF SOMERVILLE, MASSACHUSETTS
Office of Strategic Planning and Community Development
JOSEPH A. CURTATONE, MAYOR

MEMORANDUM

Office of the Executive Director

MEMORANDUM

TO: Mayor Joseph A. Curtatone

FROM: Monica R. Lamboy, Executive Director *ML*

DATE: January 27, 2011

SUBJECT: AN ORDINANCE AMENDING THE SOMERVILLE ZONING ORDINANCE TO ADD A DEFINITION OF PERVIOUS AREA AND AMEND THE TABLE OF DIMENSIONAL REQUIREMENTS AND FOOTNOTES TO REQUIRE A MINIMUM PERVIOUS AREA ON LOTS IN CERTAIN ZONING DISTRICTS

The Office of Strategic Planning and Community Development (OSPCD) in collaboration with the Engineering Division of the Department of Public Works and the Law Department respectfully request that you forward the attached proposed amendment to the Somerville Zoning Ordinance (SZO) to the Board of Aldermen for their review and consideration. This ordinance is one component a regulatory framework that will provide a comprehensive set of regulations to permit, regulate, review and inspect any work on a lot that increases impervious area without otherwise requiring a building permit. This work typically involves the installation or expansion of driveways or other paved surfaces. Other work that increases impervious area, such as the renovation and expansion of existing buildings, is regulated by the existing zoning code. A separate ordinance is also being submitted that will amend the Code of Ordinances to address paving and increases in impervious area. This package of ordinances is submitted to fill a gap in the regulatory system and address the impacts of this regulatory gap on neighboring properties and public ways.

BACKGROUND

Impervious surfaces on private lots have become a concern as a result of their potential impact on neighboring properties and the city's stormwater management system. After recent flooding, an article in the Boston Globe highlighted a study that indicated that 77% of the land area in the City of Somerville is impervious. More detailed studies completed by the Office for Sustainability and the Environment have pegged the number at 73%. Either way, the data indicates that Somerville is highly impervious.

Impervious areas are those covered by buildings, asphalt, concrete and other material that does not

percolate water back into the ground. In a rain storm, the water that lands on these surfaces flows across them. Some of this water reaches nearby grass areas and eventually returns to the ground, while the rest is often channeled out into the street and into catch basins that are serviced by the City's stormwater system which consists of large areas where sewer and stormwater is combined, and therefore processed at Deer Island at a cost to the City. Some private projects completed in recent years have drainage systems that store water after a storm and return them to groundwater in a controlled manner. But, these stormwater retention systems are relatively new, and are not typically installed when driveway work is done on private lots in Somerville's existing neighborhoods.

Improvements in stormwater technology and paving surfaces suggest that additional runoff from private lots into combined sewers or onto neighboring properties can be curtailed if projects are properly regulated and reviewed. Many more developments are selecting pervious paving materials that meet stormwater needs, provide for more attractive driveways and improve neighborhood character. Furthermore, green roofs also help limit stormwater impact from new buildings. But, while these tools may be selected by some, or mandated by projects requiring Special Permits, the tools to otherwise encourage these solutions are not a part of the current regulatory system in Somerville.

Impacts of Impervious Surfaces

Creating extensive impervious areas create a series of problems:

- Flooding and Drainage: Drainage from impervious areas is often channeled off private lots into stormwater systems. In much of Somerville these areas are combined stormwater/sewer systems. In recent years, larger storm events have led to flooding, most recently in the area of Union Square and East Somerville. Increased impervious areas can impact the stormwater system, leading to the use of combined overflows to discharge mixed stormwater and sewage into local waterways and extending the duration and intensity of flooding.
- Neighboring Properties: Often, when stormwater is not sent into city streets, it is sent to neighboring properties. This impacts the usability of neighborhood lawns and often results in additional basement flooding. While drainage is addressed in projects requiring Special Permit review, many small driveway projects do not have such a review, and therefore alter the landscape and watercourse with significant impacts on adjacent properties.
- Heat Island Effect: In warm weather, urban climates are generally warmer than surrounding rural areas. Materials used for pavement and roofs have different thermal properties than landscaping, raising adjacent ambient air temperature. With the removal of mature trees, the ability for sunlight to radiate onto asphalt driveway surfaces is further increased. Therefore, when urban neighbors remove greenery and replace it with asphalt surfaces, the ambient summer temperature in the neighborhood can rise.
- Aesthetic Impacts: The quality of Somerville's neighborhoods can be negatively impacted by increased parking in side or rear yards. The paving and removal of landscaping can reduce or eliminate screening between properties plus vehicles parked in the rear yard can spew exhaust onto abutting properties.

OPEN SPACE COMMITTEE

The Board of Aldermen's Parks and Open Space Committee met three times in the fall of 2010 to discuss impervious surface with staff from OSPCD and the City Engineer. The committee discussed

the ordinance implemented by the City of Lowell in 2008, lessons learned from recent flooding and strategies that would be appropriate for Somerville to address these issues. There was general consensus that establishing minimum pervious area requirements would make sense, and that some version of the pavement permitting system established in Lowell would be beneficial for Somerville. The Committee was also seeking to implement a regulatory system for paving by the time asphalt plants start running again in early Spring of 2011.

At the request of the Committee, in December 2010, the Law Department submitted a draft ordinance that followed the format of the 2008 Lowell Ordinance. This would have established the permitting system, but did not establish minimum pervious areas, and therefore would require the City Engineer to issue permits for paving activities that could still have the negative impacts addressed above. Therefore, OSPCD is recommending that the attached submittal replace the December 2010 ordinance, and be used as the basis for further discussion about this issue going forward.

Shortcomings of the Existing Process

A number of shortfalls to the current regulatory system exist. These include:

- Landscape requirements exist, but they are low enough that applicants can often assemble slivers of land from across their lots to meet the landscape requirement even while not providing a single appropriate landscape area as intended by the SZO.
- Landscape areas as defined by zoning include paved patios, walks and other areas. There is no disincentive to paving landscaping, and as long as one does not park on it - it remains counted as landscaping.
- There is no incentive to use permeable driveway materials or green roofs to address additional runoff on the site.
- There is no process for permitting any paving project that is not part of a larger project that requires building permit review. Therefore, a resident can hire a contractor to add additional off-street rear yard parking, and there would be no evaluation of how it meets landscaping requirements unless a neighbor called ISD to complain about the activity.
- There is no official policy restricting runoff into city streets and/or neighboring lots, allowing new paving projects to create impacts on neighboring basements, city stormwater systems and low points on rights-of-way that may result in localized flooding.

To address these issues, two ordinances are recommended.

PROPOSED ORDINANCES

Establishment of Minimum Pervious Surfaces (Somerville Zoning Ordinance)

The proposed zoning amendment adds a new definition to the SZO for "Pervious Area" and requires a minimum pervious area within the RA, RB and RC zoning districts to limit additional impervious surfaces on existing lots and set a baseline expectation for pervious area of new development within the zoning districts that form the majority of Somerville's residential neighborhoods.

The new pervious area requirement is designed to complement, not replace, the important requirement for minimum on-site landscaping. Landscaping requirements allow for impervious area to count as landscaping as long as it is not used as a parking area. Recent driveway expansion

projects have suggested that these requirements do not adequately protect neighborhoods from the aesthetic and stormwater impacts from the conversion of landscaping to paved area. Raising the landscape requirements would make many existing lots in Somerville non-conforming with respect to landscaping but would not provide any incentive to applicants to use pervious driveway pavers and/or green roofs.

The proposed requirement for minimum pervious area will give incentive to those expanding or creating driveways to use pervious pavers and will encourage applicants seeking to add patio space to use a surface other than asphalt or concrete. It will encourage the development of green roofs that would qualify as pervious area but would not qualify to meet landscape requirements.

OSPCD intends to continue monitoring the impact of permitted paving projects to see if there is a need to adjust these numbers or add pervious area requirements for other zoning districts.

Establishment of Paving Permit (Code of Ordinances)

A separate ordinance amending the Code of Ordinances is being proposed to require a permit for any project that increase impervious area or driveway area on a lot, establish a registration requirement for paving contractors, adopt language related to runoff on abutting properties, and establish penalties and fines for failure to comply.

Recommendation

It is recommended that the Board of Aldermen amend the Somerville Zoning Ordinance create a definition of pervious surface and add pervious surface requirements in the RA, RB, and RC Districts.