



CITY OF SOMERVILLE

MASSACHUSETTS

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Site: 10 Prospect Street

Case #: PB 2019-04

Date: April 18, 2019

Recommendation: None at this time

PRELIMINARY STAFF REPORT

Applicant Name: Union Square RELP Master Developer LLC

Owner Name: City of Somerville and the Somerville Redevelopment Authority

Agent Name: N/A

City Councilor: Jefferson Thomas (J.T.) Scott

Legal Notice: Applicant, Union Square RELP Master Developer LLC and Owners, the City of Somerville and the Somerville Redevelopment Authority, seek Design & Site Plan Review under SZO §5.4 and SZO §6.8 to construct a commercial building on Block D2 (as identified in the Union Square Revitalization Plan and the Union Square Neighborhood Plan) as proposed in the previously approved Coordinated Development Special Permit. TOD 100 underlying zoning district. Union Square Overlay District and CC7 sub district. Ward 2.



First Public Hearing: Planning Board – April 4, 2019

Zoning	Use	Surrounding Land Use	Property Metrics
USOD	Existing: Vacant Proposed: Laboratory/office building	North: Prospect Hill residential neighborhood East: Allen Street residential neighborhood and Target South: Boynton Yards industrial neighborhood West: Heart of Union Square	Lot Size: vacant lot of 29,806 square feet

Quick Summary: A CDSP was previously approved. A Subdivision Plat was previously approved to create the 10 Prospect Street lot. The approved CDSP allows for a commercial building on this site. No special permits are requested.

Note: Planning Staff is issuing this report as a preliminary staff report for the April 18, 2019 public hearing. This report will be further updated as the hearing process continues and full review of the proposal is completed.

I. PROJECT DESCRIPTION

1. **Subject Property:** The subject property consists of one vacant parcel totaling 29,806 square feet of land area. The parcel was created by a subdivision, shown as Lot 4, which was approved by the Planning Board (Case No. PB 2019-02) on March 21, 2019. The parcel has been identified as parcel D2.1 in the Coordinated Development Special Permit (CDSP) that was approved by the Planning Board in December 2017. The approval of the CDSP permitted this parcel to be developed as a commercial building (office or laboratory) with first-floor retail. The property is located in the Commercial Core 7 (CC7) sub district of the Union Square Overlay District (USOD).

The Applicant has also submitted separate Design and Site Plan Review (DSPR) applications for 20 Prospect Street (a General Building also referred to as D2.2 in the previously approved CDSP), 50 Prospect Street (a Mid-Rise Podium Tower building also referred to as D2.3 in the previously approved CDSP), a new thoroughfare planned as a mid-block service alley, and a new civic space planned as a plaza.

2. **Proposal:** The proposed development is an approximately 178,890 gross square foot commercial life-science/office building. The building program is proposed to include 157,900 square feet of lab/office space, 12,090 square feet of ground floor retail space, and 8,900 square feet of arts and creative enterprise space. The height of the building is proposed to be seven stories and 107'-7", excluding the enclosed mechanical penthouse and parapet. There is no on-site parking proposed for the 10 Propsect Street lot, but parking demand for the future employees and broader public will be accommodated in a shared Commercial Parking facility proposed on D2.2 and D2.3.

3. **Zoning Compliance:** The submitted application materials require additional information to demonstrate compliance with the Somerville Zoning Ordinance at this time. Please see **Section III Findings for Design and Site Plan Review** of this report for additional information.

II. DEVELOPMENT IMPACTS

1. **Departmental Comments:**

Fire Prevention: None specific to D2.1. However, Deputy Chief Wallace Forrest of the Somerville Fire Prevention Bureau identified "the need of public safety to have repeaters installed on the highest building of the project. Both fire and police radios would be impacted from the construction of so many large buildings and the repeaters would mitigate this interference."

Public Works: None at this time.

Engineering: The City Engineer's office has raised concerns related to the turning movements of certain vehicle types internal to the D2.1 site. Please see subsection 2 Analysis of this Section (II Development Impacts) for additional information.

Transportation & Infrastructure (T&I): The Director of Transportation & Infrastructure has raised concerns related to the turning movements of certain vehicle types that the Applicant has proposed to be permitted for ingress and egress from the D2.1 site. Permitted turning movements along Somerville's streets are entirely under the City's control and not considered an impact caused by the proposed building. Please see Section 2 Analysis of this Section (II Development Impacts) for additional information.

Office of Sustainability & Environment (OSE): The Office of Sustainability and Environment provided the following feedback:

The proposed Commercial Building is over 50,000 gross square feet and is required by the Somerville Zoning Ordinance to be LEED certifiable. This requires at least 60 points on the LEED checklist for the appropriate LEED building standard. The applicant is currently achieving 60 points and meeting this requirement. However, if any changes to the project reduce the number of achievable points, the project will not be in compliance. This DSPR should be conditioned upon the Applicants ongoing compliance with Section 6.8.10.1.1 Green Buildings of the Somerville Zoning Ordinance to ensure that the proposed Commercial Building remains LEED Gold Certifiable at each stage of the permitting process, including construction (Building Permit) and occupancy (Certificate of Occupancy).

The ground floor of the proposed building is susceptible to flooding. Based on the response provided to Managing Flood Risks section of the Sustainable & Resilient Buildings Questionnaire by the Applicant, it seems that flood proofing is contingent on deployment of temporary flood barriers at doorways. The proposed Commercial Building's main electrical room, transformer vault, loading docks, and potentially hazardous materials storage are located in the ground floor, making flood prevention critical during a storm event. This DSPR should be conditioned upon the approval of a storm water management plan by the City Engineer prior to the issuance of a Certificate of Occupancy.

The Application does not include enough information necessary to answer **Question #10** of the required Sustainable and Resilient Buildings Questionnaire or to satisfy **Condition #69** of the Union Square Redevelopment CDSP Decision. Condition #69 of the CDSP reads:

“Each [] DSPR application [] must document how the proposed development [] will help to [] assist in the City’s stated objective to be Net Zero by 2050 [].”

The City of Somerville’s Greenhouse Gas Inventory and Climate Action Plan, Somerville Climate Forward, both identify buildings and transportation as the most significant sources of Somerville's detrimental greenhouse gas emissions. Accordingly, the Applicant must provide the following information to satisfy Condition #69 of the previously approved CDSP:

Building systems are expected to be in place for 30+ years, meaning that the systems installed during construction will likely remain in the building in 2050 and beyond. The sustained release of greenhouse gas (GHG) emissions poses a threat to public safety and welfare. **The applicant must explain how the building could transition to a net zero carbon building by providing a detailed report of the building’s pathway to net zero emissions by 2050. The report must include the following:**

- An update to the Energy Use and GHG emissions modeling from the Applicant’s DEIR incorporating any changes to the building design that have been made since the modeling was initially completed.
- A technical description of how the building will transition to net zero emissions, including how and when systems can be transitioned in the future to carbon-free alternatives (provide timeline including 2030, 2040, and 2050 targets). Description must include whether any remaining emissions will be offset with on-site or off-site renewables and at what quantity.

- Evaluation of energy usage and GHG emissions of Passive House building envelope, compared with Code envelope. Passive House will generally be the most effective way to reduce environmental and climate impacts across the site. While the proposed project has atypical energy needs because it is a lab building, certain elements of Passive House design are applicable, particularly building envelope.
- Feasibility analysis of full electrification (fully electrifying space and water heating). Evaluate energy usage and GHG emissions of aggressive electrification design to compare with current design. Must include cost analysis, including operational cost. Include estimate of Alternative Energy Credit value.
- An analysis of the size and cost of on-site and off-site renewable energy generation that would be required to offset the emissions of the building as currently designed. Description of incentives, rebates, grants provided by utilities, government organizations, and other organizations being pursued to maximize building efficiency and to reduce emissions. Description must include any incentives that were considered but are not being pursued, including reasoning for each decision.

Ward Councilor: Councilor Scott has submitted no comments at this time.

2. Impact Analysis

Additional analysis of impacts and feedback provided by the public will be provided in this section.

Turning Movements: Internal to D2.1

TBD

Turning Movements: Ingress & Egress to D2.1

TBD

Environmental Performance: Solar Glare Analysis

The Applicant submitted a solar glare analysis prepared by Rowan Williams Davies & Irwin Inc (RWDI). The analysis investigated the impact of solar reflections that the proposed building will have on the surrounding urban realm. The future build out of Union Square was rendered three-dimensionally and considered as part of this analysis. The analysis (excerpts below) evaluated the thermal impacts on people and facades of other buildings as well as the visual glare impact on drivers, pedestrians, and facades.

Thermal Impacts on People

The planar nature of the facades of the proposed building ensure that reflected sunlight will not focus (multiply) in any particular area. Therefore, RWDI does not expect any significant thermal impacts (i.e. risks to human safety or property damage) to occur in the surrounding neighborhood.

Thermal Impacts on Facades

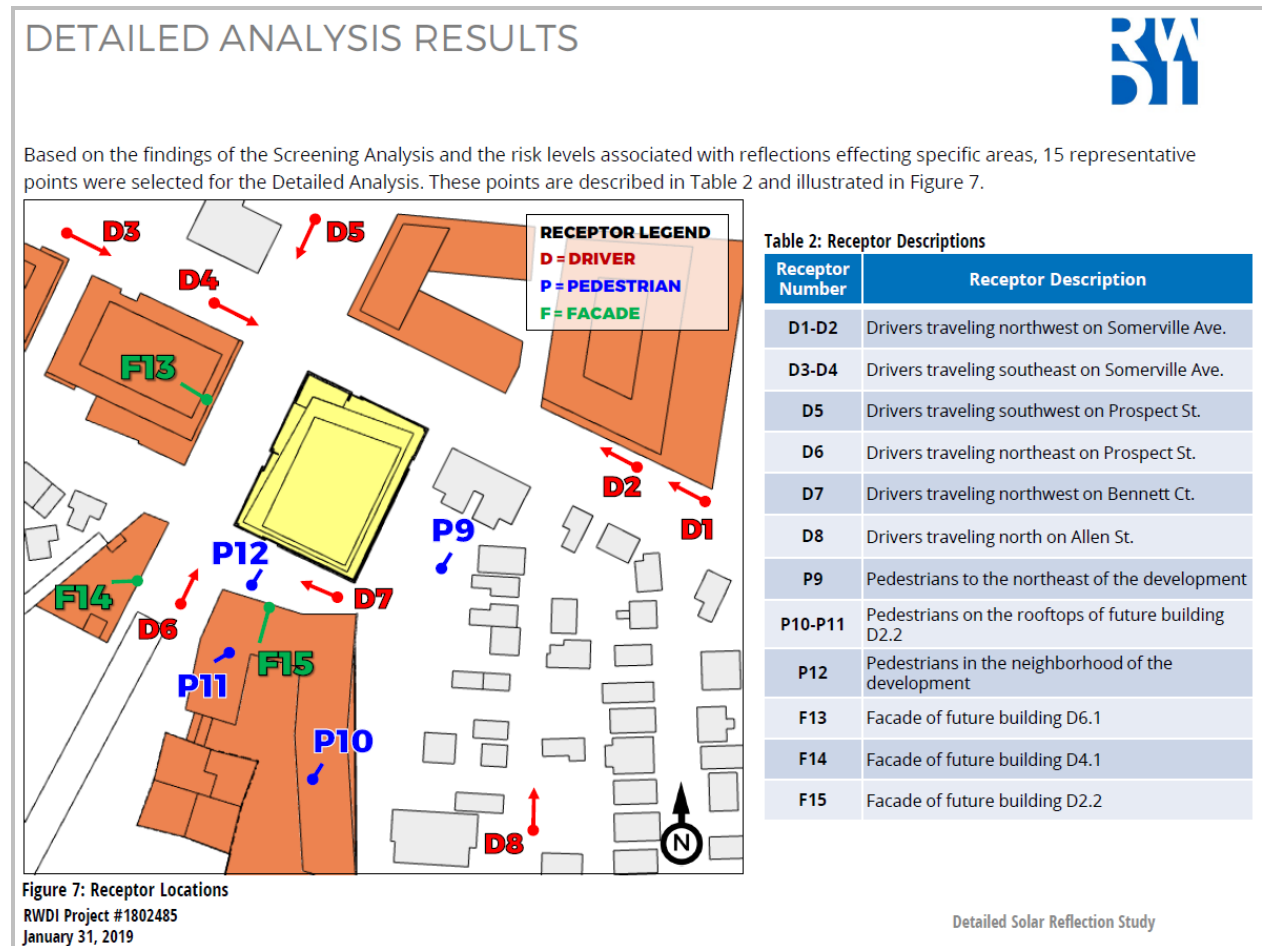
At all studied facade areas, reflections are of low intensity and short duration. Hence, we would not expect these reflections to lead to a significant additional cooling load for a building. Should

an individual choose to expose themselves to the reflected energy through a window, they may feel warm; however, this would be a temporary experience and one which would easily be remedied by closing window treatments.

Visual Glare Impact on Drivers

As with the addition of any glazed building, drivers travelling in the vicinity of the building are expected to experience an increased level of visual glare impact. Drivers along Somerville Avenue, Prospect Street, and Bennett Court are predicted to experience reflections from the buildings which can cause a high level of impact. High impacts indicate the potential for risks to safety, either through impairing the visual acuity of a vehicle operator or through reflection intensities high enough to cause injury or property damage.

These impacts are particularly experienced by drivers travelling southeast on Somerville Avenue approaching Prospect Street (receptor D4), travelling south on Prospect Street approaching Somerville Avenue (receptor D5), and travelling west on Bennett Court approaching Prospect Street (receptor D7). The reflectors on receptors D4 and D5 are predicted to occur 62 days per year at the most and could last up to 15 and 25 minutes respectively.



D4: The impacts on receptor D4 occur during five months during the morning hours with high impact events occurring prior to 8:00 a.m.

D5: The impacts on receptor D5 only occur between 2:00 pm and 3:30 pm EST in January, November, and December. This equates to high impact glare being possible at Somerville Avenue and Prospect Street in 0.22% and 0.83% of the daytime respectively.

D7: The impacts on receptor D7 are brief and infrequent. They can occur in the afternoons between May and July. The impacts are predicted to last 6 minutes or less. In addition, Bennett Court appears to be a local street, and therefore is expected to experience a lower traffic volume compared to Prospect Street and Somerville Avenue.

Note: When the sun is also in a driver's field of view, we would expect that brightness of the sun to dominate over the less intense reflected light, likely reducing the perceived effect of high impact reflections.

Visual Glare Impact on Pedestrians and Facades

Typical levels of visual glare are possible for pedestrians and building occupants in the vicinity of the development. Some of these reflections are frequent and relatively long in duration particularly on the residences immediately east of the building and on the rooftops of building D2.2. The impacts can occur for much of the morning hours throughout the year. That said, these types of reflections represent at worst a visual nuisance, as viewers can look away or close blinds. This condition is common in many urban centers and is unlikely to present a safety risk.

Mitigation Suggestions

The impacts of building D2.1 on its surrounds are typical of any modern building of this size and comparable to reflections elsewhere in the city. The recessed nature of the windows is a positive design feature which aids in reducing the frequency and intensity of reflections. The analysis suggests using architectural metals on the north façade (facing Somerville Avenue) with a matte finish would help in reducing the frequency and duration of reflections falling onto the drivers travelling southeast along Somerville Avenue. This same approach should be taken on the metallic surfaces of the west façade (facing Prospect Street) to reduce the impacts on drivers travelling southwest on Prospect Street. Additionally, modifying the exterior surface of the glazed facades at the same location (by "frosting" or roughening the exterior surface) to diffuse light rather than reflect directly could also help in reducing the impacts on those drivers. The above approaches would also lead to reductions in visual glare impact on the residences east of the site if it were applied to the eastern façade.

In general, selecting glazing units with lower visible reflectance properties on the east (facing Allen Street), south (facing D2.2) and west façade (facing Prospect Street) will aid in reducing the frequency and duration of visual impacts on adjacent buildings and pedestrians in the neighborhood in the mornings and afternoons.

Pedestrian Level Wind Analysis

The Applicant submitted a pedestrian level wind study prepared by Rowan Williams Davies & Irwin Inc. The analysis (excerpts below) used long-term meteorological data to predict wind conditions that will be generated by the proposed building and Building D2.2 and D2.3.

These results can be summarized as follows:

- All tested locations are anticipated to meet the effective gust criterion in the No Build configuration. Exceedance of the effective gust criterion, based on the annual climate, is

expected at seven locations for the Build configuration. Introducing trees as proposed mitigating elements reduces this count to three, with the addition of future developments eliminating these to result in no exceedances of the effective gust criterion.

- Wind speeds on the site are expected to be low under the No Build configuration.
- In the Build configuration, the proposed building is predicted to increase wind speeds around it. Uncomfortable wind conditions are expected to occur around the south side of the project site, as well as one isolated area at the north corner of Building D2.1. The introduction of trees as mitigating elements reduces these conditions by half, with the addition of future developments further limiting impacts on the D2.1, D2.2/2.3 sites. Most other areas are anticipated to be suitable for walking or better.
- With the addition of the future buildings, in the Full Build configuration, wind speeds are predicted to decrease at several areas located west through north-east of Building D2.1. However, an increase in wind speeds is predicated south of Building D2.3, including a few areas along Webster Avenue but will remain at an acceptable level.

III. FINDINGS

Per SZO §6.8.5.D.5 of the Union Square Overlay District, The Planning Board shall approve a required Design and Site Plan Review upon verifying that the submitted plans for the proposed development demonstrate the following:

1. **Compliance with the standards of [Section 5.4](#) Design and Site Plan Review:**
The Planning Board shall approve an application for Design and Site Plan Review upon verifying that the submitted plan conforms to the provisions of this Ordinance and demonstrates consistency with the following:
 - a. The adopted comprehensive Master Plan of the City of Somerville, existing policy plans and standards established by the City, or to other plans deemed to be appropriate by the Planning Board;
 - b. The purpose of this Ordinance in general;
 - c. The purpose of the district where the property is located; and
 - d. Considerations indicated elsewhere in this Ordinance for the required Design and Site Plan Review.
2. **Consistency with the approved Coordinated Development Special Permit and any previously approved Special Permits, as applicable;**

A complete review of the Applications consistency with the approved CDSP will be provided in a forthcoming Appendix.

3. **Consistency with the 2012 Union Square Revitalization Plan and the 2016 Union Square Neighborhood Plan, as amended; and**
4. **Conformance with all applicable provisions of this Ordinance.**

A complete review of the Applications conformance with all applicable section of the Somerville Zoning Ordinance will be provided in a forthcoming Appendix.

IV. RECOMMENDATION

No recommendation at this time.