

MEMORANDUM

DATE: OCTOBER 6, 2020

TO: CHAIRMAN AND MEMBERS OF THE PLANNING COMMISSION

FROM: KARL MORITZ, DIRECTOR, DEPARTMENT OF PLANNING & ZONING

SUBJECT: INFORMATION FOR DOCKET ITEM #4 – NORTH POTOMAC YARD  
ENVIRONMENTAL SUSTAINABILITY MASTER PLAN

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This memorandum contains definition of terms discussed in the revised North Potomac Yard Environmental Sustainability Master Plan (ESMP) or staff report material for Docket Item #4. Clarification of these definitions were requested by a Planning Commissioner and are provided for information purposes in consideration of the aforementioned item.

- **Net Zero** – The concept/idea where for an energy efficient building, campus, portfolio, or community, on a source energy basis, the actual energy used on site is less than or equal to the on-site renewable energy surplus exported offsite.
  - Practically speaking, energy efficiency in the net zero context is intended to mean ultra-efficient, high-performing, or deep efficiency.
  - Net Zero is not to be confused or used interchangeably with a Renewable Energy Credit (REC) Net Zero. Renewable Energy Credit (REC) Net Zero is the concept/idea where for an energy efficient building, campus, portfolio, or community, on a source energy basis, the actual delivered energy is less than or equal to the on-site renewable exported energy plus any acquired Renewable Energy Certificates (RECs) or renewable energy Purchase Power Agreements (PPAs).
- **Net Zero Ready (Building)** – An energy efficient building where, on a source energy basis, the actual energy delivered is to be less than or equal to future on-site renewable exported energy upon an on-site renewable system installation and operation.
- **Solar Ready (Building)** – A solar ready building is a building engineered and designed for solar installation, even if the solar installation does not happen at the time of construction. Solar Ready often implies designing and constructing a building in a way that facilitates and optimizes the future installation of a rooftop solar photovoltaic (PV) system.
  - A net zero ready building implies, but isn't necessarily required to be, a solar ready building. However, a solar ready building does not imply a net zero ready building.
- **Zero Energy (Building)** – synonymous with Net Zero Building.

- **Zero Carbon (Building)** – Generally considered to mean no carbon emissions resulting from construction and operation of a building. A zero-carbon building is a net zero or zero energy building that also mitigates the embodied carbon emissions from the building's construction materials. Embodied carbon may include, but is not limited to, the generation, transmission and raw material extraction and production of materials.
- **Carbon Neutral (Building)** – Generally considered to mean no carbon emissions resulting from construction and operation of a building, but carbon emissions may be offset through an off-site renewable energy source through the use of renewable energy certificates or through carbon offset accounting or a carbon removal process. A carbon neutral building may be a zero-carbon building, but a zero-carbon building is not necessarily a carbon neutral building. Moreover, a carbon neutral building may be a net zero or zero energy building or may be renewable energy credit net zero.

Carolyn N. Lyle  
Coordinator  
Alexandrians for the Environmental Action Plan  
1636 Preston Road  
Alexandria, Virginia

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

Re: North Potomac Yard Environmental Sustainability Master Plan

September 30, 2020

Dear Mr. Macek,

I am writing as the representative of a group of diverse Alexandria citizens, Alexandrians for the Environmental Action Plan(EAP) who share concerns that many proposed development projects in our city do not adequately incorporate design elements, energy efficiency measures, and renewable energy features that will move our City towards meeting its climate goals.

However, we are encouraged by the City Council's declaration of a climate emergency, the carbon reduction goals of the Environmental Action Plan, and approval of the new Douglas MacArthur Elementary School as a net-zero and LEED Gold facility. We look to our city government and the respective boards and commissions to ensure that Alexandria's growth will be planned and designed so to contribute to the goals of reducing greenhouse gas emissions by 50% by 2030 and up to 100% by 2050.

We have the support and involvement of the Potomac River Group of the Virginia Chapter of the Sierra Club.

Our immediate concern is that the North Potomac Yard Phase 1 Environmental Sustainability Master Plan (NPY ESMP) does not adequately address the on-going negative effects of climate change. But we are pleased that the city asked the developers to devise the first of such a plan. Our members have followed the development of the North Potomac Yard ESMP and other required documents such as the Small Area Plan (SAP) and the Environmental Sustainability and Performance Recommendations, and we are impressed with the amount of research and effort invested in creating these plans. However, we would like to see that the city uses the Small Area Plan process and resulting Coordinated Development District (CDD) zoning requirements to require that future applicants of large redevelopment projects prepare and submit environmental sustainability master plans.

As you review the NPY ESMP we request that you consider our concerns with the North Potomac Yard Environmental Sustainability Plan:

- a. **The ESMP does not clearly show when and how strategies will contribute to carbon neutrality.** The SAP set a clear goal to strive to achieve carbon neutrality by 2040 and strive to achieve carbon neutral buildings by 2030. Also, the Coordinated Development District (CDD) for NPY calls for the identification of methods to reduce carbon emissions. The ESMP appendix lists 42 possible strategies for carbon but only 12 are included in the district-wide application and the only building that will use integrated photovoltaic is the VA Tech building. It is unclear if, how and when these strategies will achieve the desired paths to carbon neutrality and why certain strategies such as PV and rooftop solar are not considered.

We conclude that a decision about the quality of the ESMP, which will drive the DSUP and other permits, cannot be rendered until the document can show how and when the various chosen carbon strategies will contribute to carbon neutrality.

- b. **DSUPs should be informed by the Zero-Carbon Analysis.** We support the intention expressed on page 47 of the ESMP 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 other limitations. Since the SAP and the CDD stipulate conditions of carbon reduction and energy savings it appears that this analysis should occur at the very beginning of the NPY phases so that the designers and developers can research and apply energy technologies that do not emit carbon dioxide, methane and other greenhouse gases that cause and contribute to global warming and climate change. The DSUPs should be informed by this analysis to ensure that the development proposals honor the SAP and CDD conditions pertaining to carbon emissions and energy use.

Please consider requiring that this analysis be conducted in a timely fashion so that it is the overall driver of each phase of the NPY.

In summary, the ESMP offers a great opportunity to showcase Alexandria as a city that can indeed balance growth with the future health and safe livability of our city, metropolitan region, and planet. Let's make this first ESMP a model for how to achieve carbon neutrality now and safeguard our citizens from the devastating effects of climate change.

Please request that:

- a) The ESMP be amended to show how and when each possible strategy for carbon will contribute to greenhouse gas emissions; and
- b) Require the zero-carbon analysis of the entire district (or perhaps the phase 1 for now) be conducted up front to inform the respective DSUPs.

Thank you for your attention to this very important matter.

Sincerely,  
Carolyn N. Lyle  
Coordinator, Alex4EAP

CC: Planning Commission Members  
Director, Department of Planning and Zoning  
Planner, Richard Lawrence  
Planner, Sara Brandt-Vorel  
Justin Wilson, Mayor  
Mark Jinks, City Manager



## Proposed Remarks to the Planning Commission on October 6, 2020

First, I want to thank the Planning Commission members for reviewing the EPC's earlier letter on the NPY ESMP.

Today I want to urge the Planning Commission to add a friendly amendment to the DSUP to help the City and applicant move forward and better understand how to make this development even better than currently proposed.

As we mentioned in our earlier letter, the City of Alexandria declared a Climate Emergency on October 22, 2019, and issued an Environmental Action Plan (EAP 2040) and Green Building Policy last year as well. One of the most critical targets of the EAP was "reduce community-wide greenhouse gas (GHG) emissions by 50% by FY2030 and 80-100% by FY2050."<sup>1</sup>

As outlined on page 47 of the ESMP, the applicant stated that during the short term (the next 5 years) they would "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.)". But there is no mention of what will become of this analysis.

As we indicated earlier, the EPC members are excited about the applicant developing this zero carbon analysis and its district approach. The International Panel on Climate Change (IPCC) reports have shown that the use of the most basic steps such as high-performance envelope and highly efficient equipment can save 35-50% in energy costs compared to standard practice, while more advanced actions can save 50-80% on energy costs.<sup>2</sup> These kinds of savings could make this development more attractive to commercial and residential renters alike as well as help the City meet its EAP targets.

On September 22, the City committed to updating its 2011 Energy and Climate Change Task Force report and determining what steps will be needed to implement the EAP targets reducing GHG emissions, increasing energy efficiency and reducing miles per capita for transportation.

We believe the zero-carbon analysis developed by the applicant referenced on page 47 would be extremely valuable to the City's Task Force as they consider the kinds of actions and the priority of actions which would address these targets.

Thus by making such a small change and completing this analysis as soon as possible and then sharing it with the City would not only help the City achieve its targets and enhance the energy efficiency of the proposed buildings, but would also help the applicant when making future choices about sustainability of their buildings by reducing carbon.

Therefore, we are urging that applicant commit to sharing its zero-carbon analysis with the EPC, PC and Council and completing it within the next 12 months.

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<sup>1</sup> 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.

<sup>2</sup> <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg3-chapter6-1.pdf>

Thank you for your consideration.

Kathie Hoekstra  
Chair, Environmental Policy Commission