CLIMATE CHANGE, ENERGY AND ENVIRONMENT COMMISSION

c/o Department of Environmental Services
2100 Clarendon Blvd., Suite 705
Arlington, VA 22201

January 24, 2022

Honorable Katie Cristol Chair
Arlington County Board
2100 Clarendon Blvd., Suite 300
Arlington, VA 22201

Re: Marbella Apartments Site Plan Review Committee

Dear Chair Cristol,

The Climate Change, Energy and Environment Commission (C2E2) has reviewed the application for the Marbella Apartments Project and recommends that the County Board seek clarification of the sustainability elements before approving this project to ensure consistency with Arlington's Community Energy Plan (CEP) and other sustainability goals. The project design includes numerous laudable sustainability elements, for example by committing to Earthcraft Gold, installing ENERGY STAR and WaterSense appliances and fixtures, including biophilic elements in the landscape design, and incorporating PV panels; however, the applicant has not provided a zero-carbon assessment or any energy modeling to allow us to adequately assess this project. **Overall, we score this project's contribution to meeting Arlington County's CEP targets at 56%, indicating the project falls below what is required to achieve the County's carbon neutrality and other sustainability goals. Moreover, as stated below, this score also reflects a lack of information supplied by the Applicant in addition to information definitively confirming that they have not met desired metrics.**

The success of Arlington's CEP depends, in large measure, on the County's resolve in ensuring that all buildings are at least zero-carbon ready. In practical terms that means three things for every new and renovated building: Make it highly efficient; make it electric; and make the electricity renewable. In this case, Marbella's application may fall short in two of these essential categories, as follows:

Energy Efficiency:
Making a building highly energy efficient is the first step toward reducing the building's energy use and therefore its carbon emissions. While EarthCraft Gold backed up by an ENERGY STAR performance verification suggests that energy efficiency gains would be respectable, the applicant materials are silent on the expected energy performance. Energy efficiency gains should achieve at least 20 percent performance improvement over the ASHRAE baseline and ideally 25 percent or other comparable energy utilization performance rating.

Electrification of Systems:
All-electric buildings are essential for achieving the County's climate goal of carbon neutrality. The electric grid that serves Arlington is becoming cleaner each year, so buildings that are all-electric will

automatically result in a steady reduction in greenhouse gas as the electric grid shifts to renewable energy sources. As soon as the County achieves its 100 percent renewable electricity goal, all electrified buildings in Arlington will be operationally carbon neutral, while buildings still using fossil fuels will not. All-electric buildings also will improve public health and safety by eliminating a major source of indoor air pollution and risk of fire and explosion.[1]

Continuing to plan for the use of natural gas-powered HVAC and hot water systems risks "baking in" an infrastructure dependent on fossil fuels for decades to come. The Steven Winter Associates study on building electrification[2] concluded that electric technologies for HVAC systems are mature and, with careful design, constraints related to building height can be addressed. Centralized hot water systems for large residential buildings are still maturing but pilots currently underway should offer a pathway to electrifying these systems.

Currently, the Applicant materials submitted reference a centralized gas-powered water heater system and while heat pumps will be used as a key component of the HVAC system, we do not have enough information to determine whether natural gas is planned for some HVAC elements or other uses. **We recommend that the County ask Marbella to explore making the buildings all-electric from the onset or at a minimum, building in the infrastructure to facilitate a future transition to electric.** A zero-carbon assessment will help identify opportunities to reduce the building's carbon emissions and move to full carbon neutrality.

Renewable Electricity (Energy):
The Green Building Incentive Policy update requires on-site and off-site solar or the option to contribute to the Green Building Fund. We applaud the Applicant's commitment to including solar PVs on-site.

EV Charging Infrastructure
The Applicant has indicated that some parking spaces will have EV chargers but has provided no details of the number of proposed spaces. Current Green Building Incentive Policy standards require 15 percent of all spaces to be EV ready, as a minimum, and 4 percent to have EV charging equipment. C2E2 recommends that the Applicant make at least 50 percent of all spaces EV ready (conduits in place) to meet the future demand needs for a full transition to electric vehicles and avoid the need for much more expensive retrofitting. The applicant should consider "smart charging" technology to maximize the number of vehicles that can be charged while reducing demands on the electrical capacity available at site.

The Marbella Apartments project will provide much-needed affordable housing for Arlington and advance the County's goals for an equitable and inclusive community. However, these goals cannot be fully realized if the imperatives for zero-carbon buildings fall short and may, in fact, disadvantage the very population segments it is seeking to help. The world is facing a catastrophic climate crisis which

[1] Gas Stoves: Health and Air Quality Impacts and Solutions, Rocky Mountain Institute, 2020.

[2] Arlington County Electrification Report: Arlington County Green Building Incentive Policy, Steven Winter Associates, Inc., October 26, 2020. Available online at https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2020/10/Arlington-Electrification-Report-Draft-10-26-20.pdf

requires immediate action by individuals, governments, and businesses to avoid the worst consequences, and all future development needs to align to these goals. In the short-term, maximizing electrification can improve indoor and outdoor air quality by reducing pollutants that have harmed marginalized communities. I urge the County to ask the Applicant to move into the forefront by offering a climate-friendly building with this project.

Sincerely,

Joan McIntyre
Chair, Climate Change, Energy and Environment Commission

CC: Daniel Weir, Chair, Planning Commission
Anthony Fusarelli, CPHD Director
Michael Cullen, CPHD Staff

Appendix -- C2E2 SPRC Checklist

PROJECT NAME: Marbella Apartments **Overall Score**

COMMISSIONER REVIEWING: Stephen D'Alessio

56%

Building Component	GBI or C2E2 Baseline (Meets)	Requirements to Meet CEP & Sustainability Goals (Exceeds)	Marbella Apartments (Evaluation)	Recommendation / Comments	Assessment
Green Building Certification and Carbon Reduction					67%
Certification	Commercial: LEED Gold Multi-family: Earthcraft also permissible	Commercial: LEED Platinum Multi-Family: Earthcraft also permissible	Earthcraft Gold, score 190 (Site Plan Review Committee (SPRC) applicant materials page 24		Meets
Zero Carbon*	Evaluate feasibility of Zero Carbon certification (ILFI)	Zero Carbon Certification (ILFI)-- (GBI .7 FAR level)	No		Falls short
Building materials	Meet the criteria that would earn the project at least two (2) points for LEED version 4.1 MR credit Building Life Cycle Impact Reduction.	Score at least ten (10) overall for LEED version 4.1 Materials and Resources.	No, but they are committed to Earthcraft Gold building, some commitment on reusable materials. Low carbon cement (100 percent of slab and or foundation walls will have 25 percent replace with fly ash or slag) (Applicant materials 48)		Exceeds

Energy Efficiency					56%
Energy Optimization	Commercial: Min. 10% (20%) improvement LEED v 4.1 (v 4) Multi-Family: HERS Index of 65 also permissible	Commercial: Min. 20% improvement from LEED v4.1 Multi-family: HERS Index of 50 also permissible	Unknown		Meets
AIRE GBI required narrative	Provide narrative on Energy Efficiency	Make available on SPRC website	No energy modeling or zero carbon assessment to demonstrate total improvements in energy efficiency over ASHRAE baseline although EarthCraft Gold requirements and optional points suggest the buildings will be highly energy efficient		Falls short
Energy Star Certification	Must meet Energy Star 75 within 4 years	Meet highest possible GBI standard (differs by FAR level)	Will obtain Energy Star MFHR certification, no detail (Community Engagement Comments and Responses Matrix, page 6)		Meets
Energy Benchmarking	Install energy meters or monitoring devices	Meet GBI Extra on Advanced Energy Metering	Unknown		
Electrification					42%
Building's Electrical Capacity	Electrical infrastructure allows for GBI baseline	Electrical infrastructure allows for 100% electrification	Unknown		Meets
Utilities Electrification	Electric water heating ready and narrative	Fully electric water heating (commercial and residential)	No, appears to be a centralized gas system for hot water (Applicant Materials page 68)		Falls short
	Electric HVAC ready and narrative	Fully electric HVAC (commercial and residential)	Unknown		Falls short
	Electric cooking ready and narrative	Electric cooking; electric ready for restaurants.	Unknown, no retail planned		Falls short

Electric Vehicle Infrastructure					33%
Electric Vehicle Charging	4% of parking spots have EV charging	10% of parking spots have EV charging	Planned (page 14 of application package), will have EV parking (Community Engagement Comments and Responses Matrix, page 6)	EV charging infrastructure planned but no details	Falls short
	15% of parking spots are EV-ready	50% of parking spots are EV-ready	Will have EV parking (Community Engagement Comments and Responses Matrix, page 6)		Falls short
Electricity from Renewable Sources					67%
Renewable Energy	2W/ft^2 onsite solar or equivalent	On-site and/or off-site for 50% of annual load	Committment to solar ready (applicant materials page 43) and solar panels (Community Engagement Comments and Responses Matrix, page 6)		Meets
Battery Energy Storage*	Battery Energy Storage ready	Battery Energy Storage as backup generation	No		
Environmental Sustainability					67%
Biophilia / Open Space	Provide narrative addressing listed issues	Create a sense of natural environment, habitats. Keep mature trees, tree canopy, native plants, etc	"Staff will work with the applicant to explore biophilic elements and maximize potential for on-site tree replacement and, where possible, tree preservation" (Community Engagement Comments and Responses Matrix, page 5)		Meets
Storm Water Management	Meet Virginia building code	Seek use of pervious materials; offset storm water with green roof, bio-retention or manufactured treatment device	50% onsite impervious materials (Applicant Materials page 26) , No green roof		Meets
Bird-friendly Material	Must minimize bird strikes by meeting GBI criteria	GBI criteria plus ground floor bird-friendly material	Bird friendly (Applicant presentation slides page 63)		Meets

Light Pollution Reduction	Meet light pollution reduction in GBI	Dark Sky-approved "Friendly Fixture" certification	Dark Sky compliant lighting (Applicant slide 63)		Meets
Water Use	WaterSense label for all toilets, bathroom faucets, and showerheads installed in residential and hotel units	In addition to Meets, must not use potable water for irrigation.	WaterSense label for all toilets, bathroom faucets, and showerheads installed in residential and hotel units (Applicant Materials page 61)		Meets
Social Equity					67%
Diversity, Equity and Inclusion	1. One company on development team with DEI program2. LEED Social Equity Checklist completed	1. Development team presents and discusses LEED Social Equity Checklist to SPRC and AIRE2. Develop project specific DEI plan	No information		Meets

C2E2 Baseline Requirements