ADAMS COUNTY OFFICE OF PLANNING AND DEVELOPMENT

670 Old Harrisburg Road, Suite 100 | Gettysburg, PA 17325
Ph: 717-337-9824 | Fx: 717-334-0786

Sherri Clayton-Williams, AICP, Director

DATE: August 12th, 2024

TO: Frederick County, Maryland

Miah Gresh

FROM: Miah Gresh
Comprehensive Planner

SUBJECT: Adams County Review
Water Resources in Frederick County
MISC-24-001

Frederick County has requested our review of the **Water Resources in Frederick County** plan submitted to this office for review on **July 11th, 2024**. The Adams County Office of Planning and Development has reviewed the above referenced Water Resources Plan and it appears to be consistent with our planning policy regarding natural resources within the county.

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
3430 Court House Drive ■ Ellicott City, Maryland 21043 ■ 410-313-2350
Lynda D. Eisenberg, AICP, Director FAX 410-313-3467

September 3, 2024

Frederick County Government
Ms. Kimberly Gaines, Livable Frederick Director
Livable Frederick Planning and Design Office
30 North Market Street
Frederick, MD 21701

Ms. Gaines,

Re: Review of the Frederick Draft Water Resources Element

Thank you for the opportunity to review and comment on your Draft Water Resources Element. This draft Water Resources Element seeks to coordinate Frederick's growth management and water resources planning efforts. As depicted in Karin Flom's email request dated July 12, the plan summarizes current capacity and projects estimated demand for the county-owned and operated water, wastewater, and stormwater systems with references to municipal systems and municipal growth areas. It considers changes in demand through 2050.

Howard County has been asked to provide comments during the Maryland Department of Planning's 60-day review. The Howard County Government, Department of Planning and Zoning, Department of Public Works (DPW), Storm Water Management Division, Bureau of Environmental Services and Bureau of Utilities reviewed the WRE and have no comments at this time. We appreciated how you addressed the new 2022 MDP's required components of the impacts on the marginalized communities as well as changing climate issues. The data and maps are well done.

Again, thank you for the opportunity to review your Draft Water Resources Element.

Sincerely,

DocuSigned by:
Lynda Eisenberg

Lynda D. Eisenberg, AICP, Director
Howard County Department of Planning and Zoning
George Howard Building
3430 Court House Drive
Ellicott City, Maryland 21043
410-313-2350

cc: Brian Shepter, Deputy Chief of Staff, Office of the County Executive
Mary Kendall, Deputy Director, Howard County Department of Planning and Zoning (DPZ)
Beth Burgess, Chief, Resource Conservation Division, DPZ
Kristin O'Connor, Chief, Division of Comprehensive and Community Planning, DPZ

September 9, 2024

Chairman Joel Rensberger
Frederick County Planning Commission
30 North Market Street
Frederick, MD 21701

Re: 2024 Frederick County Comp Plan Amendment 60-Day Review: Updated Water Resources Element

Dear Chair Joel Rensberger,

Thank you for requesting Maryland Department of Planning (MDP) comments on the above referenced amendment to the Livable Frederick Master Plan (LFMP), only amending the Water Resources Element. MDP appreciates the opportunity to comment on the draft amendment (Draft Amendment) in preparation for the Planning Board hearing(s). These comments are offered to guide the county in ways to improve the Draft Amendment and better address the statutory requirements of the Land Use Article.
The Department forwarded a copy of the Draft Amendment to state agencies for review including the Maryland Historic Trust, the Departments of Transportation, Environment, Natural Resources, Commerce, Disabilities, and Housing and Community Development. To date, we have received comments from MDE and DNR, and they are attached to this review. Any plan review comments received after the date of this letter will be forwarded upon receipt.

Summary of the Proposed Amendment to the Comprehensive
This update to the LFMP is limited to the Water Resources Element (WRE). The history of the WRE began in the 2006 legislative session, when House Bill 1141 was codified into law requiring that a WRE be included in local land use plans. The purpose of the WRE is to identify:

> (1) "drinking water and other water resources that will be adequate for the needs of existing and future development proposed in the land use element of the plan; and,
>
> (2) suitable receiving waters and land areas to meet stormwater (SW) management and wastewater treatment and disposal needs of existing and future development proposed in the land use element of the plan" (Land Use Article §1-410 and §3-106).

MDE's role is to "review the water resources element to determine whether the proposed plan is consistent with the programs and goals of [MDE] reflected in the general water resources program required under § 5–203 of the Environment Article". In 2007, Maryland issued its first WRE Models and Guidelines to assist local governments with planning and zoning authority in developing their WREs.

Since the issuance of the original guidance in 2007, there have been substantial changes to Maryland's water resource and environmental management programs. Specifically, Chesapeake Bay restoration has changed from a voluntary program guided by the Tributary Strategies framework to a regulatory program under the authority of the federal Clean Water Act (CWA) and guided by the 2010 Total Maximum Daily Load (TMDL) and related implementation plans. Maryland developed a 2019 Phase III Watershed Implementation Plan that charts a course to achieve Chesapeake Bay nutrient and sediment Water Quality Standards (WQSs) by 2025. Additionally in 2015, the Maryland Commission on Climate Change was codified into law (Environment Article §2-1301 through 1306), requiring state agencies to review their "planning, regulatory, and fiscal programs to identify and recommend actions to more fully integrate the consideration of Maryland's greenhouse gas reduction goal and the impacts of climate change." This includes explicit consideration of sea level rise, storm surges and flooding, increased temperature and precipitation, and extreme weather. The legislation also calls on state agencies to assist "local governments in supporting community-scale climate vulnerability assessments and the development and integration of specific strategies into local plans and ordinances". These statutory and regulatory changes, as well as additional state legislation mandating nuisance flood plans for coastal jurisdictions, siting and design guidelines for certain state-funded buildings, and a statewide plan to adapt to saltwater intrusion and salinization, all have a direct impact on water resource management and land development programs and policies.

In 2020, MDE, DNR, and MDP convened a team to consider these updates to Maryland's water resources program, and recommend any needed updates to the 2007 WRE guidelines. The agencies agreed that ongoing climate change impacts to water quantity and quality require integrating climate change considerations into the WRE, as well as related local planning and zoning decisions to ensure consistency with Maryland's water resources programs. Doing so will ensure that drinking water, wastewater, and stormwater management programs can support planned growth and development, while also ensuring public health and safety protections from known or reasonably foreseeable climate hazards.

While many Marylanders rely on surface water from reservoirs and rivers that are managed through large utilities and interjurisdictional river commissions, others rely upon groundwater aquifers for their drinking water. All share a common feature: there are limits on how much water each can safely yield. The geological makeup of Maryland's landscape can be divided into two very different regions (Coastal Plain and Fractured Rock) that provide different quantities of source water from each underground resource. Appropriate consideration of these differences is critical for evaluating when there is an unsustainable demand on water supplies (possibly causing them to run dry). It is also important for protecting drinking water sources and responding when contamination from outside sources may have affected water quality. These two factors of quantity and quality are key considerations that planned development must calculate and account for.

Water resource control, such as flood hazard mitigation, and recognition of other water resource hazards, including rising water tables and saltwater intrusion, are very important for providing public safety, protecting critical infrastructure, and are key considerations when new local land use plans are proposed.

Comprehensive Plan Amendment Analysis

The following analysis and recommendations were provided by the MDP Research, Review and Policy Division.

Overview of the Draft

The Draft Amendment includes the following chapters: Key Insights, Introduction, Drinking Water Assessment, Wastewater Assessment, Suitable Receiving Waters and Water Hazards (including stormwater considerations), three appendices regarding Water Service Area Profiles, Wastewater System Profiles, and Current and Future Land Use and Stormwater Pollutant Load Estimates Methodology; 12 figures, 19 maps, and 18 tables.

The Drinking Water Assessment, Wastewater Assessment, and Suitable Receiving Waters and Water Hazards sections each include both equity and climate change considerations. The WRE Introduction references the 2022 Updated WRE Guidance and states that "[e]ach subsection of this Water Resources Element will, in-turn, address potential issues or impacts associated with water supply management, wastewater management, and stormwater management that deal with hardships that can be brought about by a changing climate as well as impacts those changes might have for Frederick County's most vulnerable populations" (page 1-12).

The WRE considers planning through 2035 and 2050. Page 2-9 of the WRE indicates "Potential future needs (in terms of capacity) are identified for the 10-year planning horizon for this Drinking Water Assessment (2035) and the 25-year horizon (2050) identified in Maryland Department of Planning guidance."

> "[B]y 2050 Frederick County is estimated to be home to 162,537 jobs, 155,652 households, and 428,794 residents" (page i).

The county and municipalities with their own systems are meeting current demand, and the water supply is largely safe, but PFAS and other emerging contaminants are a concern. The Key Insights section states "[o]verall, the County and its municipalities are meeting current drinking water demand…[and] current demand for wastewater treatment within permit limits" (pages i and ii). The section also indicates that the county should anticipate the need to expand both water and wastewater capacity by 2050. The section also acknowledges that there are seven Community Growth Areas (CGAs) in the county with poor stream health and higher rates of "untreated" impervious surface.

The relevant goals and initiatives of the LFMP are referenced throughout the Draft Amendment and connected to the WRE. For example, "[t]he WRE takes the estimated job and population changes and uses the four physical development scenarios in the LFMP to assess how different development patterns may affect stormwater runoff within Community Growth Areas (CGAs). The overall achievement of pollution reduction goals is not anticipated to be threatened by the expected growth. Development patterns that focus growth in existing places and that consume less land had less pollution potential under the models" (page iii).

WRE Planning Best Practices

MDP commends the county's Draft Amendment for the following items that demonstrate best practices:

- Water equity goals and planned actions, including expanding water affordability programs, improving affordability data, workforce development, neighborhood revitalization, and community vulnerability assessment.
- Discussions of climate change's impacts on water planning, and the steps the county has taken to plan for and mitigate potential impacts associated with climate change and the related severe weather events, such as the Frederick County Hazard Mitigation and Climate Adaptation Plan, most recently updated in 2022, and the 2023 Frederick County Climate and Energy Action Plan for Internal Government Operations.
- Sewer equity discussion, including acknowledgement of the disparate impacts of rate increases to upgrade WWTPs and of installing/maintaining/replacing septic systems for lower income households and a description of state financial resources available for residents to cover septic-related costs.
- Discussions of climate change's impacts on sewer planning, including WWTPs and associated systems and septic systems, and the steps the county has taken to plan for and mitigate potential impacts associated with climate change, such as the Frederick County Hazard Mitigation and Climate Adaptation Plan, and the Climate and Energy Action Plan. The WRE also references the EPA's CREAT tool and the documents and videos that are available from the Water Quality Program within the University of Maryland Extension as important resources.
- The Suitable Receiving Waters & Water Hazards section for including a call-out box providing tips for how to manage stormwater responsibly.
- Discussion of flooding, floodplains, and floodplain management; an analysis of floodplain exposure by CGA, including total buildings and critical facilities; and analysis of known roadway flood areas by surface water body.
- For the call-out box that explains flooding risk for residents and provides resource links.
- Stormwater equity discussion, including the explanation of how someone's zip code can affect their quality of life and opportunities; the table showing the number of Frederick County census tracts that meet one or more of MDE's Underserved Community Indicators; the awareness that there are many other ways to quantify or describe an underserved population; and the description of how underserved communities in the county are disproportionately impacted by impervious and untreated impervious coverage, stormwater flooding, and floodplain-exposed critical facilities. One solution to help address these disparities is the planned redevelopment of the South Frederick Corridors area.
- Its stormwater climate change discussion, including how heat and drought can affect receiving waters by worsening the effects of nutrient pollution and reducing assimilative capacity, and how increasing precipitation and flooding will impact the adequacy of stormwater management facilities. This section also describes Climate Mitigation Benefits and Climate Adaptation Actions—the LFMP calls for both strategies.

Drinking Water Assessment

Table 2.01 (page 2-10) shows "Water Supply and Demand by County Service Area" and demonstrates that the overall existing permitted withdrawal and treatment capacity for all of the service areas combined are higher than the projected demand through 2035 and 2050. However, of the 11 county water service areas, two (Copperfield and Libertytown West) would fall short of having enough permitted withdrawal and treatment capacity to meet the projected 2050 demand. **Note:** New Design, the service area for the Quantum Frederick Data Center campus, has more than sufficient permit and capacity to meet demand through the planning periods.

Table 2.02 (page 2-11) calculates the utilization percentage for each of the 11 service areas, with the majority of the areas well under 100% through 2035 and 2050, with the exception of Copperfield and Libertytown West at 122% and 131% by 2050, respectively. The county notes that any service area will need a Capacity Management Plan (CMP) when "operating at more than 80% of average permitted withdrawal or purchasing water at more than 80% of their contractual limit with their supplier" (page 2-10). The Fountaindale/Braddock and New Design service areas will be above 80% by 2050, so they will both require CMPs by then.

The water capacity/demand analyses include residential and non-residential growth projections. The WRE also includes tabular (Table 2.03, page 2-15) and narrative analyses of the nine municipal water service systems in the county; however, the non-residential growth for these systems is only projected through 2035, while the residential growth is also projected through 2050. Municipalities provided the projections to the county. Middletown is the only municipal system that shows insufficient permitted withdrawal (but does have sufficient treatment capacity) to meet residential demand in 2050; however, the WRE explains that the "[t]own requires all new developments to provide an offsetting expansion of water system capacity as part of the entitlement process. Under this assumed condition, potential future growth would be required to offset any created capacity needs" (page 2-15). Emittsburg, Myersville, and Woodsboro will all have demand nearing permitted withdrawal and/or treatment capacity by 2035 and/or 2050.

While the WRE references the recent update to Middletown's Comprehensive Plan, it does not appear to mention the update to the Myersville plan and instead states that "[g]rowth was allocated to each of these municipalities [Brunswick, Walkersville, Myersville, and Woodsboro] in accordance with current pipeline data for the 10-year planning horizon and roughly proportionate to their size and anticipated capacity to expand based on their corresponding growth area with some additional influence from Cooperative Forecast data" (page 2-16).

Wastewater Assessment

Future wastewater capacity projections were developed by staff utilizing local planning knowledge, residential pipeline data, and Round 10.0 of the MWCOG Cooperative Forecast. "Growth projections are intentionally aggressive so that weaknesses or inadequacies in the infrastructural and environmental systems serving our communities may be identified, studied, and remedied before significant problems arise" (page 3-3). Both residential and non-residential growth is included in the analysis.

Table 3.01 shows "Wastewater Supply and Demand by County Service Area" (page 3-5) and demonstrates that the overall existing permitted capacity and design capacity for the 10 service areas combined are higher than the projected flow/demand through 2035 and 2050. However, the Ballenger-McKinney service area would fall slightly short of having enough permitted and design capacity to meet the projected 2050 flow/demand; note that the Quantum Frederick Data Center campus is located within this service area.

Table 3.02 calculates the utilization percentage for each of the 10 service areas, with the majority of the areas well under 100% through 2035 and 2050, with the exception of Ballenger-McKinney which will be at 100% by 2050. Fountaindale will be at 89% by 2050, so the service area will require a Wastewater CMP (WWCMP) before then (if capacity is not expanded earlier). The narrative below Table 3.02 notes that "Table 3.02 does identify potential actions that could be taken to address future need, including the consideration of how data center evaporative cooling affects both water and wastewater supplies" (page

3-6). In addition, "[t]he relatively high level of treatment that can be achieved by the Ballenger-McKinney WWTP may accommodate discharge volumes above those indicated in Table 3.01 in the future, provided that current levels of treatment are maintained or potentially improved" (page 3-7).

The WRE also includes tabular (Table 3.03, page 3-11) and narrative analyses of the eight municipal wastewater service systems (nine wastewater treatment plants [WWTPs] because Middletown currently operates two systems to accommodate its population, although the town is working to decommission one plant and upgrade the other to have sufficient capacity for the entire town) in the county; however, the non-residential growth for these systems is only projected through 2035, while the residential growth is projected through 2050. Projections are based on estimates provided by municipalities as part of updates to the county's Water & Sewerage Plan. Emmitsburg, Frederick, and Middletown East (the WWTP that is planned for an upgrade) show insufficient permitted and design capacities to meet residential demand in 2050. Myersville and Thurmont will all have residential demand/flows above 80% of the permitted and design capacities by 2050.

While the WRE wastewater section references the recent update to Middletown's Comprehensive Plan, it does not mention the update to the Myersville plan and instead states that "[g]rowth was allocated to each of these municipalities [Brunswick, Walkersville, Myersville, and Woodsboro] in accordance with current pipeline data for the 10-year planning horizon and roughly proportionate to their size and anticipated capacity to expand based on their corresponding growth area with some additional influence from Cooperative Forecast data" (page 3-12).

Discharges from the municipal WWTPs are also accounted for in the evaluation of compliance with established TMDLs for nitrogen, phosphorous, and other tracked influencers of water quality.

The WRE estimates that there are approximately 27,000 residential septic systems in the county. The section describes the potential impact of septic systems on Accessory Dwelling Unit (ADU) policies and water quality. MDP notes that the Draft Amendment states "[i]n the case of detached accessory dwelling units, the Frederick County Health Department currently requires the installation of a separate tank and delineation of a new drainage field to serve the new detached unit." However, attached ADUs are not necessarily required to create a separate tank and new drainage field. MDP recommends that the criteria for the development of an ADU be examined more fully to relate the demand on the septic systems based on criteria other than the issue of attached or detached, such as elements related to the anticipated impact on the septic system. Unnecessary limitations to the housing supply should be avoided due to the current housing crisis.

Suitable Receiving Waters & Water Hazards

This section describes the measurable decline in water quality and diversity of aquatic life when impervious coverage exceeds 10% in a watershed. Table 4.01 (page 4-4) shows that the total combined Frederick County impervious cover as a percentage of the total watershed area is 6%; however, several watersheds in the county exceed 10% impervious coverage, including Upper Bush Creek (11%), Ballenger Creek (19%), and Carroll Creek (28%). The section adds that "[w]atersheds with 5-10% impervious surface coverage may require land use policies, special watershed studies, or additional efforts to mitigate adverse impacts on water quality conditions" (page 4-4), and there are 11 such watersheds identified in the county. The county points to solutions such as retrofitting, BMPs, culverted stream daylighting, tree canopy enhancement, incorporating trails and other recreational facilities (to increase

public awareness of the issues), planning, and prioritization of stormwater management facilities in CGAs with greater than 15% untreated impervious area located within watersheds with a Benthic Index of Biotic Integrity (BIBI) score of Poor or lower. Table 4.02 shows Untreated Impervious Surface and NPDES Watershed Health for the county's CGAs and highlights the areas that meet the prioritization criteria above.

Table 4.03 (page 4-12) provides an analysis of land cover (e.g. agriculture, forest, urban impervious, wetland) by watershed which the county can use to "inform the future conditions analysis and which watersheds/community growth areas are most likely to require expanded stormwater management efforts" (page 4-11).

Tables 4.04 and 4.05 estimate the pounds per year of nitrogen, phosphorus, and suspended solids that reach streams and rivers by CGAs (including municipalities) and by land cover category (within CGAs), respectively. Later in the section, the WRE uses the four LFMP planning scenarios (1 – Business as Usual; 2 – City Centers Rise; 3 – Suburban Place Making; 4 – Multi-Modal Places and Corridors) to evaluate the impacts of potential growth and development patterns within county and municipal CGAs (since minimal land use change is anticipated outside CGAs) on pollutant loading. Variation between the 4 scenarios was found to be minimal.

Table 4.08 (page 4-30) shows the Estimated Land Use Change through 2035 in Community Growth Areas by scenario, including Agriculture, Impervious Developed, Pervious Developed and Natural land cover categories. The number of affected acres ranges from 7,422 to 8,058, the increase in impervious developed ranges from 12.98% to 15.16%, and the increase in pervious developed ranges from 14.03% to 19.25%.

The second step of the analysis was to apply the CAST Phase 6 pollutant loading rates—for Total Nitrogen (TN), Total Phosphorous (TP), and sediment (TSS) in pounds per acre per year—to the estimated land use change in the four scenarios to determine TMDL impacts to the three CGA-affected local watersheds (Catoctin Creek, Lower Monocacy, Upper Monocacy) and the Chesapeake Bay.

The findings provide information about the impacts of development over time and help the county to determine whether and how much additional water quality treatment will be needed, which watersheds to prioritize for additional treatment, and the relative impacts to water resources of each development scenario.

Page 4-33 includes a discussion of how complex the analysis is since, for example, it can appear that greenfield development can reduce pollutants (since 100% of new impervious surface must be treated) but in practice "increased impervious area from development can alter watershed hydrology such that the volume and flashiness of discharges increase, and therefore overall pollutant loading increases."

The section also includes a discussion of dam safety—there are 31 dams in Frederick County.

<u>Recommendations</u>

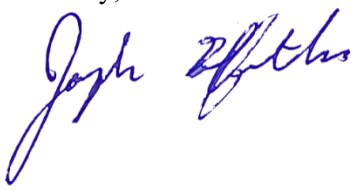
1. Considering the PFAS and other emerging contaminants to drinking water supply sources described on pages 2-20 to 2-21, and that approximately 1/3 of county residents are served by private wells, has the county considered conducting an analysis to project how many of those

wells will be deemed unsafe due to ground water contamination? This analysis could identify and prioritize the need to connect to the public system in the horizon timeline of the WRE.

2. Given the county's experience mitigating toxins resulting from harmful algal blooms (HAGs) in drinking water supply sources and the county's understanding that these HAGs are becoming more frequent, has the county considered conducting an analysis to project the future impact of the HAGs to surface water sources and how that will impact the county's ability to meet drinking water demand through the horizon timeline of the WRE?
3. If the Middletown Comprehensive Plan update was not included in the WRE analysis, MDP recommends that the county incorporate the plan's data into the WRE to ensure coordination.
4. If the Myersville Comprehensive Plan update was not included in the WRE analysis, MDP recommends that the county incorporate the plan's data into the WRE to ensure coordination.
5. Has the county considered how potential future expansion of public sewer connections to accommodate ADUs, if required, will impact the county's ability to meet demand?
6. Has the county considered how failing septic systems will impact the county's ability to meet demand through the horizon timeline of the Draft Amendment?
7. Are the 2024 Triennial Water and Sewer Plan updates included in this Draft Amendment, specifically relating to new policies? Have the MDE and MDP comments and recommendations relating to the triennial update been addressed in the Draft Amendment?

MDP recognizes the significant and thoughtful effort that Frederick County staff applied to the development of the Draft Amendment and looks forward to coordinating with the county and the town on any assistance it seeks for plan adoption and implementation.

Sincerely,



Joseph Griffiths, AICP
Director, Planning Best Practices

cc: Deborah Carpenter, Director Frederick County Planning and Permitting
Kimberly Gaines, Livable Frederick Director, Division of Planning and Permitting
Susan Llareus, Planning Supervisor, Maryland Department of Planning

Attachments - State Agency Letters

Maryland
Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

August 29, 2024

MDE Comments: Tier II Implementation Policy Coordinator

RE: Draft Frederick County WRE

To whom it may concern,

My comments on the WRE are as follows:

pg 1-9: The language regarding assimilative capacity should reflect the definition in the regulation as it is different from the more traditional definition of assimilative capacity with regards to protecting designated uses or TMDLs. COMAR 26.08.02.04-2 (G(3)) "The assimilative capacity of the water body is the difference between the water quality at the time the water body was designated as Tier II, the baseline, and the water quality criterion". Simply put (from the MDE webpage) assimilative capacity is a way to measure how much Tier II stream water quality can lower before it's considered degraded.

pg 4-16: I'm wondering if there's data to support those areas where growth is directed are not detrimental to restoration projects. What projects does the county believe are successful? It would be interesting to see a county map of these projects along with those higher growth areas. The WRE states that the Frederick Master Plan (2019) rated the potential need to reexamine stormwater standards at the state or local levels. It also states that MDE is exploring updating current regulations to address issues with climate change, and I am seeing more and more restoration 'repair' projects through my work doing Tier II reviews. A lot of these projects are targeting legacy issues and not potential issues with new growth.

pg 4-23: Briefly explain how development in the Resource Conservation Zone is different from other locations in the county. Are there different requirements, more stringent rules, etc.?

pg 4-38: Are there county reforestation goals or programs that could be identified under the *Climate Mitigation Benefits* section?

If you have any questions don't hesitate to contact me at angel.valdez@maryland.gov .

Best Regards,

Angel D. Valdez

Frederick County Comp Plan Amendment 60-Day Review: Updated Water Resources, Frederick County

Maryland Department of the Environment – WSA/WPRPP

REVIEW FINDING: **R*1* Consistent with *Qualifying Comments***
(*MD20240715-0580*)

Tier II:

Direct any questions regarding the Antidegradation Review to Angel Valdez via email at angel.valdez@maryland.gov, or by phone at 410-537-3606.

Special protections for high-quality waters in the local vicinity, which are identified pursuant to Maryland's anti-degradation policy.

Anti-degradation of Water Quality: Maryland requires special protections for waters of very high quality (Tier II waters). The policies and procedures that govern these special waters are commonly called "anti-degradation policies." This policy states that "proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts." Satisfactory completion of the Tier II Antidegradation Review is required to receive numerous State permits, such as those for wastewater treatment, nontidal wetlands disturbance, waterways construction, and coverage under the general construction permit.

The Tier II review is applicable to all portions of the project within the Tier II watershed of **Talbot Branch UT 1; Weldon Creek 1; Big Hunting Creek 1; High Run 1**. The Review consists of (1) a no-discharge alternatives analysis which considers if the activity can avoid any impacts to Tier II waters, i.e., an alternative site or strategic design, (2) a minimization alternatives analysis to limit associated water quality degradation, and potentially (3) a mitigation analysis to account for net loss of vital resources such as forest cover. If there is no assimilative capacity within the Tier II watershed identified above, additional social and economic justification for unavoidable impacts is required. No assimilative capacity means that new water quality data indicates that the Tier II stream segment has degraded below Tier II standards.

To ensure that essential information is provided to MDE when conducting the Tier II Review, MDE has developed forms to assist applicants in completing the no-discharge alternatives analysis, minimization analysis, and mitigation analysis. Adequate completion

of these forms and accompanying Tier II report is required to successfully satisfy the Review and is necessary for State permitting and other approvals. A Tier II report template, which uses the information from the completed forms, is also available to help with document formatting and information organization. There are some activities that may require MDE permitting and approval but may not warrant additional Tier II review. Applicants are encouraged to review the Tier II Determination of No Additional Review Form and its applicability to the project before proceeding with the more detailed review analysis explained below.

Determination of No Additional Tier II Review Form V1.1[1]

1. Code of Maryland Regulations (COMAR) 26.08.02.04-2 (G(1)) states that "If a Tier II antidegradation review is required, the applicant shall provide an analysis of reasonable alternatives that do not require direct discharge to a Tier II water body (no-discharge alternative). The analysis shall include cost data and estimates to determine the cost effectiveness of the alternatives".
2. This form is for the evaluation of land disturbing activities such as those requiring a nontidal wetlands or waterways construction permit, or a general stormwater construction permit (NOI), to demonstrate that:

a. the project is exempt from the no-discharge alternatives analysis; and
b. the project consists of minor, unavoidable impacts to on-site streams, including stream buffers averaging 100'; and
c. the project will not cause net forest loss in the affected Tier II watershed, or loss will be less than 1 acre; and
d. all impervious surfaces associated with the project are treated with environmental site design practices, with existing structures with remaining capacity.

Tier II No-Discharge Analysis Form V1.2:[2]

1. Code of Maryland Regulations (COMAR) 26.08.02.04-2 (G(1)) states that "If a Tier II antidegradation review is required, the applicant shall provide an analysis of reasonable alternatives that do not require direct discharge to a Tier II water body (no-discharge alternative). The analysis shall include cost data and estimates to determine the cost effectiveness of the alternatives".

2. For land disturbing projects that result in permanent land use change, this 'no discharge' analysis specifically evaluates the reasonability of other sites or alternate routes which could be developed to meet the project purpose, but are located *outside* of the Tier II watershed. Reasonability considerations, as applicable, may take into account property availability, site constraints, natural resource concerns, size, accessibility, and cost to make the property suitable for the project.

[1] https://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Documents/Tier-II-Forms/TierII_NoAdditionalReview_v1.1.pdf
[2] https://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Documents/Tier-II-Forms/TierII_NoDischargeAnalysis_Form.pdf

3. This analysis shall be performed regardless of whether or not the applicant has ownership or lease agreements to a preferred property or route.

Tier II Minimization Alternative Analysis Form V1.2:[3]

1. Code of Maryland Regulations (COMAR) 26.08.02.04-2 (G(3)) states that "If the Department determines that the alternatives that do not require direct discharge to a Tier II water body are not cost effective, the applicant shall: (a) Provide the Department with plans to configure or structure the discharge to minimize the use of the assimilative capacity of the water body".

2. This form helps to ensure that water quality impacts due to the proposed project are comprehensively identified and minimized.

3. To demonstrate that appropriate minimization practices have been considered and implemented, applicants must identify any minimization practices used when developing the project, calculate major Tier II resource impacts, consider alternatives for impacts, and adequately justify unavoidable impacts.

Tier II Mitigation Analysis Form V1.0:[4]

1. Code of Maryland Regulations (COMAR) 26.08.02.04-2 (G(3)) states that "If the Department determines that the alternatives that do not require direct discharge to a Tier II water body are not cost effective, the applicant shall: (a) Provide the Department with plans to configure or structure the discharge to minimize the use of the assimilative and non-assimilative capacity of the water body".

2. No net change in Tier II water quality is the overarching goal of the Tier II Review, and mitigation is an essential part of the analysis process to reduce cumulative degradation prior to justification of unavoidable impacts.

3. This form helps to ensure that alternatives to mitigate or offset unavoidable impacts to Tier II watersheds and streams are identified and properly implemented.

4. Mitigation and offsets are required before MDE can evaluate any social and economic justifications.

Construction Stormwater Antidegradation Checklist - Version 1.3 :[5]

[3] https://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Documents/Tier-II-Forms/TierII_Minimization_Form.pdf
[4] https://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Documents/Tier-II-Forms/TierII_Mitigation_Form_v1.0.pdf
[5] https://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Documents/Tier-II-Forms/Antidegradation-Checklist.pdf

1. To complete the checklist, applicants are required to coordinate with the County or appropriate approval authority when developing construction plans and stormwater management plans.

2. Applicants are required to provide this form when seeking a NOI/DOI for coverage under the General Permit for Stormwater Associated with Construction.

3. Applicants are required to submit a Tier II Letter of Completion before coverage under the General Permit for Stormwater Associated with Construction is granted.

Talbot Branch UT 1; Weldon Creek 1; Big Hunting Creek 1; High Run 1, which is located within the vicinity of the Project, has been designated as a Tier II stream. The Project is within the Catchment (watershed) of the segment. (See attached map).

Currently, there is assimilative and non-assimilative capacity in these watershed; therefore at this time, no detailed social and economic justification is needed.

Planners should be aware of legal obligations related to Tier II waters described in the Code of Maryland Regulations (COMAR) 26.08.02.04 with respect to current and future land use plans. Information on the Antidegradation Policy can be obtained online at:
https://dsd.maryland.gov/regulations/Pages/26.08.02.04.aspx
and Tier II Waters are located at
https://dsd.maryland.gov/regulations/Pages/26.08.02.04-2.aspx

Planners should also note as described in the Code of Maryland Regulations (COMAR) 26.08.02.04-2(B), "Compilation and Maintenance of the List of High Quality Waters", states that "When the water quality of a water body is better than that required by water quality standards to support the existing and designated uses, the Department shall list the water body as a Tier II water body. *All readily available information may be considered to determine a listing. The Department shall compile and maintain a public list of the waters identified as Tier II waters*."

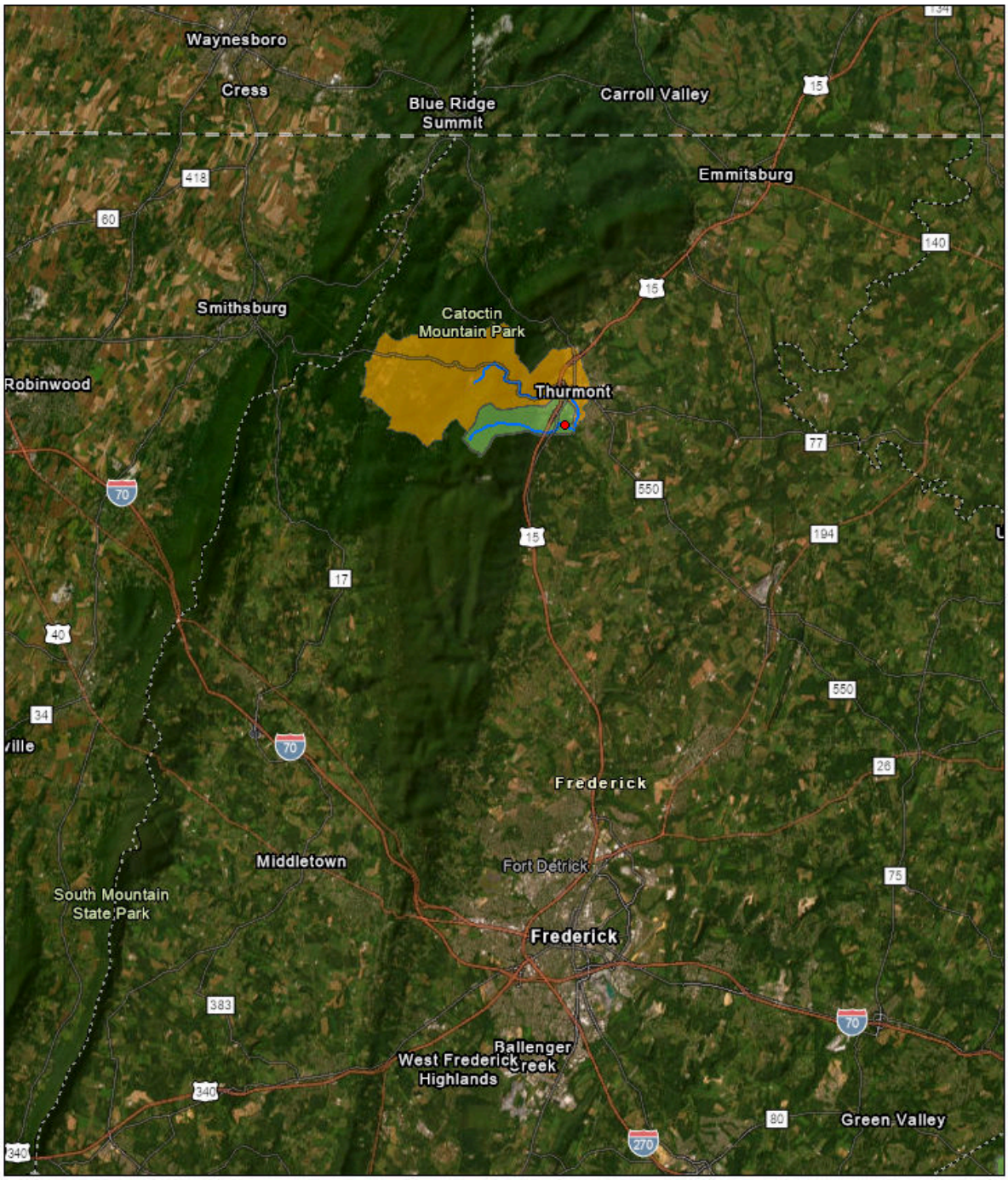
Additional Tier II resources are available on the Maryland's High Quality Waters (Tier II) website:
https://mde.maryland.gov/programs/water/tmdl/waterqualitystandards/pages/antidegradation_policy.aspx.

The public list is available in PDF from the following MDE website:
http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Documents/Tier_II_Updates/Antidegradation-Tier-II-Data-Table.pdf.

The interactive Tier II webmap is located at the following website:
(https://mdewin64.mde.state.md.us/WSA/TierIIWQ/index.html).

Direct any questions regarding the Antidegradation Review to Angel Valdez via email at angel.valdez@maryland.gov, or by phone at 410-537-3606.

MD20240715-0580 - Big Hunting Creek 1; High Run 1



7/30/2024, 10:49:02 AM

1:288,895

0 1.75 3.5 7 mi

0 3 6 12 km

Tier II AC Catchments 2022

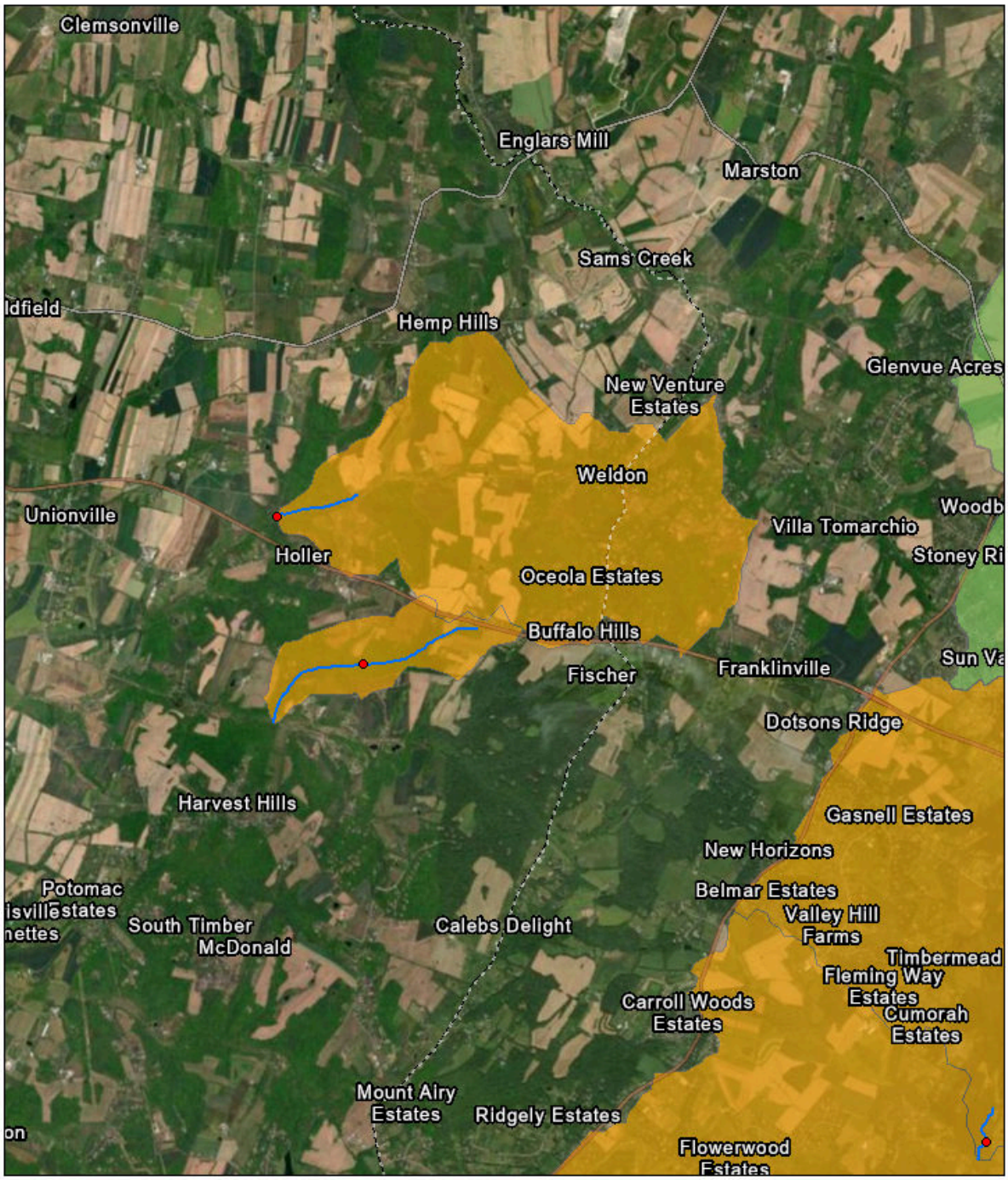
- Assimilative Capacity Remaining
- No Assimilative Capacity Remaining
- Tier II Stream Segments 2022
- Tier II Baseline Stations 2022
- Maryland County Boundaries

Earthstar Geographics, Creator: Maryland Department of the Environment, Water and Science Administration (MDE WSA), MDE, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

Web AppBuilder for ArcGIS

MDE | Creator: Maryland Department of the Environment, Water and Science Administration (MDE WSA) | MD IMAP, MDP, SDAT | Earthstar Geographics | Esri, TomTom, Garmin, SafeGraph,

MD20240715-0580 - Talbot Branch UT 1; Weldon Creek 1



Flooding:

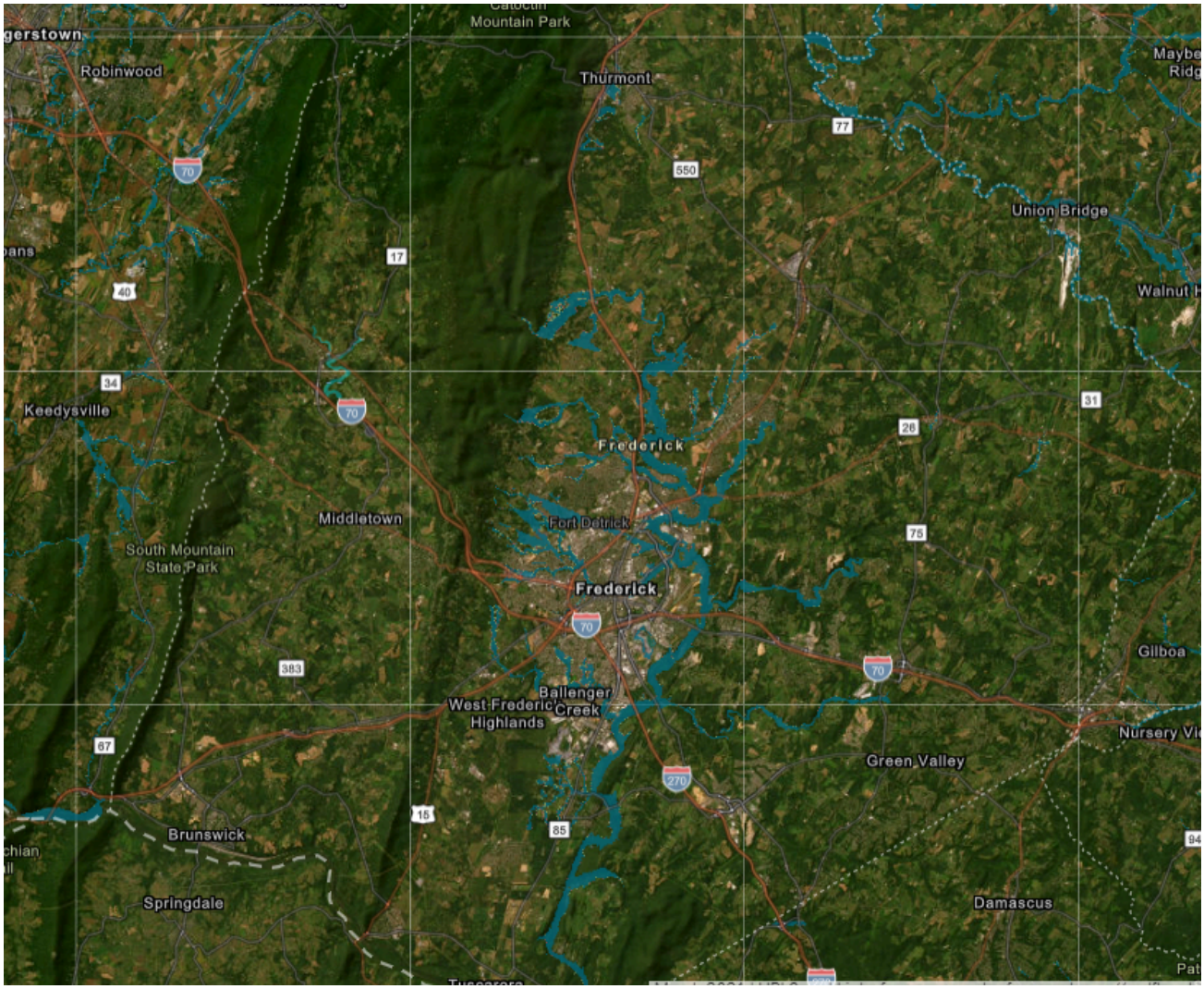
Please be advised, the property in MD20240715-0580 is in close proximity to Flood Zone A, AE (100-year Floodplain), and X (500-year Floodplain). The project coordinator(s) should follow local floodplain ordinances and Federal Emergency Management Agency's guidelines and standards.

It is advised that the coordinator(s) consider climate resiliency, which could include but not limited to the following steps (https://toolkit.climate.gov/):

- Explore Hazards: Identify climate and non-climate stressors, threats, and hazards and how they could affect assets (people and infrastructure).
- Assess vulnerability and risks: Evaluate assets vulnerability and estimate the risk to each asset.
- Investigate options: Consider possible solutions for your highest risks, check how others have responded to similar issues, and reduce your list to feasible actions.
- Prioritize and plan: Evaluate costs, benefits, and capacity to accomplish each action integrating the highest value actions into a stepwise plan.
- Take action: Move forward with your plan and check to see if your actions are increasing your resilience with monitoring.

The coordinator(s) is advised to contact Dave Guignet, State National Flood Insurance Program Coordinator, of MDE's Stormwater, Dam Safety, and Flood Management Program, at (410) 537-3775 for additional information regarding the regulatory requirements for Floodplains and Storm Surges.

The coordinator(s) is advised to contact Matthew C. Rowe, CC-P, Deputy Director of MDE's Water and Science Administration, at (410) 537-3578 for additional information regarding Climate Change and Resiliency.


Mountain Park
Robinwood
Thurmont
Union Bridge
Keedysville
Frederick
Middletown
South Mountain
State Park
Fort Detrick
Frederick
Gilboa
Ballenger
Creek
West Frederick
Highlands
Green Valley
Brunswick
Springdale
Damascus
70
77
550
17
40
34
31
28
75
383
67
15
85
270

MDE Comments for Environmental Clearinghouse Project
MD20240715-0580

Response Code: R-1

1. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land and Materials Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.

2. If the proposed project involves demolition – Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional information.

3. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Resource Management Program at (410) 537-3314 for additional information regarding recycling activities.

4. The Solid Waste Program should be contacted directly at (410) 537-3315 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

5. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please Land Restoration Program at (410) 537-3437.

6. Borrow areas used to provide clean earth back fill material may require a surface mine permit. Disposal of excess cut material at a surface mine may requires site approval. Contact the Mining Program at (410) 537-3557 for further details.

Maryland Department of Planning
301 West Preston Street
Suite 1101
Baltimore, MD 21201

Memo: MD DNR comments on Frederick County WRE Amendment

To: Susan Llareus
cc: Rita Pritchett

On behalf of the Department of Natural Resources, thank you for the opportunity to comment on Frederick County's Amendment to the Water Resources Element The draft document was distributed to appropriate contacts at the Maryland Department of Natural Resources and reviewed. DNR offers the following comments:

This plan is very comprehensive. The county has done a great job highlighting what watersheds have the highest impervious surface and require the need for stormwater retrofits and other mitigation to reduce the negative effects of stormwater runoff on stream conditions.

Based on the Floodplain Management section, the county requires a minimum buffer of 100'. This is a very proactive minimum buffer width compared to other plans recently reviewed. However, the plan does not include initiatives to increase riparian buffers in watersheds and areas where buffers are inadequate. DNR recommends that the County include goals/initiatives to increase or improve riparian buffers where needed and to include a plan to monitor and maintain those buffer plantings to reduce impacts from invasive species, deer, etc.

The County has done a tremendous effort in GIS identifying areas where other mitigation priorities should be focused. DNR recommends that the County identify areas within each watershed where riparian buffers are currently lacking and should be improved if funds are available to do this. Riparian buffer improvements should be focused first in watersheds that currently maintain high biological conditions reflected in IBI scores and/or the presence of important, rare aquatic resources (e.g., Brook Trout). Stream restoration projects in watersheds with high impervious surfaces (>10%) may be effective at reducing nutrient and sediment loads to receiving water bodies. However, the County should not expect biological uplift resulting from these projects – meaning that the biological condition of these urbanized watersheds are not likely to change based on these efforts.

Once again, thank you for the opportunity to provide comments. If you have any questions about these comments or would like further information, please do not hesitate to contact me at 443-534-4151 or christine.burns1@maryland.gov.

Best,
Christine Burns

Flom, Karin

From: Sue Trainor <sue.trainor.music@gmail.com>
Sent: Tuesday, November 12, 2024 2:31 PM
To: Planning Commission
Subject: Comments re Water Resources Plan
Attachments: Comments re Water Resources Report 11_12_24.pdf; Project Holiday - Memo - V2-12-11.pdf

Categories: Blue category

[EXTERNAL EMAIL]

Good afternoon,

Please find attached the Sugarloaf Alliance's comments re the Water Resources report. Also attached is an Amazon-generated document - "Project Holiday" - offering data pertaining to data center water usage.

Thank you for your consideration.

Sincerely,
Sue Trainor
Vice President
Sugarloaf Alliance

SUGARLOAF ALLIANCE

To: Frederick County Planning Commission
From: Sugarloaf Alliance
Date: 11/12/24
RE: FCPC DRAFT Water Resources Element

Sugarloaf Alliance appreciates the staff work that has gone into this forward-looking water resources report. However, with development of a new large industry (data centers) in Frederick County, we recommend that the FCPC report address this new industry explicitly and as comprehensively as possible. Data centers rank among the "top 10 water users in America's industrial and commercial sectors." [1]

Although water consumption information is often difficult to assertain, estimated water use for a mid-size data center is around 300,000 gallons per day[2], and researchers estimate water use for large data centers "can be as much as 5,000,000 gallons per day".[3]

Our concern becomes evident when one compares these numbers to the currently permitted withdrawal at the County's main water treatment plant (the New Design treatment plant). The permitted withdrawal is 16,000,000 gallons per day, and even without a full estimation of Frederick County data center water needs, water use is expected to significantly increase. Conceivably, this expected increase could change by orders of magnitude, depending on the full build-out of data centers on as much as 10,000 acres of land. The original Amazon Plan estimated a total consumption of 2,040,000 gallons per day (see attachment). Have data center volumes like these been included in the estimated demand increase of 3.3 MGD by 2035?

At the very least, this report should provide some analysis and insight into the impacts of anticipated data center development on our water supply, treatment capacity, and surface and ground water quantity and quality.

[1] https://www.npr.org/2022/08/30/1119938708/data-centers-backbone-of-the-digital-economy-face-water-scarcity-and-climate-ris
[2] https://www.npr.org/2022/08/30/1119938708/data-centers-backbone-of-the-digital-economy-face-water-scarcity-and-climate-ris
[3] https://www.washingtonpost.com/climate-environment/2023/04/25/data-centers-drought-water-use/

The Basis of Estimation of Future Needs is Unclear and Flawed

The introduction of this Report states that:

> Estimates for future conditions are informed by three sources: the residential pipeline, Round 10.0 cooperative forecasts from the Washington Metropolitan Council of Governments, and County and municipal staff knowledge of local plans, trends, and constraints. The WRE considers two time periods (2035 and 2050).

A general 5% increase in residential development and job growth does not accurately or sufficiently predict growth in demand for water resources when a new major industry (data centers) is being developed. Also, the section on projecting population growth and development (pages 1-10 through 1-12) does not address the expected growth in the data center industry in the county.

This a major failure of the report and could greatly impact the effectiveness of planning for the future. Again, please realistically address the expected increase in data center development in this report.

Investing in Workers and Workplaces

The county has undertaken a separate inquiry, dubbed "Investing in Workers and Workplaces," which demonstrates the County government's desire for an increase in the amount of commercial and industrially zoned land in the county. How has this study been reflected in the future-looking water resources report?

More Detail Needed to Understand What Is Covered Under "Quantum Data Center Campus"

The plan states that "the Quantum Frederick Data Center campus is located within Ballenger-McKinney WWTP service area. The projected wastewater yield for this project has been included in the Projected Flow for 2035 and 2050." However, it's not clear how much of this "project" is represented in the estimates. Is it only the data centers that have currently applied for permits, or is it the complete Quantum Loophole area? Please clearly state in detail the data center facilities that are included in the estimates representing the Quantum Data Center Campus in this report.

Disclose Level/Factors of Uncertainty in Estimation for Future Water and Sewer Use

With the level of specificity of estimation results, one would expect that accuracy is high; however, again, the expected growth of the data center industry is not clearly represented in this report. If the County has more accurate estimates of the amount of water expected to be used, sharing that information would be helpful to present a full picture of expected water-related needs in the future. Clarity concerning the level of uncertainty in the estimated future numbers - either in numeric or conceptual form - is necessary to maintain credibility of this document.

Additional Specific Recommendations

1. Add a section to the report that directly and comprehensively addresses the expected growth of the data center industry in Frederick County and its potential impact on all facets of water resources.

2. At a minimum, include a bounding analysis that shows both high and low numbers for water supply and for wastewater treatment demand that represent the estimated upper and lower bounds of possible data center site development.

3. Add language clarifying the level of confidence of the estimates, including level of uncertainty due to data center growth.

4. Page 2-21 and 2-22 address low flow augmentation which can be triggered if any permit allows for "consumptive water use if the maximum consumptive water use can exceed 1-million gallons per day (1 MGD) at any time." We appreciate the statement that "Future planning efforts that focus on the establishment or development of industrially zoned land that can support packaging plants or technological applications like data centers should be undertaken with consideration of the implications of consumptive use," and the clarity of "the establishment of an augmentation system represents a significant investment in terms of time, effort, and expense which should borne by permittees and not the citizens of Frederick County."

   Again, we believe that, to best support planning efforts in the county, the possibility of large data center consumptive use should be more fully explored and future use projected with the rigor the report uses to consider residential growth. Are there any anticipated data centers or groupings of data centers that could trigger this threshold?

   The report does not address the high potential for extensive data center development throughout the southern part of the county. If the Quantum facility is fully built out, how much water would be expected to be used consumptively and would it be above 1,000,000 gallons per day at any time?

5. Also, for purposes of accuracy, could the County confirm whether Quantum Loophole still plans to use grey water from the Ballenger-McKinney Wastewater Treatment Plant, the status of the construction of the expected pipeline, and the expected timeframe? Will Quantum Loophole have to construct any sort of grey water treatment system prior to being able to use this water? Also, are there concerns about the amount of salts potentially expected to be in any wastewater discharged from data centers to county-owned waste water treatment plants?

Location of Clusters

Overall, three clusters are being considered for development (see Appendix 1):

- Buckeystown (Eastalco Alcoa Works Site)
- Urbana
- Brunswick

Each cluster will have **4 distinct campuses** (in turn each campus will have 4 data centers – a total of 16 data centers per cluster).

Water and Wastewater Service Demand

The data centers are designed to use direct evaporative cooling (see Figure 1), which requires water to achieve the necessary cooling. On average, cooling water will be cycled up 3 times before being discharged as wastewater.

Figure 1: Direct Evaporative (adiabatic) cooling process
Source: https://www.evapco.eu/

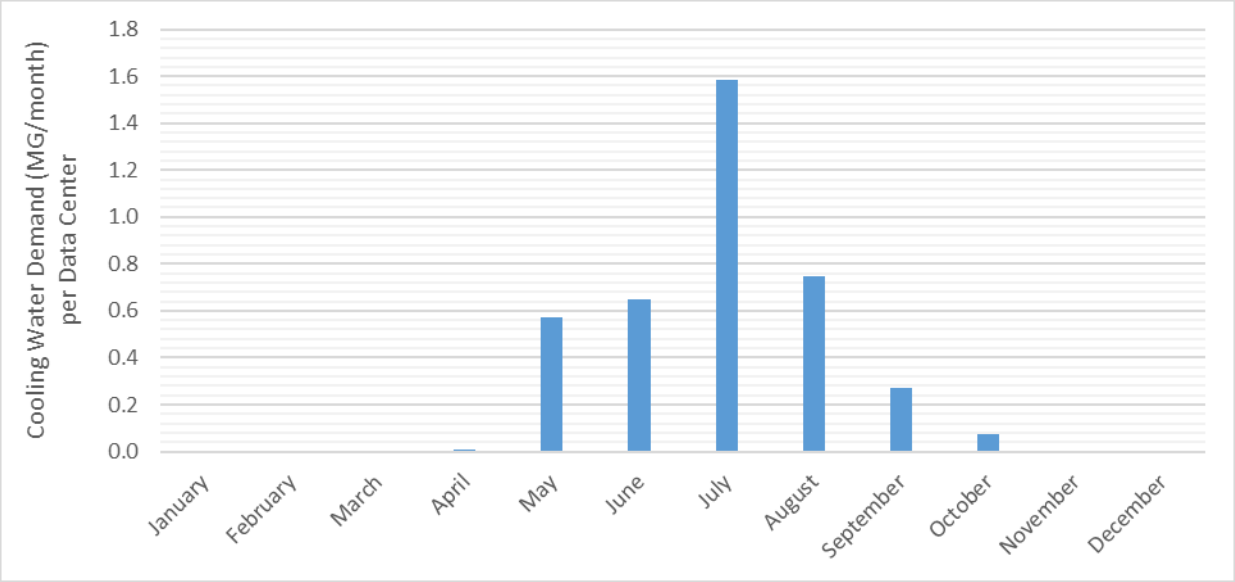
Cooling water and wastewater demand per datacentre/campus/cluster can be found listed in the table below.

	Buckeystown	Urbana	Brunswick
Gallons per day			
Peak day per Cluster	2,720,000	2,720,000	2,720,000
Avg per AZ (peak month)	880,000	880,000	880,000
Avg per AZ (annualized)	224,000	224,000	224,000
Peak day per Campus	680,000	680,000	680,000
Avg per campus (peak month)	220,000	220,000	220,000
Avg per campus (annualized)	56,000	56,000	56,000
Peak day per Bldg/data center	170,000	170,000	170,000
Avg per bldg/data center (peak month)	55,000	55,000	55,000
Avg per bldg (annualized)	14,000	14,000	14,000
Net Consumptive Use			
% used for cooling	60	60	60
% returned as wastewater after cooling	40	40	40
Per Cluster			
# campuses	4	4	4
#data centers/bldgs	16	16	16

In summary, each campus, **on the peak day of the year**, would demand 680,000 gallons of cooling water per day, of which 408,000 gallons would be evaporated, and 272,000 will be discharged as wastewater.

The cooling water demand of our data centers is seasonal, and between October and April, we use little to no cooling water as we primarily rely on ambient air to cool our data centers.

Monthly cooling water demand for a data center of ours during a typical metrological year varies as follows:



Source of Water and Discharge Locations

The proposed water sources and wastewater discharge locations for each cluster is summarized below:

Cluster	Water Source	Wastewater Discharge Locations
Buckeystown	• Reclaimed Water from Ballenger McKinney Plant	• Ballenger McKinney Plant
Urbana	• 2 Campuses – Potable Water Supply from Frederick County/ City of Urbana • 2 Campuses – Water from Monocacy River with potable water potentially as back-up	• City of Urbana **and** • Monocacy River **or** • Little Bennett Creek
Brunswick	• Potomac River	• Potomac River

The peak day /monthly demands on the Monocacy River, Little Bennet Creek and Potomac River would be:

River	Cluster	To Service	Water		Wastewater	
			Peak Day (MG per day)	Peak Month (MG per month)	Peak Day (MG per day)	Peak Month (MG per month)
Monocacy River	Urbana	Per Campus	0.68	6.4	0.27*	2.6*
		Total (2 Campus)	1.36	12.8	0.54*	5.1*
Little Bennett Creek	Urbana	Per Campus	N/A	N/A	0.27*	2.6*
		Total (2 Campus)	N/A	N/A	0.54*	5.1*
Potomac River	Brunswick	Per Campus	0.68	6.4	0.27	2.6
		Total (4 Campus)	2.72	25.6	1.09	10.2

* For Urbana we will either discharge to Monocacy River or to Little Bennet Creek (we are also actively evaluating whether 2 Campus can directly discharge to Urbana's sewer system)

Temperature of Discharged Water

Because the cooling process is adiabatic, no heat is exchanged into the cooling water. Rather the air temperature is reduced when energy is used to change the phase of water from liquid to vapor (reduces temperature, increases humidity). Thus, the temperature of the cooling water discharge will be at or below ambient dry-bulb conditions.

Quality of Discharged Water

The contaminants in the wastewater will be directly related to the influent water quality. When pure water evaporates into the filtered air stream, the total dissolved salts (TDS) of the remaining water in the cooling unit's sump will increase. This sump water will be recycled and reused until the cycles of concentration (CoC) reaches approximately 3.0 times the cooling water quality. At this point, the water will be discharged to drain and the cooling unit refilled with fresh water.

The only routine water treatment is filtration, maintenance of the chlorine residual at 2 ppm total chlorine, and UV disinfection. In the rare event that a routine AHU bacteria test triggers a corrective response, chlorine (bleach) will be added to the Cooling Unit's basin. Approximately 50 gallons of water will be disinfected, and then the chlorine residual neutralized to less than 1 ppm before discharging the water.

There will be no measureable addition of Biological Oxygen Demand (BOD) or other organic loading, as there is no risk of air-side contamination from the filtered air stream. The bacteria levels in the water system will be measured routinely to maintain a clean system and manage bacterial growth.

Questions of MDE

1. Comment on whether sufficient capacity is available in the Potomac and Monocacy Rivers to meet the water demands estimated above?

    a. Comment on regulatory timelines, procedures and requirements for withdrawing water in quantities listed above. Particularly advise of any storage requirements that might apply. Should storage requirements apply, are there any other options available (e.g., reducing consumptive use during certain periods)?

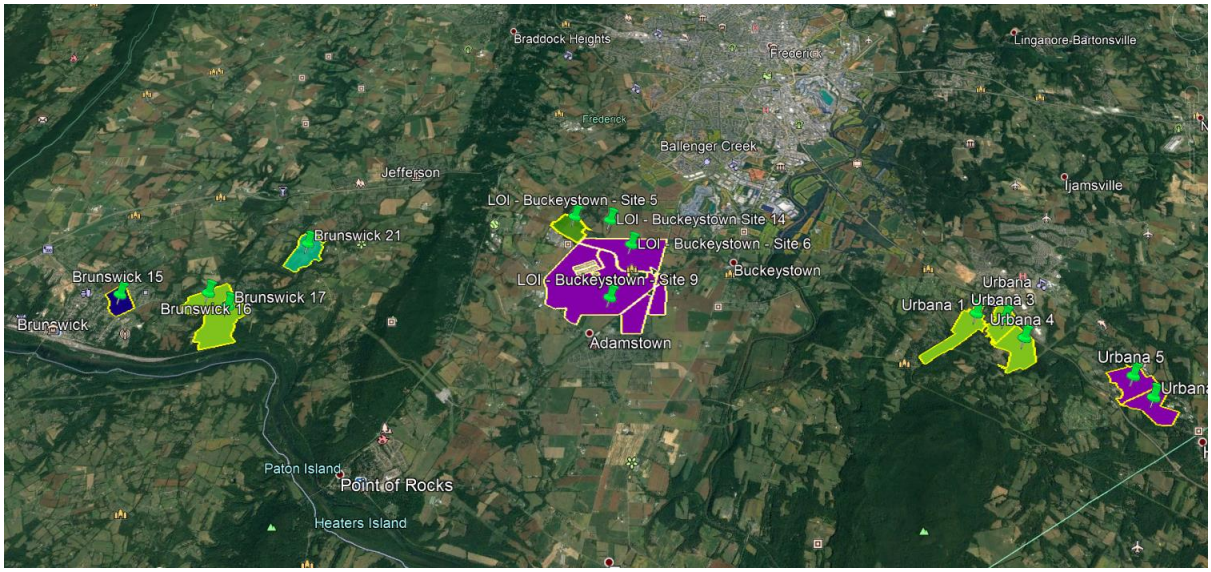
2. Comment on the possibility of discharging wastewater to Potomac, Monocacy River and Little Bennet Creek in quantities listed above?

    a. Comment on regulatory timelines, procedures and applicable discharge standards
    b. Comment on permit modifications which would be required for the Ballenger-McKinney WWTP NPDES discharge permit to allow the use of reclaimed wastewater effluent.

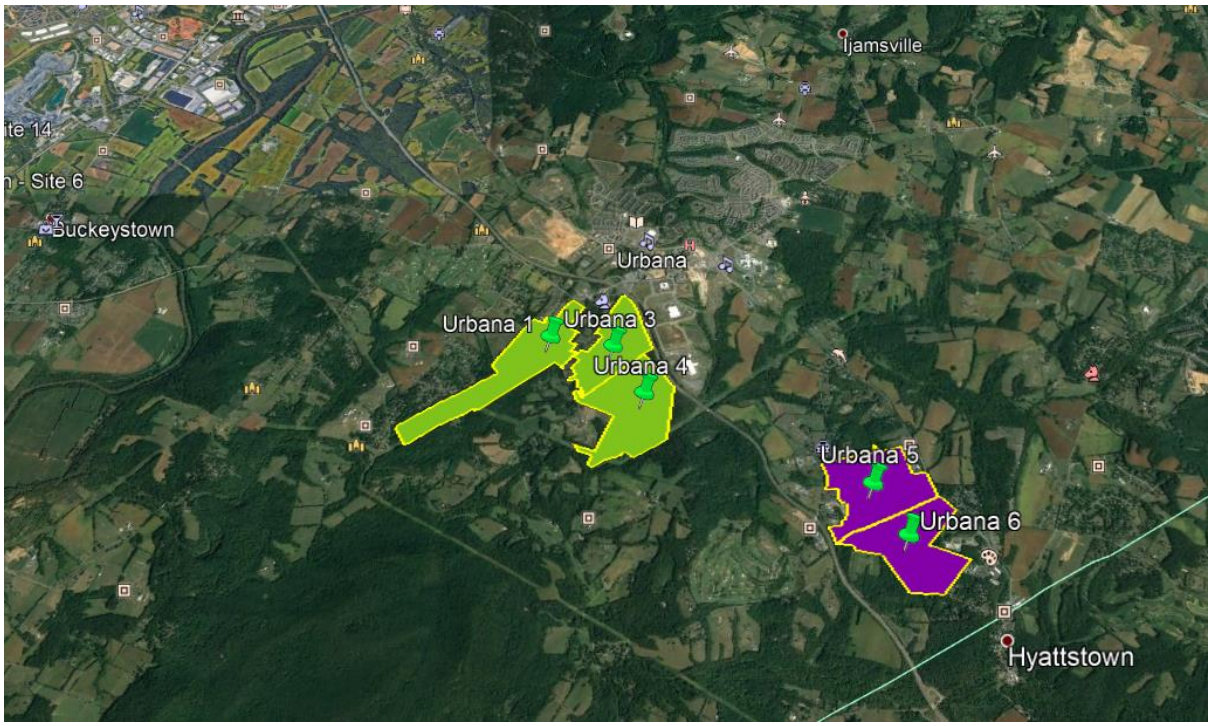
3. Assuming local geotechnical conditions are favourable, comment on the possibility of reusing wastewater at each campus through groundwater recharge?

Appendix A

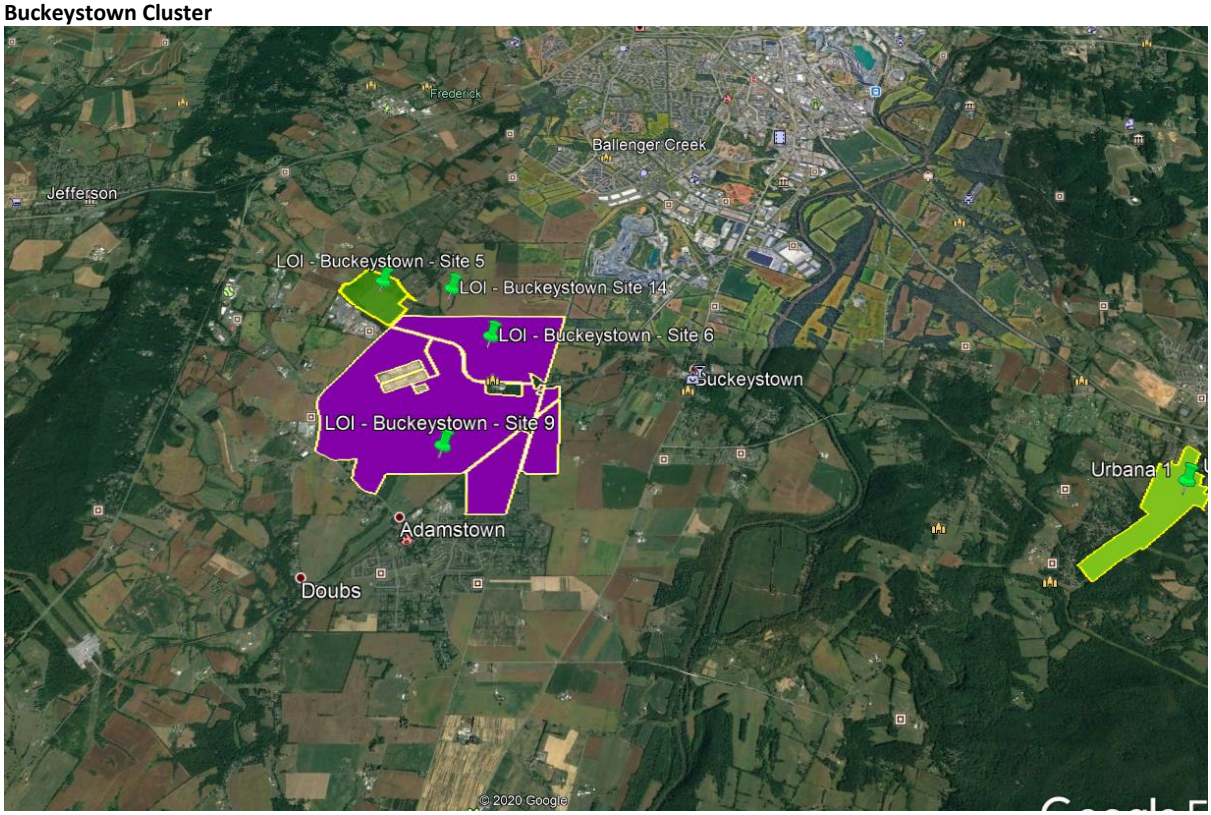
Overview of Three Clusters



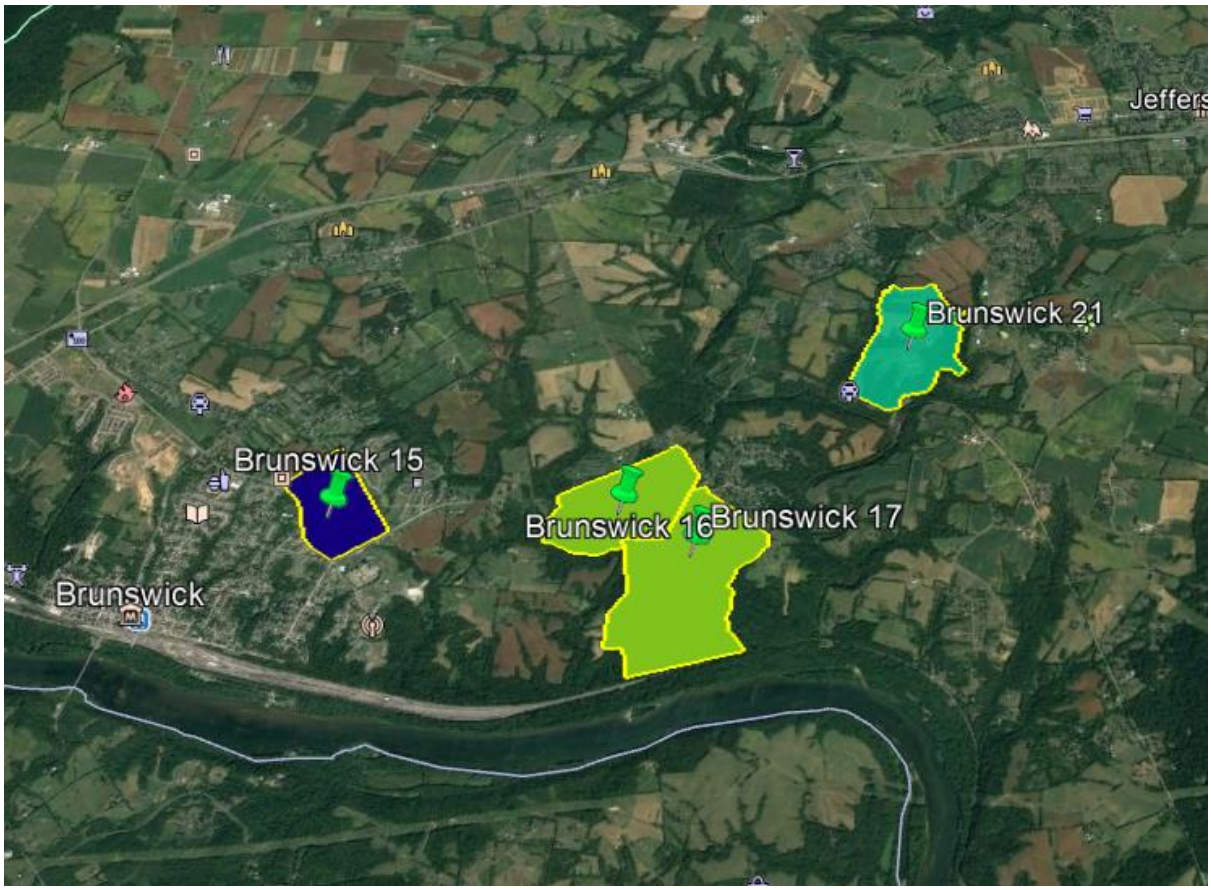
Urbana Cluster



Buckeystown Cluster



Brunswick Cluster



Flom, Karin

From: Nick Carrera <mjcarrera@comcast.net>
Sent: Wednesday, November 13, 2024 8:43 AM
To: Gaines, Kimberly
Cc: Planning Commission
Subject: Pharma for Frederick?

[EXTERNAL EMAIL]

Kim,

I heard that Astra Zeneca views Maryland as possible location for new facility, part of a $2B investment in U.S. I wonder if Frederick Co. might be in the running. It'd mean more jobs than data centers can provide, so it should be right up the IW2 "alley."

From what I've seen/heard about the water plan coming up today before the PC, apparently for both "hearing" and "decision" (isn't that a bit of a rush??), it ignores possible, even likely demand from planned QL data centers, much less for those envisioned by Fitzwater and Moore throughout the lower county. Something as important as adequate water for county residents and businesses deserves thorough consideration.
I'd suggest more time for public hearing and PC consideration.

Best wishes,

Nick