



February 24, 2021

Chair Duane Cleak
Woburn Conservation Commission
10 Common Street
Woburn, MA 01801

RE: Montvale Land LLC NOI DEP# 348-814,
Pulte Homes of NE, LLC NOI DEP# 348-819,
LCS Woburn LLC NOI DEP# 348-826

Dear Chair Cleak and Commission members,

The Mystic River Watershed Association (MyRWA) is pleased to submit comments on The Vale, one of the largest developments in the upper Mystic River watershed. MyRWA was founded in 1972 to protect and restore the Mystic River, its tributaries and watershed lands for the benefit of present and future generations and to celebrate the value, importance, and great beauty of these natural resources. It is critically important that new developments and redevelopments such as The Vale fully realize the opportunities to improve water quality in the Mystic River Watershed and mitigate the effects of climate change on our environment and population.

Full development of The Vale will create multiple benefits to the community by remediating and redeveloping an obsolete industrial site. However, we feel that in order to fully realize the benefits to residents, employees, and the surrounding environment, the project needs to be a model of mixed-use development with functional and beautiful green infrastructure that improves stormwater management and prevents harm to its residents and property from climate change-enhanced heat and flooding. In addition, we feel that the City of Woburn has an opportunity to proactively leverage existing resources to incorporate cost-effective natural stormwater best management practices (BMPs) to reduce nutrient loading from the development, providing credits towards future MS4 permit requirements that emerge from the guidance of the Mystic River Phosphorus Alternative TMDL. With review of The Vale Master Plan, Highland at Vale, and Delaney we ask the Conservation Commission to set a high standard for the developers, which will benefit the City of Woburn and the residents and users of The Vale. Our recommendations for doing so are outlined below.

Recommendation 1: Require aggressive stormwater BMP implementation to share future regulatory compliance costs with the developer now

The US-EPA and Mass DEP have jointly published this year [an Alternative TMDL report on nutrient pollution](#) in the Mystic River Watershed. As you know, phosphorus pollution is the cause of degradation of habitat quality for river herring and other species, and it reduces the value of water bodies for people by fuelling cyanobacteria blooms and invasive plants.

The EPA Alternative TMDL report calls for a more than 60% reduction in phosphorus inputs into Mystic River watershed lakes, rivers, and streams, including the Aberjona River. This is an ambitious goal, over and above current regulatory benchmarks. EPA permit writers have said publicly that the report will likely influence the next MS4 Stormwater Permit, which will likely impose on municipalities a substantial additional obligation to reduce phosphorus inputs. The costs to reduce stormwater pollution will be significant. The cost of construction for treating an acre of impervious cover is tens of thousands of dollars with equivalent maintenance costs over the next decade. With new permit requirements,



municipalities would be obliged to document BMPs that treat stormwater in order to achieve credits for reducing phosphorus inputs.

We urge the Conservation Commission to require the developer to install more aggressive stormwater controls and incorporate more green infrastructure than included in their current plans. Given the size of The Vale, the City has a unique opportunity right now to share the costs with the developers that will likely be required in the future and mitigate environmental impacts of the development. **We believe that the large-scale development projects at the Vale are a perfect—and huge—opportunity for the City to insist that developers share some of the costs of nutrient reductions over the next decade by installing aggressive measures today.** No other opportunity of this scale is likely to emerge in the next few years in Woburn.

Recommendation 2: Require on-site or off-site mitigation in anticipation of future stormwater ordinance requirements

In addition to the future TMDL requirements described above, the City will have to change its ordinances by June 30, 2021, according to the MS4 permit, such that they require for **all new development sites to:**

- Retain the volume of runoff equivalent to, or greater than, one inch multiplied by the total post-construction impervious surface area on the site AND/OR
- Remove 90% of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 60% of the average annual load of Total Phosphorus generated from the total post-construction impervious surface area on the site.

As a result, we also request the Conservation Commission require on-site or off-site mitigation equivalent to infiltrating the first inch of stormwater from the post-construction area across the entire developed site to anticipate future ordinance requirements in June of 2021. Again, this one-inch standard will become a requirement in just five months, when the City of Woburn will have to make sure that the one-inch rule applies to all new development sites in a City stormwater ordinance, according to the current MS4 permit. We believe this standard should be applied now as well as a condition of development, certainly at this scale.

Recommendation 3: Incorporate additional green infrastructure into the existing design

The Massachusetts Stormwater Handbook Volume 1 states, “When proposing a development or redevelopment project subject to the Stormwater Management Standards, **proponents shall consider environmentally sensitive site design that incorporates low impact development techniques in addition to stormwater best management practices**”¹. Unfortunately, the proposed design of the stormwater management systems for Highland at Vale and Delaney do not meet this requirement and instead rely mostly on small-scale subsurface infiltration, proprietary media filters, and other typical stormwater BMPs. The project includes very minimal green infrastructure (GI) or Low Impact Development (LID) principles to reduce impervious areas, improve water quality, and treat stormwater runoff at its source. The developers claim that bedrock prevents installation of green infrastructure. While there may be bedrock that would limit GI/LID, we do not feel that this fully precludes the

¹ <https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards#-stormwater-handbook-volume-1>

implementation of GI/LID since the developers also include extensive landscaping plans (all which require some amount of infiltration) and have included a number of rooftop draining drywells. If landscaping and shallow drywells can be implemented, then GI/LID can also be implemented (e.g., bioretention or rain garden with 8-12" drainage layer, 12-18" media, and 4-6" vegetative support material and vegetation). One disadvantage of the proposed drywells and proprietary media filters is that they will clog quickly (unless robust pretreatment and aggressive O&M is provided) and therefore become useless in a number of years. In comparison, GI/LID is relatively maintenance-free except for typical landscaping requirements. **We ask that the Commission require the developer to incorporate more GI throughout the developments to meet the intent of MassDEP's stormwater management standards and reduce operations and maintenance concerns, promote habitat, enhance aesthetics, and provide greater total phosphorus load reduction credit to Woburn (if nutrient sensitive media is used).**

Recommendation 4: Confirm future phasing of the development complies with the applicable stormwater requirements

With such a large development, there will be phasing in of construction, perhaps by years. We ask that the Commission require each individual development to comply with stormwater management standards independently so there will be no flooding concerns due to phasing of construction. It is imperative that each phase of the construction project meets all relevant standards individually, not by deferring compliance to future work.

The "No-Rise" analysis is under peer review. We ask that the Commission require the applicants to comply with the assessment provided in the peer review as part of the "no-rise" certificate that will be provided to the Woburn, Stoneham, and Winchester.

Site plans for the Medical Office Building will be submitted to the Conservation Commission as part of a separate Notice of Intent. It is not clear that the proposed design is consistent with the HydroCAD model. In addition to the Medical Office Building, the Highland at Vale and the Delaney at Vale developments have not been thoroughly peer reviewed as noted in Horsley Witten Group's recent January 2021 Second Peer Review (Section 14.g – i).

We ask that the Commission require all Applicants to confirm that the proposed stormwater management systems are/will be consistent with the master stormwater plan. We also encourage the commission to require additional peer reviews of the revised plans and stormwater reports associated with these development projects.

Recommendation 5: Demonstrate slope stability and suitability of erosion controls along the hillside of the Delaney at Vale detention basin.

South of the Delaney at Vale site on the Woburn/Winchester border, a detention basin is proposed, which discharges down a steep slope within the 24-foot wetland buffer of an intermittent stream. The design plan Sheet C-501 shows two outfalls (FES-300 and the 6" storm drain discharge from the focal point underdrain) along with an area of "overland relief" which we presume as a low point along the basin rim where overflow can occur during larger storm events. Under existing conditions, runoff would be expected to naturally sheet flow down this hillside from the upstream drainage area, thus distributing the flow and its energy, encouraging infiltration, and minimizing erosion and downstream flooding concerns. Due to the installation of the detention basin, this previously low-energy flow will now be consolidated through the few discharge points mentioned previously. As a result, when

comparing pre- and post- conditions, it may be true that the appropriate calculations have been provided to demonstrate that the proposed system will generate the same or lower peak flow rate compared to existing conditions; however, that does not mean that the velocities will be the same. Due to the consolidation of flow discharging through a smaller surface area (i.e., smaller pipes compared to larger overland flow), the velocities will be greatly increased during large storm events when the basin overflows/discharges, and therefore increased erosion and downstream flooding concerns would be present at these locations (this statement mostly applies to FES-300 and the “overland relief” as the 6” storm drain underdrain discharge will likely be more controlled). Design Plans Section C-601 Section 4 outlines the design of multiple flared end sections to minimize erosion downstream of outfall discharges, but it’s unclear how the FES-300 apron/flared end has been sized as this ID is not present in the sizing table. In addition, the site plans do not show any erosion control or riprap downstream of the “overland relief” portion of the basin, which would suggest that during larger storm events, the water overtopping the basin at this location would contribute to increased erosion as well.

It is our recommendation that the designers fully evaluate the erosive potential of these consolidated discharges during multiple storm frequencies to demonstrate that the downstream hillside will remain stable and therefore will minimize erosion and excessive velocities/volumes and flooding concerns downstream. We have not performed the calculations necessary to make any definitive conclusions, but it does seem that additional erosion control measures (at a minimum downstream of the “overland relief” section) will be necessary to satisfy these concerns.

Recommendation 6: Provide documentation that the proposed development is located with appropriate, research supported, buffer zones

Significant grade changes are proposed within the Buffer Zones, and that the proposed slopes will be steep in numerous locations, including immediately up gradient from some of the wetlands. Slope is a significant factor in establishing effective Buffer Zone widths between development and wetland resource areas. It is not clear how grading and construction of steep slopes immediately adjacent to the wetland restoration/replication area, the Aberjona River, and Sweetwater Brook ensures that the down gradient wetland resource areas will not be impacted and how such grading activities contribute to the Interests of the Wetlands Protection Act (WPA). This should be clarified. **We ask that the developer provide the Commission documentation that the proposed development is located such that effective Buffer Zone widths have been established, and that the buffer zone widths are consistent with widths supported by research, and that the proposed slopes have been factored in to determining Buffer Zone widths.** The MACC Wetlands Buffer Zone Guidebook (2019) provides references in this regard.

Recommendation 7: Prioritize native plants and require mitigation due to deforestation

MyRWA is very concerned about the removal, essentially clear-cutting, of over 28 acres of woodland on the site. The removal of such a large parcel of woodland has profound negative impacts on wildlife habitat and causes significant loss of carbon sequestration benefits that trees provide. In addition, the loss of natural cooling that the trees provide will increase the summer temperature of the area exacerbated by the effect of climate change. The trees that will be planted as part of the plans in no way replace the value of what will be lost. **We ask that the developers revisit the planting plans to prioritize native plants and to minimize areas of water-intensive turf. In addition, we ask that the Commission require the developers to mitigate the environmental impact of the deforestation by requiring Pulte Homes and LCS Development to install solar panels on all buildings and require energy efficient designs, including LEED certifiable or Passive House for residential development.**



We appreciate you reviewing our recommendations as these issues are important to the mission of MyRWA and we believe implementation of our recommendations will provide significant benefit to the public, the environment, and the wildlife in the vicinity of the Vale. We believe these proactive steps will not only reduce long-term expenditures for the City of Woburn, but will also set a precedent for how mixed-use developments can support people's needs, while improving water quality, anticipating climate change impacts, and reducing flooding to holistically support the long-term success of such developments.

Sincerely yours,

A handwritten signature in blue ink that reads "Patrick Herron". The signature is written in a cursive style.

Patrick Herron
Executive Director