TO: City Council

FROM: Joseph Schiarizzi, Chair, Environmental Sustainability Council (ESC)

SUBJECT: ESC Comments on FY2023-28 Capital Improvement Program

DATE: April 25, 2022

The ESC appreciates City staff's diligence evident in the proposed FY2023-2028 Capital Improvement Program (CIP). We strongly support the Planning Commission's recommendation that future CIPs address needs such as protected bike lanes; renewable energy systems; green infrastructure for flood mitigation; improving walkability by removing sidewalk obstacles; etc. For projects in the FY2023-28 CIP, we make the following recommendations:

1. **Stormwater Flooding Remediation.** Acknowledge numerous recent scientific studies and design all projects for a 20% increase in rainfall intensity compared to the outdated NOAA Atlas 14 standard used by the City. See: https://www.npr.org/2022/02/09/1078261183/an-unexpected-item-is-blocking-cities-climate-change-prep-obsolete-rainfall-reco. It is better to build fewer projects and achieve the intended climate resiliency than to build a full suite in which all fall short.

The ESC hopes that a 'Government and Schools Energy Action Plan' will be developed as soon as possible. We expect it would establish goals and criteria to put governmental operations on an accelerated path to Net Zero greenhouse gas (GHG) emissions. We have three recommendations which would likely have already been considered if such a Plan were in place:

2. **Community Center HVAC Replacement.** We share the Planning Commission's interest (see Q3 in https://fallschurch-va.granicus.com/MetaViewer.php?view_id=2&clip_id=1898&meta_id=111443) in the feasibility and life-cycle costs of replacing the gas boiler, and some or all of the building's cooling capacity, with one or more electric heat pumps. The City should not simply default to a new gas-fired system, which would commit the City to fossil fuel use and GHG emissions for roughly 20 years. Today, the Community Center accounts for about 1/6 of government and FCCPS natural gas use.
3. **MEH HVAC Replacement.** The existing heating system reportedly uses gas for a two-hour warmup each morning, then switches fully to the electric heat pumps. Before selecting replacement equipment, we recommend that staff provide City Council with an analysis of life-cycle costs and greenhouse gas emissions comparing all-electric options with gas-boosted options. The rationale is the same as with the Community Center HVAC.
4. **Oak Street Elementary Vestibule**. The CIP plan for government-side buildings says that *equipment* will be "Energy Star....where possible." The ESC recommends a similar commitment to Energy Star windows at government-side buildings as well as Oak Street Elementary. The school vestibule update should also include high-grade insulation and be as airtight as possible to minimize heating/cooling losses.

Among other CIP projects, we ask that the City encourage the new **Capital Area Food Bank** in Lorton to incorporate better-than-code energy efficient design, consider use of renewable energy, and avoid natural gas use. Since neighboring jurisdictions are pursuing their own GHG reduction policies, **the City may find support among the other contributing jurisdictions** if this request is put forward.

Finally, for all **gray infrastructure**, we recommend that the City minimize "embedded carbon emissions" by using low-carbon materials (e.g., concrete with low-carbon cement, wood on the top floors of larger buildings), preferably locally sourced (if available and functionally suitable) to further reduce "embedded carbon."