

Environment and Energy Conservation Commission
Draft

Summary of February 27, 2017 Meeting
2100 Clarendon Blvd, Azalea Conference Room

Members Present: Scott Dicke, Adanna Woodson (on phone), Sarah Meservey, Christine Ng, Gabriel Thoumi, Irwin Kim, Claire O'Dea, Mike Hanna, John Seymour

Members Absent:

Guests: Erin O'Grady, Kimberley Fedinatz

Staff Present: Joan Kelsch (DES/OSEM), Greg Emanuel (DES Director)

1. Public comment

No public comment

2. DES Director Chat – Greg Emanuel

Christine introduced Greg Emanuel, Director of DES. Greg came to bring our attention to how key environment and energy issues were approached in the proposed budget. The new DES Mission and Vision are important for E2C2 to know about as well.

The Manager presented the budget on Thursday and presented to the Board on Saturday. The Manager's Budget is based on a two cent increase in the property tax rate. Board members asked Mark Schwartz to evaluate what a one cent increase would look like and asked for his analysis in two weeks. This is a new dynamic and preparing a new budget is a lot of work. The Board is working on behalf of tax payers to keep the tax rate low. The current proposed budget is online but there will be alternatives proposed to meet the Board's directive. Greg suggested reviewing the currently available budget. Alternatives can be reviewed later.

Departmental work sessions are scheduled in the next two weeks. Departments have prepared presentations, which may require major updates given the new Board guidance.

Greg reported that the budget maintains a strong environmental focus and changes to the AIRE Fund have not been discussed this year.

Greg noted that the Fiscal Affairs Advisory Commission makes specific recommendations on the budget. E2C2 is welcome to make recommendations as well. The streetlight program is a major initiative in the DES budget. Five new positions are proposed. Currently DES can't provide adequate levels of service; the proposal is constructed to provide better service and upgrade equipment. Greg noted that safety is an issue and proper staffing is necessary to properly and safely repair streetlights with two-person crews. DES would like to meet the three-day performance target for streetlight repair. An additional streetlight engineer and program manager would help round out the program to provide better service and upgrade the equipment. Streetlights are a core service and it is important to the Manager to get it done.

In response to a question about using contractors, Greg emphasized that we need in-house capability in addition to contractors. Someone has to manage the contract, coordinate with Dominion, pay the bills, etc. This applies to streetlight repairs as well as to bigger infrastructure projects.

DES proposed an FTE to maintain the as-built drawings for the wastewater treatment plant. The Utility Fund and Stormwater Fund should not be affected by the request to reduce the budget. Scott noted that the AIRE program is funded by a residential utility tax. He asked if that had been formalized. Greg responded that although a policy statement last year noted that the utility tax is to be spent on AIRE programming, the AIRE Fund is not quite as secure as some other funds because of how the funds were developed.

In response to a question about a potential reduction in federal funding, Greg noted that impacts could occur over a longer period of time. Metro subsidies that are required to keep Metro running are very large and will have big impacts on the County budget.

Is there a chance that other fees could be raised to keep the property tax rate low? A couple small fee increases were proposed (solid waste rate) but those funds can only be used for solid waste programs. Fees raised for a specific purpose, must be spent to support those programs.

Scott commented that CEPIRC was just disbanded and an E2C2 Energy Committee is just getting started. He wants to make sure that funding remains for the Community Energy Plan and AIRE work. He strongly recommends that money not be taken from AIRE. Greg noted that the residential utility tax has been evaluated for a potential increase. He asked what E2C2 would think if that increase was spent on other programs. Scott noted that the Commission would view that as weakening the program and the fear is that could continue to whittle away at the program. Christine asked if an increase in the utility fund could be used for streetlights. Greg suggested that this is a slippery slope and he wouldn't recommend doing that (each year the discussion would be had about how much goes to AIRE and how much to other programs). Mike Hanna suggested E2C2 could recommend that AIRE maintain a base level of funding through the years.

A one cent increase in the tax rate would raise \$7.5 million. Lots of debate will occur in the next few weeks in the community. This is a healthy process. The budget is very complicated and difficult to explain, manage, etc.

John Seymour asked about the higher water rates. Is it due to the drought or is something else going on? Greg noted that an update will be provided during the Manager's report at the Board meeting on February 28. Generally, there is no systemic problem. In one instance with a very high water bill, there was a construction issue with the water meter and that will be taken care of. In some cases, when a residence has a water leak, the County can make a high water use adjustment to reduce the cost somewhat.

In response to a question about data, Greg responded that the County Manager and DES are still interested in Open Data – i.e., providing data to the public. This remains a major initiative.

Greg commented that the Manger is a huge supporter of Schools and he is willing to raise the property tax rate in order to support Schools.

John Seymour inquired about the Solids Management program at the wastewater treatment plant. How we handle the solids is an ongoing issue – land apply or treat the solids so the material can be sold and used for soil treatment in the community. The legal landscape and markets make this topic very complicated. There are infrastructure improvements that have to be made so deciding how to treat solids is critical so improvements can start. How does energy play into the decision making for the solids management plan? Methane capture needs to be analyzed (cost effectiveness, risks, impacts, low price of natural gas, ability to use methane for ART bus fueling, etc). Mike suggested that E2C2 should emphasize the environmental benefits of methane capture need to be considered despite the increase in cost so as to help meet the Community Energy Plan goals. Greg assured that adequate weight will be given to environmental considerations. One plan could be to capture methane but not use it for ART bus fueling, as that is expensive and complex.

In addition to solids management, the water treatment process (Dalecarlia in DC) requires upgrading. Figuring out how to increase rates appropriately (amount and timing) is complicated yet critical.

Greg distributed the 2017 DES Strategic Direction (Vision and Mission). DES has given a lot of thought and care in developing the Vision and Mission. Jeff Harn (Director of DES's Office of Sustainability and Environmental Management) was instrumental in developing the Mission/Vision. The focus is on customer service, public engagement and transparency. Innovation is encouraged – he wants staff to try new things. Responsibly managing resources is emphasized (both financial and environmental).

Christine thanked Greg for his comments and time. Greg is grateful to E2C2 for the Commission's work.

- 3. New Thomas Jefferson School Environmental Assessment** – Ben Burgin, APS Facilities
Ben Burgin offered an overview presentation on the proposed Thomas Jefferson Elementary School. The new elementary will serve the Patrick Henry community and will provide 725 seats. It is scheduled to open in fall 2019. The proposal is for a Multi-story building in the NW corner of site with structured parking. The cost is \$59 million and is 110,870 square feet in size in four stories.

Because of the prior TJ Working Group process, the PFRC process was expedited and the community felt they had good input. The Use Permit will be considered in April. If permits are issued, construction will start summer 2017. VMDO is the project team and they also designed Discovery Elementary. Their charge was to “do better” than Discovery but in less space. The bus loop is shared with the middle school – this saves space and reduced need for impervious area. Parking garage is two levels underground and includes 220 spaces. Various outdoor play areas are incorporated around the building.

The landscape plan includes making a safer play zone for middle schoolers while separating them from the elementary school students. Impervious area at the site has been decreased. Bioretention areas are incorporated for stormwater management. Roofs step back and are sloped to allow for better solar installation. Metal roofs make it easy to clip on solar panels, although a membrane roof may prove to be more cost effective. Solar panels are \$2.48 million above the \$59 million budget. A solar power purchase agreement could be available to the school for solar installation so APS will likely pursue solar even if it isn't in the base budget. The EA language should be edited to reflect that the solar panels “may” be installed.

E2C2 requested to see the Power Purchase Agreement document presented to APS leadership. Ben will ask if it is a public document. (E2C2 may need an explanation of PPA and how the County and APS can participate).

John asked how E2C2 can influence the decision to include solar in the project. E2C2 could continue supporting solar and the PPA process. Christine noted that solar saves on operating costs and the long term savings should be considered when looking at construction costs. Mr. Burgin noted that solar is easy to add later without impacting the project construction, particularly with the PPA option. He noted that Discovery's solar system has been very successful (net zero over the first year). Geothermal is in the base budget for TJ. Wells are beneath the bus loop and the play area. Scott would like to see calculations on the costs, annual production, and rates paid. Information from Discovery also be useful. Is energy storage included? APS is looking into storage capacity. Irwin asked about the cost of solar on Discovery and how it compares to TJ estimates. The \$2.48 million estimate for solar at TJ includes soft costs and some escalation, so the costs may not be comparable. Irwin noted that the price of solar panels is decreasing which would be beneficial.

E2C2 questions posed the following questions to Mr. Burgin prior to the meeting and he provided the following written responses:

1. What is the net loss of pervious surface projected? The EA says that the site currently is 91% impervious or semi-pervious. There does not seem to be much room for additional impervious surface, but the EA notes that the project will cause such an increase.

The project is currently expected to reduce 0.17 ac of impervious area, which is about a 5% reduction to the existing impervious area.

2. The EA notes that post-development run-off is expected to be less than existing. What is the expected amount of reduction?

The existing run-off is about 0.84 CFS. An approximate reduction of 0.13 cfs (15%) for the 1-year storm and 0.15 cfs (8%) for the 10-year storm is expected. These reductions will vary with final design.

3. The EA notes that there will also be a net loss of tree cover. Again, it would be useful to understand the approximate size (and quality) of the net loss.

The tree inventory plan currently requires 187 tree replacements. The landscape plan proposes 56 large shade trees (1:1 replacement), 82 medium shade trees (1:1 replacement), 47 medium evergreen trees (1:1 replacement) and 39 flowering trees (3:1 replacement), for a grand total of 198 tree replacements, or a net gain of 11 trees.

4. The discussion of lighting says that it will be "Dark Sky compliant." What will this mean in practice? According to industry practice and the County's current Street Light Policy, "Dark Sky compliant" means conformity with the recommendations of the International Dark Sky Association. Those recommendations require, at a minimum, full cut-off fixtures (no light above

horizontal) and — for Dark Sky certification — fixtures with a correlated color temperature less than 3000K. Will these recommendations be met?

All fixtures within our design will be full cutoff, however APS has indicated that they want all site lighting to match the County post top fixtures which will be 4000K. However, the county is requiring their standard street light be installed down South Old Glebe and this fixture does not meet dark-sky requirements or have any cut-off at all.

5. Section H: Clarify if on-site generation will off-set all utility emissions or only a portion. If the latter, specify percentage.

The PV design will be sufficient for 100% of onsite energy usage.

6. Section N: Provide more details on the 600 kW solar system, e.g., where will it be installed, what is the total area required, what terms were established with DVP, any energy storage?

100% of the 600 kW PV system will be roof mounted. Total area is approximately 35,000SF. Building will be net-metered with DVP similar to Discovery Elementary School. A small energy storage system has been proposed as a bid alternate. This would store excess solar generation, actively reduce building peak demand and participate in the PJM frequency regulation program through DVP.

7. Section N: Provide breakdown of modeled energy usage by CBECS 2012 end use categories, i.e., Total, Space heating, Cooling, Ventilation, Water heating, Lighting, Cooking, Refrigeration, Office equipment, Computing, Other?

Preliminary energy modeling indicates an EUI of 20.4 with breakouts of roughly: HVAC 45% (20% Cooling, 10% Heating, 12% Ventilation, 3% DHW), Kitchen 20%, Lighting 15%, General Plug Loads 12%, IT 8%.

8. Section N: What is glazing percentage of building?

30.8%

9. Section N: Since site is adjacent to TJMS and TJCC, any considerations given to District Energy approaches?

The geothermal heat pump HVAC system selected is naturally distributed and much more efficient than typical district energy systems which use centralized chilled/hot water generation plants. Project budget is also not adequate for system replacement in adjacent buildings.

10. Section O: How will the building participate in demand response?

The intent is to participate in DVP demand response program in addition to frequency regulation. The proposed battery storage system will facilitate both of these uses.

Mr. Burgin noted that electric vehicle charging stations will be provided if electricity is generated by solar. They don't have a mechanism for charging for the power. Discovery has EV stations. E2C2 asked how the County would charge for use of charging stations.

Stormwater management depends on several pervious areas. E2C2 asked if maintenance accounted for. The semi pervious pavers in parking area and the synthetic turf play areas require maintenance to maintain porosity. A contractor maintains stormwater facilities for APS.

How does the movable wall that separates gym and outdoor amphitheater impact thermal efficiency? The door is solid with few joints. The building envelope was carefully designed for energy efficiency.

Mr. Burgin noted that the project is very close to final design and any future changes requested by the County shouldn't impact the EA.

Erin O'Grady, a guest at the meeting, asked about the stormwater management plan for the new school. She asked if there were retention tanks beneath the bus loop. She asked if tanks are part of the plan, how water would be used. The EA references underground tanks but it isn't clear that they will be included in the final design. Ms. O'Grady asked if there are permeable pavers or pervious pavement in the plan. Permeable pavers are included in the plan.

Mike noted that opportunities are lost to use new construction to meet APS's overall MS4 permit requirements. TJ elementary is owned by the County so a question remains as to whether APS or County are responsible for stormwater management (likely under County's MS4 permit).

The Commissioners asked about the EA process – is this the public hearing? E2C2 should have a letter prepared for a vote at the March 27 meeting. Mike asked that members send him comments in two weeks from today. Can commissioners get access to the plans? Files could be posted on PFRC website. [Check with Adam] Has the EA been made public enough so people know to comment on it? On the March agenda, include the letter and offer public comment. Include public comment as appendix to letter.

Sarah asked about bird friendly windows but they aren't being considered for this project.

4. Meeting Summary Review – January 2017

Meeting minutes approved unanimously.

5. Old/New Business

Irwin reported that the 4MRV guiding principles with environmental focus were proposed. Irwin met with staff to determine what E2C2's new Energy Committee will do. He proposed dividing the CEP into subject areas and finding experts that can part of the Energy Committee to address these issues. There is interest in ensuring diverse membership on the Committee.

John Seymour circulated his comments on the streetlight management plan. He included a few reports by Carnegie Mellon on LED streetlights. He looks forward to having staff from the wastewater treatment plant attend E2C2. Wilson EA was minimally revised and the project was approved.

The group report from the Williamsburg Lights Working Group will be issued tomorrow and will be posted on the site. The Working Group wants an EA. APS has not done an EA to date. APS policy is that EAs aren't done until there is an approved project. He drafted a letter that he'd like E2C2 to review. John won't sign the report until E2C2 looks at his position. He is inclined to support the anti-lights group within the working group. The letter needs to be on the agenda before E2C2 approves a letter. Commissioners should provide comments to John and letter will be considered at the March meeting. E2C2 could support the development of an EA. John can sign onto the working group report as a resident, but not as E2C2 member.

Other member updates:

- Claire noted that the POPS group has been on hiatus. Claire also will attend Columbia Pike Form Based Code meeting.
- A South Park planning process has started. Adanna is interested and would like to know when the meeting is.
- Christine noted that Commission chairs can attend meeting with the Board on March 9 to provide comments on the budget. E2C2 members should send Christine comments. John Seymour may be able to attend as well.
- Christine met with Christian Dorsey to expedite the appointment of new commissioners. They should be appointed tomorrow at the Board meeting.
- Christine noted that the Commission should ask about operating costs as a way of saving money
- Mr. Dorsey asked for information on cutting edge technology on stormwater.
- E2C2 needs a liaison to Urban Forestry Commission
- Mike noted that the Bike Element of the Transportation Master Plan is being evaluated.
- Mike noted that the Lubber Run Community Center will include a PFRC process. He is optimistic about the project.
- Adanna attended a site plan meeting on a Crystal City project. Issues include traffic and heat island impacts and reflection from the building glass. Exhaust from the garage wafting into the courtyard area is a concern.
- Gabriel submitted the follow updates in writing:
 - MWCOG wants E2C2 to promote the energy leadership awards.
 - MWCOG is considering analyzing invasive species for all jurisdictions.
 - MWCOG is considering analyzing procurement strategies related to zero-deforestation for all jurisdictions.
 - MWCOG submitted applications for EV infrastructure to Volkswagen.

Adjourn 10:35pm.