Members of the City of Alexandria Planning Commission

Nathan Macek, Chair
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Melinda Lyle, Commissioner
Stephen Koenig, Commissioner
John Goebel, Commissioner

Carolyn N. Lyle
1636 Preston Road
Alexandria, Va. 22302

July 29, 2020

Re: North Potomac Yard Environmental Sustainability Master Plan

Dear Members of the Planning Commission,

I am writing to you regarding the concerns of **Alexandrians for the Environmental Action Plan** a group of Alexandria citizens who support the goals of the Environmental Action Plan. We are concerned about the North Potomac Yard (NPY) Environmental Sustainability Plan (ESMP) in that the current ESMP falls far short of helping to accomplish the goals for greenhouse gas reductions set forth in City's Environmental Action Plan 2040 (EAP).

As the Coordinator of the Alexandrians for the Environmental Action Plan organization, I represent our groups interest in the City's Climate Change goal set forth in the EAP to reduce greenhouse gas emissions to 50% of the level in 2005. This goal is consistent with the City Council's October 2019 declaration of a climate emergency and the Mayor's commitment as a member of the Mayors National Climate Action Agenda and the U.S. Conference of Mayors Climate Protection Agreement as well as Alexandria's commitment to the Metropolitan Washington Council of Governments.

My review of the ESMP focused on the plans and strategies to reduce carbon emissions and to ensure that NPY will not add carbon dioxide, methane and other greenhouse gas emissions that contribute to climate change. It is worth noting that it is my understanding that a draft of this plan was sent to members of the Environmental Policy Commission (EPC) who were asked to give comments about the ESMP by June 29. I was able to review the ESMP through an EPC member. I see that the plan is now on the webpage for the North Potomac Yard Implementation and Virginia Tech project, however I did not see any notice to the public that this plan was available for public review.

The carbon targets for advancement of sustainability on page 5 of the ESMP show small percentages of operational, embodied and renewable carbon categories for short, mid and long

terms (10 -30%). There is no apparent plan for employing the vast and fast-growing menu of renewable energy opportunities nor is there evidence of a plan to realize the varied opportunities that exist for annual percentages of deep annual energy savings. Referencing the DMV net Zero Coalition and the New Buildings Institute will assist in understanding how this field has advanced since 2017.

It is very disappointing that the NPY developers set such low carbon targets especially since the Alexandria Environmental Action Plan commits the City to eventual 80-100% reduction of greenhouse gas emissions by 2050.

The ESMP graph on page 4 indicates that the overall NPY project will meander it's way to sustainable performance during the next 20 years, with several, unidentified strategies that will not advance performance over this time frame. The ESMP narrative states that North Potomac Yard will *'also aim to reduce per capita CO2 emissions by using available carbon footprint calculators that focus on primary sources of CO2 emissions such as buildings, solid waste, and transportation. The calculators will be run for each building in the design phase for comparative data use. Multifamily residential energy usage will be tracked after occupancy through mechanisms such as ENERGY STAR Benchmarking'.* This effort to continually track and measure per capital CO 2 emissions will result in necessary and costly future retrofit adjustments. This is an unnecessarily burdensome when technologies exist to design buildings with energy sources that will offset annual energy usage. As a matter of fact zero carbon buildings and net zero buildings are getting built in our area now, specifically Arlington and the district. Offsite renewables are presently practical as in the case of Arlington and Amazon contracts.

Additionally, in the Appendix: Phase 1 Strategies for Carbon, the strategies for Block 4 and Block 7E are all labeled '*needs further discussion'* and the only building that has renewable strategies of solar orientation are Block 7W and Block 14. Block 7W is the only one using the carbon reduction strategy of integrated photovoltaic. Of the 41 strategies only 12 are included in the district wide description for carbon, 7 strategies '*need further discussion* 'and 20, or the majority are not under consideration at all. This does not indicate a strong commitment to carbon reduction strategy usage.

I ask that you review the NPY ESMP in light of your action on June 6, 2017 wherein you unanimously stated that '*North Potomac Yard should strive to achieve carbon neutrality by 2040 and strive to achieve carbon neutral buildings by 2030'*.

Please ensure that the NPY ESMP meets the standards for carbon neutrality upon building completions instead of continual evaluation of the building carbon footprint over the life of the building (page 4 ESMP) and please require the applicants for this development to *' encourage onsite generation and storage of renewable electricity from solar photovoltaic(PV) and other available renewable sources and explore the development of district energy systems from heating and cooling that take advantage of local renewable energy '*as reported in Planning Commission action on June 6, 2017.

We are counting on you to honor the commitments our elected official made to combat climate change in Alexandria with updated technologies that are effective in carbon neutrality and to protect our environment for current and future citizens. Please take be forward thinking for all of us and lead us into a carbon free future.

Thank you for your public service.

Respectfully,

Carolyn Lyle
Coordinator Alexandrians for the EAP
Mount Vernon Group, VA Sierra Club

cc; Mark Jinks, City Manager
Justin Wilson, Mayor
Elizabeth Bennett – Parker, Vice Mayor
Redella Pepper, Councilperson
Karl Moritz, Director Department of Planning and Zoning

ALEXANDRIA
Environmental Policy Commission

August 31, 2020

Nathan Macek,
Chair
Alexandria Planning Commission
301 King Street
Alexandria, Virginia

Re: Environmental Policy Commission (EPC) comments on the draft North Potomac Yard Environmental Sustainability Master Plan

Dear Mr. Macek:

On behalf of the EPC, I am writing to share our comments on the draft North Potomac Yard (NPY) Environmental Sustainability Master Plan (ESMP) which was shared with the EPC during our June 15, 2020 meeting and discussed again on August 17th. The EPC commends Sustainable Building Partners, JBG Smith and Virginia Tech for their description of the possible plans described in the ESMP. They covered a broad range of topics addressing the many issues raised by the development of NPY. We greatly appreciate the discussions and willingness of the NPY applicant to answer EPC member questions and make changes to their draft following our virtual meetings.

The City of Alexandria declared a Climate Emergency on October 22, 2019, and issued an Environmental Action Plan (EAP 2040) in July, 2019. The City also issued a Green Building Policy last year. One of the most important targets of the EAP was "reduce community-wide greenhouse gas (GHG) emissions by 50% by FY2030 and 80-100% by FY2050."[1]

NPY Small Area Plan Carbon Neutrality Goal

Presumably in support the EAP's targets, the NPY Small Area Plan (SAP) set a clear goal to "strive to achieve carbon neutrality by 2040, and to strive to achieve carbon neutral buildings by 2030." It is unclear how this ESMP does that.

We acknowledge the novel, first-of-its-kind nature of this ESMP and we believe that it should set a bar to be exceeded by each ESMP to follow. In that context, we firmly believe that this Plan should and must be more specific. We are disappointed that the ESMP does not describe a timeline in aspirational terms or otherwise on how the NPY can achieve carbon neutral buildings by 2030 or carbon neutrality overall by 2040. There is only the simple statement on page 40 that states: "The project will strive to achieve carbon neutrality by 2040 and strive to achieve carbon neutral buildings by 2030." Instead, the EPC would like to see clear metrics on design elements and actions detailing exactly how these goals will be achieved within the DSUP.

NPY CDD Conditions for Reducing Carbon Emissions and Energy Use

Further, one of the conditions of Coordinated Development District (CDD) for NPY is "identify

[1] The EPC largely focused on the reductions to GHG emissions due to its critical nature, but that is not meant to be interpreted that other areas are not important as well.

methods to reduce carbon emissions." Regrettably, the ESMP appears to reflect this condition by simply listing a series of possible ways to reduce carbon without committing to any. We believe the applicant has missed a sizable opportunity to create a connected community of grid-interactive efficient buildings. When it comes to energy for the site, the NPY plan does not seem to fully embrace the "district" potential of the development and instead focuses on each building individually. The EPC recommends that the applicant include in the design (rather than list as possible strategies): the use of Power Purchase Agreements for renewable energy,[2] battery storage, more extensive use of rooftop solar, and net-zero ready buildings for the whole district.[3]

Another CDD condition is "identify how per capita energy usage shall be reduced." Although the word "shall" is used in the CDD, no measurable specifics with a timeline are referenced detailing how this will be accomplished in the ESMP. Instead, it states operational energy use reduction targets relative to ASHRAE baseline, and energy use is then "tracked", "explained" or "defined" without any per capita metric stated.[4] Unless specifics are required demonstrating exactly how and by how much energy usage will be reduced, site-wide emissions will increase, not decrease due to overall change in use of this land.

In Appendix A, the ESMP provides a list of strategies to make the buildings more energy efficient, however most are only listed as "possible" rather than "included in the design." The EPC strongly recommends that many of the "possibilities" be included as requirements due to the fact that retrofitting is so much more difficult than requiring energy efficient items in the design at the outset. These should include using heat pumps for energy and hot water, radiant floor heating, and other items found in newer ASHRAE[5] 90.1 standards. This would enable the development to be better prepared for state mandated increasing energy efficiency standards required by the recently enacted Virginia Clean Economy Act (VCEA) that ramps up to 5% per year in 2025.[6] While this standard only applies to electric utilities, it is zero-sum - so users will pay consistently higher rates or reduce their own usage.

Role of Planned Zero-Carbon Analysis in Shaping Design

The EPC enthusiastically supports the Plan (on page 47) to "Develop a zero-carbon analysis of the entire district and representative buildings to evaluate the project for electrification, energy cost savings, renewable power, and any limitations (technology, cost, etc.)". However, the NPY team did not indicate this was a driver for the overall project. The EPC believes this must be the overall driver of any Environmental Sustainability Master Plan. Performing this analysis and then implementing technologies to reduce fossil fuels while increasing renewables and energy efficiency to reach net zero carbon could promote this project as a showcase in the region for how this developer is committed to addressing the climate crisis and inform future City development plans and regulations. The Development Special Use Permit (DSUP) reviews should be informed by these analyses to determine if the proposed development phases with regard to the SAP carbon neutrality goals and CDD conditions for reducing carbon emissions and energy use will be met.

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[2] Power Purchase Agreements are now widely used and should not be considered as "fringe" technology as depicted in Chapter IV-3 on page 53.

[3] None of these technologies should be listed as "fringe" since all employ readily available proven technologies. Perhaps the developers should better explain why they define certain technologies as fringe despite their proven usage.

[4] See pages 4-6 and Section IV-2 Operational Carbon.

[5] ASHRAE 90.1 standards is the commercial energy standard for all buildings except low-rise. ASHRAE standards are adopted by governments as code requirements sometimes with amendments or exceptions. See https://www.ashrae.org/technical-resources/bookstore/standard-90-1

[6] https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP1193 see page 30 4.B.2.d

Other Specific Concerns of the EPC

While this ESMP may not be the document to outline a commitment by the applicant to detail how they will meet the specifics of the EAP 2040 or Green Building Policy, we believe it should reflect how they will meet or potentially exceed the City's targets/goals. Below are additional very specific concerns raised by EPC members:

On page 53, the ESMP Carbon Offsets target is shown to offset 30% of emissions with RECs[7], PPAs, or carbon offsets for DSUPs in years 0-5 years from 2020, but it is unclear how the proposed buildings cut GHG emissions another 70% over the next 5 years to meet the carbon neutral building target by 2030 referenced in the SAP and on page 1 of the ESMP. It should be noted that REC's and offsets do not actually reduce carbon, they just shift the responsibility to someone else. Therefore, we would prefer to see a stronger position on actually reducing carbon production on the overall site.

The long-term value of net-zero buildings is evident and aligns with the EAP goals, yet the topic is not included even as a long-term strategic item in the ESMP. There is further opportunity to develop the NPY as a "zero energy district" to support carbon reductions, energy independence, resilience, and risk mitigation overall. We'd like to see options included on zero carbon buildings as well as zero energy district under long-term strategies for NPY.

The proposed buildings are planned to be LEED Silver office buildings and LEED Certified residential buildings (p.7). The 2019 Green Building Policy sets a minimum level of certification for private buildings at LEED Silver. Given the climate emergency, the EPC believes the applicant should describe methods to achieve higher level of certification or other specifics to achieve the carbon neutral buildings by 2030 target.

Although all of the buildings will likely be operating in 2050 when the City and Commonwealth are targeting net zero carbon in 2050 and the SAP in 2040, there does not appear to be a plan for how to get to zero carbon by 2040 or 2050 for all of the buildings.

The overall project should consider expanding the use of geothermal energy production beyond a demonstration project on the University campus.

Consistency across the document appears to be lacking at times. Some sections contain aspirational targets/goals following action verbs such as "strive, explore, pursue or encourage," while other sections include very specific, measureable requirements using "exceed, use, eliminate, meet or exceed." We believe this leads to confusion on the reader's part as to whether this is only an aspirational document with no commitment to future specifics or one which leads to specific, measurable requirements for each of the aspirational goals in the next planning document. Also, the ESMP targets do not seem to be harmonized across topics and across the life cycle of the proposed buildings.

The mid-term operational carbon (IV-2) section proposes switching to electric heat and heat pump hot water after a certain degree of decarbonization occurs in the electricity supply – 450 lbs/MWh. However, there is no discussion about when this measure is anticipated, or if there are anticipated costly retrofits to achieve this switch in the future. We suggest committing to an all-electric building except for possible retail restaurant usage of gas rather than rely on some future presently unknowable date.

[7] RECs are Renewable Energy Certificates and PPAs are Power Purchase Agreements

The proposed site plan would better serve the goals of the EAP, SAP and CDD if it included the capability of the various buildings to provide micro-grid capabilities to provide support and load balancing to the utility system.

As Virginia moves toward higher energy efficiency standards under the new VCEA, developers should be looking toward how to employ increasing levels of energy efficiency. Instead, this ESMP sets a low bar only using the least efficiency energy standard (ASHRAE 2013) rather than newer standards such as 2016 or 2019. While LEED Silver certified buildings often achieve levels of energy efficiency beyond code, this is not guaranteed.

We hope this summary of the EPC's comments will help the Planning Commission in its review of the ESMP and its deliberations concerning the permits for the NPY project. We urge the Planning Commission to make some recommendations for addressing our concerns in the DSUP before it goes to Council. We believe strengthening the carbon reducing measures in the DSUP is imperative in order to honor the City's commitment to address the climate emergency it declared last year.

The EPC appreciates the consideration of our input and looks forward to further collaborating with the Planning Commission to achieve the vision of Eco-City Alexandria.

Thank you for your consideration.

Kathie Hoekstra
Chair, Environmental Policy Commission

Cc: All Planning Commissioners
Deputy Director, Jeffrey Farmer
Planner, Richard Lawrence