



**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 CODE OF ORDINANCES TO ADDRESS PAVING AND INCREASES IN IMPERVIOUS AREA

---

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 Code of Ordinances and 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 Somerville Zoning Ordinance to add a definition of pervious surface and regulate pervious surface in the RA, RB, and RC Districts. 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 Paving Permit (Code of Ordinances)**

The proposed ordinance amending the Code of Ordinances would establish a required permit for any project that increase impervious area or driveway area on a lot. While the construction of buildings that increase impervious area already requires a building permit from ISD, the increase in paved area on a lot does not require a permit. This new regulation would allow the Engineering Division to establish rules under which a paving permit would be granted. This would consolidate regulations from zoning and other city ordinances, specify the expectations for new paving projects, and require applicants to provide adequate information to determine if the project would be compliant with zoning or other laws.

The ordinance would allow the City Engineer to establish regulations that would be administered and enforced by the inspectors in the Inspectional Services Division in collaboration with DPW. It is expected that the permit will require application to ISD with a plan identifying the location of additional paving, materials and drainage impacts. It would then require an inspection upon the completion of work to certify that it was built to the specifications of the plan.

- Establishment of Paving Contractor Registration

The ordinance also establishes a requirement for paving contractors doing work in the City of Somerville to register and post a bond with the City Engineer. The establishment of a registration system will ensure that paving contractors in Somerville understand the expectations of the regulations and comply with the permitting requirement for driveways and impervious areas. Registering and educating contractors will be an effective strategy for ensuring that work on all lots complies with permitting requirements and related ordinances. Failure of contractors to follow the regulations would require the contractor to repair violations and may subject them to a one-year revocation of their registration.

- Penalties and Fines

The proposed draft ordinance establishes a set of fines for violation of these ordinances at \$300, similar to the fine imposed for zoning violations.

- Adjustment to Curb Cut Regulations

Because curb-cuts and driveway paving are inter-related, the ordinance establishes the paving permit in the same section of the ordinance as the existing requirement for curb-cut permits. To clarify that curb-cut permits allow for the promulgation of similar rules, fees and fines, the draft ordinance recommends a number of edits to the curb-cut regulation, but does not generally change the curb-cut application process. Per the draft ordinance, the regulation and permitting of curb-cuts will remain under the purview of the Superintendent of Highways, Electric Lights and Lines.

- Runoff Regulation

An amendment is proposed to establish a rule on the allowance for runoff from existing lots. Currently, addressing stormwater runoff is listed among the findings required in the zoning for projects undergoing Special Permits with Site Plan Review. In these cases, it has been the expectation of the City Engineer that new development does not create additional runoff into city streets or abutting lots. But, this is not a regulation that is specifically addressed in the Code of Ordinances, and it is not enforceable upon any activity which does not require the SPSR.

### **Establishment of Minimum Pervious Surfaces (Somerville Zoning Ordinance)**

An ordinance is proposed that will add 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.

**Recommendation**

It is recommended that the Board of Aldermen adopt the ordinance amending the Code of Ordinances to add regulations related to paving and driveway surfaces to authorize the City Engineer to establish regulations and create a registration requirement for paving contractors.