DATE: September 8, 2021
TO: Board of County Commissioners; Planning Commission
Amy Moredock, Director of Planning & Zoning
FROM: Lauren Good, AICP—Wallace Montgomery Project Manager
SUBJECT: 2021 Comprehensive Plan Update Briefing Memo #14

This memo provides a status update on various work and topics related to the 2021 Comprehensive Plan that will be discussed at the September 14, 2021 Joint Informational Meeting of the Board of County Commissioners and the Planning Commission.

Staff Updates on Key Issues

County staff will provide an overview and status update on sewer capacity as it relates to the draft Land Use Chapter. This will include an overview of the following topics:

1. History of the Total Maximum Daily Load (TMDL) and Watershed Implementation Plans (WIPs)
2. Maryland Department of Environment/QAC NPDES Permit/QAC Water and Sewer Plan
3. Sewer Capacity Management Strategies
    a. Short Term Options
    b. Long Term Options
4. APFO requirements

Please see the attached documents:

- Sewer Capacity Strategies (including Schedule A Summary),
- Frequently Asked Questions, and
- Resolution #04-68 for reference.

Wallace Montgomery Update

Chapter 1—Introduction

Chapter 1 provides an overview and introduction to **PlanQAC**. The included sections primarily updated and expanded on information from the *2010 Plan*. Major changes from the *2010 Plan* include the addition of planning legislation enacted after the Plan's adoption, information on the various community outreach elements, and discussions of the plan themes. The updated Vision Statement and Guiding Principles are based on input from the public and Technical Committee.

Updated Vision Statement	Updated Guiding Principles
PlanQAC's vision is to preserve the County as a quintessential rural community whose overall character exemplifies it as: ▪ A GREAT PLACE TO LIVE—Queen Anne's County is a predominantly rural county with small towns connected by creeks and county roads through fields and forests ▪ A GOOD PLACE TO WORK—Queen Anne's County encourages agriculture, seafood and maritime industries, tourism and outdoor sports, and small business and high-tech enterprise ▪ A GOOD NEIGHBOR—Queen Anne's County is a faithful steward of its natural and cultural heritage for the Bay and other Eastern Shore counties ▪ A PROTECTIVE COMMUNITY—Queen Anne's County cultivates its citizens' expectations and opportunities, emphasizing development should not impair the quality of life enjoyed by all ▪ A SUPPORTIVE COUNTY—Queen Anne's County supports the highest quality of education for its citizens, seeking to fully prepare them for the future	**PlanQAC**'s emphasis is to preserve the County's connections to create a sustainable future by strengthening principles for planning and growth management. These guiding principles emphasize sustaining Queen Anne's County: ▪ As a predominantly rural agricultural community ▪ As a good steward by preserving and protecting the Chesapeake Bay and its tributaries ▪ By reducing the growth of new residential development in agricultural and rural areas ▪ By improving the overall quality of housing stock ▪ By addressing the relative lack of affordable housing ▪ By delivering adequate public services including transportation and other infrastructure through community planning and design ▪ By encouraging and directing growth to existing communities and within designated areas.

Chapter 2—County Profile

Chapter 2 is a new summary chapter, intended as an overview of the County's geography and geographic makeup, as well as a collection of demographic trends, statistics, and comparisons. These items are referenced, and expanded analysis occurs in the relevant topic chapters.

KEY ISSUES & MAJOR UPDATES:

- Updated statistics incorporate the 2015-2019 American Community Survey and the 2020 Census.
- Provides brief overview information on the County's unincorporated communities (e.g., Chester, Crumpton, Dominion, Grasonville, Ingleside, Kent Narrows, Kingstown, Love Point, Matapeake, Price, Romancoke, Ruthsburg, Stevensville), which was not present in the *2010 Plan* beyond discussion of the Community Plans and Growth Areas.

Chapter 3—Community Facilities & Services

Chapter 3 provides information on community facilities and services, public utilities, and open space and recreation, all of which are requirements under the *Land Use Article*. This new chapter utilizes the *2010*

Plan's Chapter 8.0—Community Facilities & Transportation as a baseline; however, it focuses solely on facilities, services, and parks/recreation, leaving transportation issues to a future chapter.

The chapter incorporates public input heard to date. New to this update is an overview of the County's government structure including elected positions, boards and commissions, County departments, and the court system. The chapter updates and expands on public safety facilities and services. It condenses the discussion of water and wastewater, instead pointing readers to Chapter 5 and Appendix D, which discuss environmental resources and the Water Resource Element in more detail. Additional new/updated content includes information from the *2020 Broadband Strategic Plan*, *2015 Comprehensive Solid Waste Plan*, *2005 Study…on Curbside Collection*, recent Department of Planning school State Rated Capacities, the QAC Board of Education's *2019 Educational Facilities Master Plan*, and *2017 Land Preservation, Parks & Recreation Plan*.

KEY ISSUES & MAJOR UPDATES:

- Adequate Public Facilities discussion
- Public school enrollment projections and State Rated Capacity
- Broadband/telecommunication needs

Chapter 4 — Land Use (incl. Priority Preservation)

Chapter 4 provides information on the County's land use and priority preservation efforts, including guiding principles and legislation; connection between land use and zoning; land use changes; issues, challenges, and opportunities surrounding agricultural and forest land preservation; preservation programs; scenic byway designation; growth management strategies; land use allocations; zoning; and BMPs, tools, and techniques.

Meetings with the Technical Committee and Special Topic Workshop were held in June 2021. The chapter incorporates public input heard to date. New to this update is the inclusion of the required Priority Preservation Area element within this chapter as well as the more in depth discussion of Adequate Public Facilities and recommendations for addressing sewer capacity limitations at the KNSG Wastewater Treatment Plant. The chapter updates and expands on preservation programs and lands in preservation and incorporates a discussion on County zoning. Additional new/updated content includes information from the *2020 Broadband Strategic Plan*, *2015 Comprehensive Solid Waste Plan*, *2005 Study…on Curbside Collection*, recent Department of Planning school State Rated Capacities, the QAC Board of Education's *2019 Educational Facilities Master Plan*, and *2017 Land Preservation, Parks & Recreation Plan*.

More detail on the Adequate Public Facilities and Sewer Capacity discussions can be found with Chapter 5—Environmental Resources and Appendix D—Water Resources Element.

Comprehensive Rezoning Requests

The Planning Commission held discussions on Future Land Use and Growth Area considerations related to the received Comprehensive Rezoning Requests (CRR) during their July 8, 2021 and September 9, 2021 meetings.

As part of the County's Comprehensive Plan update process, property owners are provided the opportunity to have their property re-evaluated for change to a different land use and zoning district. Property owners could submit a comprehensive rezoning request to request a new zoning classification for their property, including the redesignation of the property on the Land Use Plan, to maintain consistency between the Comprehensive Plan and the Zoning Map. Pursuant to the *Smart, Green & Growing Planning Legislation*, passed in 2009 by the Maryland General Assembly, "consistency" between the Comprehensive Plan and the zoning ordinance are actions that further, and are not contrary to, the various parts, policies, implementation timing, development timing; rezoning timing; development patterns; land uses; and densities or intensities of use. Therefore, the test for consistency between the Comprehensive Plan and Zoning has been elevated.

During the current Comprehensive Plan update process, a total of 46 comprehensive rezoning requests were received. The first step of the request review process is the Planning Commissions' evaluation and consideration of each of the 46 requests to determine if they are consistent with the goals, objectives, and purpose of the County's draft 2021 Comprehensive Plan and corresponding Land Use Map.

Land Use and Zoning

Land use and zoning are distinct yet related concepts:

- **Existing land use** describes (or depicts on a map) how a piece of land is being used at a certain point in time. For example, if a parcel has a single-family home on it, the use of that land is residential.
- **Zoning** is a system of classifications and regulations that designate the permitted uses of land. The zoning map shows which zoning classification (district) is assigned to a parcel of land. The zoning code is the written regulation that describes permitted uses, minimum lot sizes, setbacks, etc. that are associated with a particular zoning district.
- **Future land use** describes (or depicts on a map) what the County has determined to be the most desirable use type for a particular area and is meant to guide the general type of future development and redevelopment in those areas. The Future Land Use Map will not change existing zoning classifications but is considered by the County when making future rezoning recommendations.

There are many factors considered when trying to determine preferred future land use patterns. Potential for incompatible land uses, available utilities, existing land use patterns, transportation network, effects on the natural environment, land preservation desires, and economic development goals are just a few to be considered.

Comprehensive Rezoning

Zoning is the most fundamental planning implementation tool—the zoning ordinance establishes regulations for the use of land and some standards for development within identified zoning district boundaries. The related zoning map identifies properties that fall within different zoning categories. Zoning regulations must be uniform for each class or kind of development throughout each district, but usually differ between districts.

Property owners, others with a proprietary interest in land, and the elected governing body can request changes to the zoning designation on a particular parcel or parcels of land. “Comprehensive rezoning” occurs due to a policy change and is associated with the enactment of Comprehensive Plan strategies during the update of the Zoning Code and Zoning Maps. Even if it only results in the rezoning of a single piece of property, it is still called “comprehensive” because it is based on a thorough, comprehensive assessment of the area under consideration.

Individual rezoning, or rezoning that takes place outside an established comprehensive rezoning process, puts a more difficult burden of proof on the applicant due to the “change or mistake rule.” In these instances, the legislative body has to find that the rezoning is consistent with the comprehensive plan and that the current zoning was applied in error, or that a change in the neighborhood occurred in the time since the current zoning was adopted.

Technical Committee Meeting Recap

On July 19, 2021, the Technical Committee reviewed all rezoning requests for land use consistency with the future land use map from the 2010 Comprehensive Plan and the draft 2021 Comprehensive Plan. Each request was reviewed and considered in conjunction with the following resources: Zoning Map, Sewer and Water Service Area, Priority Funding Area, Priority Preservation Area, Growth Area, Chesapeake Bay Critical Area, QAC Sea Level Rise & Coastal Vulnerability Plan and Viewer, and Community Plans. The requests were also reviewed for consideration with the following:

- Adequate Public Facilities Ordinance (capacity of sewer, water, schools, and roads)

- Development potential for a parcel should the land use change (consideration given to available or already established sewer capacity and allocations based on *Schedule A*)
- Expansion of an existing business or economic development
- Expansion or creation of a nonconformity
- Frequency and similarity of requests within a similar geographic region (i.e. establishment of change in character of a neighborhood or a public need)
- Consistency with zoning district (purpose statement, permitted uses, bulk standards)
- Identified future annexation and growth areas of incorporated towns
- Condensing of zoning districts
- Aerial photography of existing land use

These resources and consideration factors formed the Technical Committee's discussion framework for determining if requests were consistent with the future land use map from the 2010 Comprehensive Plan and the draft chapters and recommendations of the 2021 Comprehensive Plan.

KEY ISSUES & MAJOR UPDATES:

- Adequate Public Facilities & Sewer Capacity Limitations
- Growth Management & Growth Area Changes
- Comprehensive Rezoning Requests
- Sustained & Projected MALPF Certification Goals
- "Agricultural" Scenic Byway Designation

Chapter 5 — Environmental Resources

Chapter 5 provides information on environmental resources and sensitive areas, water resources, mineral resources, and fisheries, all of which are requirements under the *Land Use Article*. This chapter utilizes the *2010 Plan*'s Chapter 2.0—Sensitive Areas and Appendix 3—Water Resources Analysis and Best Management Practices Toolkit as a baseline.

The chapter incorporates public input heard to date, particularly that from the Special Topic Workshop and Technical Committee meeting, both held in February 2021. It also incorporates information from one-on-one discussions with a number of County staff. New to this update is an overview of climate change impacts and hazard mitigation. The chapter updates and expands on resource areas (now sensitive areas and environmental resources) and incorporates more fully water resources analyses. This chapter also includes the discussion of water and wastewater, previously found in Chapter 8.0—Community Facilities and Transportation, collecting the relevant topic matter in one chapter rather than in multiple. Additional new/updated content includes information from the *2011 Comprehensive Water & Sewerage Plan* (and its amendments), *2011 Southern Kent Island Sanitary Project Report, 2016 Sea Level Rise and Coastal Vulnerability Assessment & Implementation Plan, 2018 Multi-Jurisdictional Hazard Mitigation Plan, 2020 Nuisance Flood Plan,* Phase I and II WIP, and various other resources.

We are still coordinating efforts with the incorporated towns to ensure pertinent data is accurately reflected.

Adequate Public Facilities—Guiding Principles

Capacity Limitations

On July 19, 2021, WM met with the members of the Technical Committee (TC) to discuss the County's APFO limitations with a focus on available sewerage treatment capacity and to formulate recommendations for the Planning Commission to consider for the Comprehensive Plan.

The TC acknowledged that during this planning cycle, the community finds itself nearing the limits of adequate public facilities including transportation infrastructure on its state and local roads, the Chesapeake Bay Bridge, local school capacity, and sewerage capacity permit restrictions at the County's KNSG Wastewater Treatment Plant. In addition to these infrastructure challenges, the County must contemplate sustainable and resilient land use policies in the face of necessary hazard planning.

The resulting recommendation options are provided below. After Planning Commission review, discussion, and direction at the August 12, 2021 meeting, resulting recommendations will be incorporated into our draft revisions and will be reflected in appropriate chapters (e.g., Land Use, Community Facilities, Environmental Resources, Town Planning Framework, Community Plans, Water Resources Analysis).

The existing 3 MGD capacity at the County's Kent Narrows/Stevensville/Grasonville Wastewater Treatment Plant (KNSG) is now nearly fully obligated by estimated existing and future capacity commitments. These commitments are estimated using a combination of the reported actual hydraulic flow through the plant and the reserved flow allocations for unbuilt development. The resulting estimates conclude that there is an insignificant amount of estimated remaining available capacity.

KNSG's maximum discharge or capacity is actually restricted by nutrients allocated by the Chesapeake Bay TMDL and a State issued NPDES permit. Specifically, KNSG may only discharge 36,547 pounds of nitrogen and 2,741 pounds of phosphorous per year. Nitrogen is the primary constraining factor; the plant currently is operating with the best available nitrogen removal technology. The NPDES permit is the subject of Federal and State review and renewal every five years.

The KNSG Plant has demonstrated outstanding operating performance and specifically has a superior nitrogen removal record. As a function of the plant's permit renewal, the quality of the discharge will be assessed along with the nutrient load reduction achievement. This exercise may result in a modest re-rating of the plant capacity based on its nutrient removal performance. This could yield a modest increase in the overall maximum capacity; therefore, it is essential to realistically prioritize any performance re-rating capacity. Once the re-rated capacity is allocated, it likely will not be feasible to add any additional capacity without a reduction in Federal/EPA and State water quality discharge standards associated with the NPDES program.

Recommendation Options

The following recommendations were reviewed and highlighted by the Technical Committee and have been incorporated into appropriate chapters of the Comprehensive Plan.

The Comprehensive Plan will:

1. Affirm that County sewer capacity largely has been obligated for existing and future projects. Recommendations will not promote policies that cannot be implemented due to lack of capacity or that create unrealistic development expectations.
    a. Resolution 04-68 should be updated to clearly address the current sewer capacity limitation and define timeframes and reservations for the use of any remaining permit capacity additions.
    b. Acknowledged limited sewerage treatment capacity at KNSG needs to be rationed and strategically managed over the Comprehensive Plan's planning period.
    c. Recognize that existing infill opportunities are sufficient to consume all available sewer capacity and promote infill, renovation, and revitalization strategies as alternatives to new development. Consider incentivizing infill development.
    d. Recognize that a portion of any increase in sewer capacity that may be achieved via a re-rating needs to be managed and reserved to address existing subdivisions that have longstanding documented public health concerns (i.e. failing septic systems) within the County's *Comprehensive Water and Sewerage Plan* (e.g., Marling Farms, Dominion).
    e. Reserve remaining sewer capacity for commercial uses, institutional uses and other economic development endeavors.
    f. Recognize the location and large amount of approved but unbuilt residential development that can be constructed to full buildout using existing capacity commitments.
2. Acknowledge that the Adequate Public Facilities Ordinance will remain in use and Future Land Use decisions will be based on available capacity for sewer, water, schools, and roads.
3. Direct new growth to incorporated towns that have sewer capacity (as well as other adequate public facilities) to accommodate.

4. Include recommendations that focus on business retention, promoting existing business and tourism opportunities.
5. Evaluate existing Growth Areas as follows:
    a. Prioritize commercial and/or redevelopment opportunities.
    b. Streamline zoning to limit residential development. Prohibit additional large-scale residential developments by removing large vacant parcels from Growth Areas, recommending rezoning as required, and recommending removal of large S-3 parcels from the Sewer Service Area.
    c. As part of this recommendation, the Comprehensive Plan will allow minor residential development in the form of minor subdivisions of 7 or fewer lots (or their allocation equivalent) and infill development that should already hold a service commitment.
    d. The Comprehensive Plan will also recommend reviewing densities in all zoning districts and adjusting, if necessary, to reflect State minimums, as well as appropriate uses.
6. Spotlight changes and other plans that have developed since the 2010 Plan's adoption that work to limit the impacts of new growth and promote environmental protection (e.g., WIP, MS4 Permit, QAC Vulnerability Assessment, Septic Bill, more restrictive State Critical Area regulations, agricultural preservation).
7. Continue to provide the public with guidance and education regarding sewer capacity and all infrastructure thresholds when inquiring about possible development proposals.

Appendix D — Water Resources Element

Appendix D provides the more in-depth analysis on the county's water resources and best management practices toolkit, which are summarized in Chapter 5. This appendix updates the information developed as part of the *2010 Plan* and reflects current water resource issues, resource lands acreages, impervious surface amounts, public sewer system capacity, drinking water system capacity, groundwater allocation permit well withdrawal limits, point and nonpoint source impacts, Tier II waters, watershed impairment and TMDL status, etc.

KEY ISSUES & MAJOR UPDATES:

- Adequate Public Facilities & Sewer Capacity Limitations
- Sensitive Areas vs. Priority Preservation
- Climate Change
- Hazard Mitigation
- Impervious Surface Coverages

Chapter 6—Transportation

Chapter 6 provides information on the County's roadway system, non-automotive facilities, and transportation network improvements, all of which are requirements under the *Land Use Article*. This new chapter utilizes the *2010 Plan*'s Chapter 8.0—Community Facilities & Transportation as a baseline; however, it focuses solely on transportation issues, leaving community facilities, services, and parks/recreation to a previous chapter.

Meetings with the Technical Committee and Special Topic Workshop were held in February 2021. The chapter incorporates public input heard to date. It also updates and expands on transportation facilities and services. Additional new/updated content includes information from the *2016 Kent Island Transportation Plan, 2018 Beach to Bridge Traffic Plan, 2019 County Ride Transit Development Plan, 2020 BPAC Connectivity & Safety Recommendations, 2020 Bay Bridge Airport Final Environmental Assessment, 2021 Draft Bay Crossing Study DEIS*, and FY21-26 CTP Priority Letter, among various other resources.

KEY ISSUES & MAJOR UPDATES:

- Bay Bridge Crossing Study
- Multimodal Connection Needs
- Improved Public Water Access

- Priority Projects not Advancing by MDOT SHA
- Seasonal Traffic/Congestion/Safety

Chapter 7—Historic & Cultural Resources

Chapter 7 provides information on the County's history, preservation planning principles, benefits of historic preservation, relationship to economic development and an overview of County historic and cultural resources. Meetings with the Technical Committee and Special Topic Workshop were held in March 2021. The chapter incorporates public input heard to date. Additional new/updated content includes information from the *2016 Kent Island Transportation Plan, 2018 Beach to Bridge Traffic Plan, 2019 County Ride Transit Development Plan, 2020 BPAC Connectivity & Safety Recommendations, 2020 Bay Bridge Airport Final Environmental Assessment, 2021 Draft Bay Crossing Study DEIS*, and FY21-26 CTP Priority Letter, among various other resources.

KEY ISSUES & MAJOR UPDATES:

- Preservation Progress & Loss of Resources
- Historic Preservation Commission
- Historic Property Inventory
- Preservation Funding Opportunities

Chapter 8— Economic Development and Tourism

Chapter 8 provides information on the County's economic characteristics, industries, economic centers, workforce development, and organizations. Meetings with the Technical Committee and Special Topic Workshop were held in April 2021. The chapter incorporates public input heard to date.

The chapter updates and expands on the state of economic development and tourism within the County. Additional new/updated content includes information from the *County Comprehensive Annual Financial Report, 2018 Economic Overview* (JobsEQ), *Economic Development Commission (EDC) Ten-Year Strategic Plan, 2017-2022 EDC Strategic Plan Action Steps, EDC Comprehensive Plan Update Work Session (3/5/2021), 2018 Likely Implications of Improved US 301, 2019 EDC Comprehensive Plan Survey, 2019 Maryland Arts & Entertainment Districts Impact Analysis, Reinvest Maryland,* Maryland Department of Planning statistical reports and projections, numerous Department of Commerce reports focusing on the County, federal data sources (Longitudinal Employer-Household Dynamics, QCEW Workforce & Performance, Bureau of Economic Analysis, Bureau of Labor Statistics, Economic Census, Census of Agriculture), among various other resources.

KEY ISSUES & MAJOR UPDATES:

- Emerging Niche Markets
- Commercial Growth
- Workforce Attraction & Development
- Land/Agricultural Preservation
- Difference due to Geography

Chapter 9—Housing

Chapter 9 provides information on the County's housing inventory, housing challenges, affordable and workforce housing, public and assisted housing, special needs housing, and housing pipeline and needs analysis.

Meetings with the Technical Committee and Special Topic Workshop were held in March 2021. The chapter incorporates public input heard to date. The chapter updates and expands on the state of the County's housing. Additional new/updated content includes information from the *2016 Affordable Housing Assessment*, *2016 Data Roundup for Child & Family Well-being Results*, *2021 Draft Housing Study*, among various other resources. Some sections have been highlighted to note additional information is anticipated.

KEY ISSUES & MAJOR UPDATES:

- Housing Diversification
- Affordable, Missing Middle & Workforce Housing
- Homeless Shelter

Chapter 10 — Town Planning Framework

Chapter 10 provides information on the County/Town Planning Framework, which focuses on the relationship of County and Town planning efforts, provides an overview of the Regional Council of Governments (COG), and provides brief profiles for each of the County's eight incorporated towns including information on their most recently adopted comprehensive plans and required Municipal Growth Elements.

A Special Topic Workshop was held in April 2021 and the Technical Committee met on this topic in May 2021. The chapter incorporates public input heard to date. We are also asking each of the municipalities to review and provide comments—we are still coordinating these efforts to ensure pertinent data is accurately reflected. The chapter updates and expands on the 2010 Comprehensive Plan's County/Town Planning Framework Element and incorporates 2010 Census and 2019 American Community Survey data, along with information from the *2006 Barclay Community Land Use Plan, 2009 Centreville Community Plan, 2010 Church Hill Comprehensive Plan, 2018 Millington Comprehensive Plan, 2017 Queenstown Comprehensive Plan, 2014 Sudlersville Comprehensive Plan,* and *2009 Templeville Comprehensive Plan.*

KEY ISSUES & MAJOR UPDATES:

- Relationship of County-Town Planning
- Town Plan Consistency
- Municipal Growth Elements

Chapter 11 — Community Plans

Chapter 11 discusses the County's Community Plans including their planning background, public outreach, and community profiles. It also includes discussion on community planning issues and implementation strategies. Visioning Workshops that discussed the three Community Planning Areas were held in late January/early February 2021. Meetings with the Technical Committee and Special Topic Workshop were held in May 2021. The chapter incorporates public input heard to date.

The chapter updates and expands on the 2010 Comprehensive Plan's County/Town Planning Framework Element. It has a brief discussion on the Kent Narrows Community Plan (see Kent Narrows Community Plan section), and fully incorporates the Community Plans for Chester/Stevensville and Grasonville. These two Community Plans were absorbed to better address their common issues including growth capacity limitations and desire to streamline zoning district classifications and regulations in the future.

KEY ISSUES & MAJOR UPDATES:

- General:
  - Integration of Chester/Stevensville & Grasonville Plans *(Kent Narrows Plan remains standalone)*
  - Community Planning Relationship
  - Sewer Capacity & Adequate Public Facility Limitations
  - Growth Area Changes
  - Main Street Corridor Redevelopment
- Chester/Stevensville:
  - Affordable Housing
  - Bay Bridge Traffic
  - Climate Change & Sea Level Rise Resiliency
  - Community Connectivity
  - Maintaining Community Character

    - Public Water Access
    - Vibrant & Walkable Downtown
- Grasonville:
    - Affordable Housing
    - Built Environment Aesthetics
    - Leveraging Traveling Public
    - Pedestrian & Bike Connectivity
    - Reestablish Character & Sense of Community
    - Revitalizing Main Street
    - Workforce Education & Development

Chapter 12 — Implementation

Chapter 12 provides an overview of PlanQAC's implementation efforts. The format for the implementation items was changed to be more user-friendly and direct. A meeting with the Technical Committee was held in June 2021. The chapter reflects the implementation items identified in each of the earlier chapters.

KEY ISSUES & MAJOR UPDATES:

- Updated chapter format

Kent Narrows Community Plan

As part of the PlanQAC planning process, the Kent Narrows Community Plan is also being updated, but being kept as a standalone document at the request of the Kent Narrows Development Foundation. While the Community Plan is generally addressed in Chapter 11 (see section), it is only providing a synopsis of the revised standalone plan. The Community Plan includes a community profile, discussion of community planning issues, and planning recommendations and implementation strategies.

A Special Topic Workshop on just the Kent Narrows Community Plan was held in April 2021; a Special Topic Workshop on Community Plans in general was held in May 2021. The Technical Committee meeting was also held in May 2021. A Visioning Workshop that discussed the Kent Narrows Planning Area was held in February 2021. Meetings with the Technical Committee and Special Topic Workshop were held in May 2021. The chapter incorporates public input heard to date. The Kent Narrows Development Foundation has also provided initial input and is continuing to review the draft and provide comments.

The Plan updates and expands on the *2006 Kent Narrows Community* Plan. It incorporates updated information from a number of sources including the 2010 Census and 2019 American Community Survey; *2016 Kent Island Transportation Plan; Kent Island Water Trails Brochure; 2019 Kent Narrows Market Area Economic Impact Analysis; Kent Narrows Development Foundation Strategic Plan;* Bureau of Economic Analysis Special Topics data; various Maryland Department of Commerce reports; various other federal data sources; and other resources pertinent to Kent Narrows.

KEY ISSUES & MAJOR UPDATES:

- Sewer Capacity & Adequate Public Facilities Limitations
- Niche Markets & Tourism
- Multimodal Connections
- Design & Architectural Guidelines

Brief Visioning Workshop Recap

Five virtual visioning workshops were held from late-January to mid-February:

- VIS #1: Countywide & North County—January 27, 2021 (44 participants)
- VIS #2: Countywide & Chester/Stevensville—January 28, 2021 (43 participants)
- VIS #3: Countywide & Grasonville—February 3, 2021 (58 participants)
- VIS #4: Countywide & Kent Narrows—February 4, 2021 (43 participants)

- VIS #5: Countywide & North County—February 11, 2021 (39 participants)

Detailed summaries of the five Visioning Workshops is found in Appendix C—Public Outreach Summary.

Brief Special Topic Workshop Recap

Eight special topic workshops were held from mid-February to mid-June:

- STW #1: Community Facilities, Open Space & Recreation—February 10, 2021 (24 participants)
- STW #2: Environment, Transportation—February 24, 2021 (32 participants)
- STW #3: Historic & Cultural Resources—March 4, 2021 (32 participants)
- STW #4: Housing—March 17, 2021 (27 participants)
- STW #5: Economic Development, Town Planning—April 1, 2021 (51 participants)
- STW #6: Kent Narrows Community Plan—April 29, 2021 (34 participants)
- STW #7: Community Plans—May 5, 2021 (29 participants)
- STW #8: Land Use (incl. Priority Preservation)—June 15, 2021 (53 participants)

Detailed summaries of the eight Special Topic Workshops is found in Appendix C—Public Outreach Summary.

Brief Technical Committee Meeting Recap

Twelve Technical Committee Meetings were held from mid-February to mid-September:

- TC #1: Introduction, County Profile, Community Facilities—February 9, 2021
- TC #2a: Environment (incl. WRE)—February 25, 2021
- TC #2b: Transportation—February 25, 2021
- TC #3a: Historic and Cultural Resources—March 16, 2021
- TC #3b: Housing—March 16, 2021
- TC #4: Economic Development and Tourism—April 27, 2021
- TC #5a: Town Planning Framework—May 25, 2021
- TC #5b: Community Plans—May 25, 2021
- TC #6a: Land Use (incl. Priority Preservation)—June 22, 2021
- TC #6b: Implementation—June 22, 2021
- TC #7: Comprehensive Rezoning Requests & Adequate Public Facilities—July 19, 2021
- TC #8: Full Draft Detailed Review—September 13, 2021

Website Interaction/Contact Updates

- 263 total requests to be added to project contact list
- 322 total County staff and organization contacts
- 2,274 total project website users
    - 3,887 total project website sessions
    - 9,296 total project website pageviews
- Top user locations (cities): Annapolis, Ashburn, Centreville, Chester, Chestertown, Cheyenne, Cockeysville, Dover, Easton, Grasonville, Saint Michaels, Salisbury, Stevensville, Washington, Unknown
- Top website traffic origin: direct to project website, County webpage, Bing, Corsica River Conservancy website redirect, DuckDuckGo, Facebook, Google, Instagram, NextDoor, WebEx workshop link, Yahoo
- Top pages visited: Get Involved, Homepage, Resources, Contact/Feedback, About, FAQs

Queen Anne's County – Sanitary District
Kent Narrows/Stevensville/Grasonville
Wastewater Treatment Capacity Issue

Opinion Strategy – No. 1
Short Term Option – Re-rating of Plant

Introduction – The existing 3 million gallons per day (MGD) capacity at the County's Kent Narrows/Stevensville/Grasonville Wastewater Treatment Plant (KNSG) is now nearly fully obligated using the existing and estimated future capacity commitments (see below – 'Schedule A – Summation'). These commitments are calculated using a combination of the reported actual hydraulic flow through the plant and the reserved flow allocations for unbuilt development. The resulting estimates conclude that there is an insignificant amount of remaining available capacity.

Discharge of the plant is limited not so much by 'gallons', but by the 'pounds of nutrients' allocated to the plant via the Chesapeake Bay Total Maximum Daily Load (TMDL) program, which is a component of the 1972 Federal Clean Water Act. In accordance with the wastewater plant's current National Permit Discharge Elimination System (NPDES) permit, KNSG may only discharge 36,547 pounds of nitrogen and 2,741 pounds of phosphorous per year. Nitrogen is the primary constraining factor, and the existing plant is operating with the best available nitrogen removal technology. The NPDES permit is the subject of Federal and State review and renewal every five-years. The next renewal application is on November 1, 2023. These nutrient limits, known as the Waste Load Allocation (WLA), are assigned to the wastewater plant by the NPDES discharge permit. The controlling nutrient concentrations equate to 4 mg/l for nitrogen and 0.3 mg/l for phosphorous at the design flow of 3 MGD.

The KNSG Plant has demonstrated outstanding operating performance and specifically has a superior nitrogen removal record. As a function of the permit renewal of the plant, the quality of the discharge will be assessed along with the nutrient load reduction achievement. This exercise may result in a modest re-rating of the plant capacity based on its nutrient removal performance. This could yield a modest increase in the overall maximum capacity. It is, therefore, essential to realistically prioritize any performance re-rating capacity which may be gained. It is hoped that the re-rating will increase the flow-through capacity of the plant by 10 percent or an additional 300,000-gpd of capacity. If so, the maximum nitrogen concentration allowed would be reduced from 4.0 mg/l to 3.6 mg/l. To be eligible for this re-rating, an engineering analysis would have to be undertaken and reviewed by MDE.

Once this re-rated capacity is consumed, it will be very difficult and very expensive to add additional capacity, if that is even possible given the nitrogen constraint (pounds of nitrogen credits would have to be obtained from another source). In addition, capacity brings both debt and growth. New growth would be essential to fund the debt of a potential plant capacity expansion.

The following measures are suggested to be incorporated into the Comprehensive Plan to address both the short term (prior to the re-rating) and subsequent to the re-rating until such time a strategy to expand the plant further is developed, if such an expansion is deemed both feasible and desirable.

1. Reserve capacity for commercial uses
    a. There remains considerable vacant lands in the Chesapeake Bay Business Park that hold insufficient capacity to develop as well as a lot in the Matapeake Professional Park.
    b. Average allocation sold annually for commercial for the past 20-years ~7500-gpd (vs. ~25,000-gpd for residential).
2. Allow minor residential development
    a. Minor subdivisions – 7 lots or less (or allocation equivalent, i.e., 1,750-gpd max per project)
    b. Infill (should already hold a service commitment)
    c. TRUE commercial apartments – zoning may need to be refined such that the apartments would be ancillary to the commercial, not the other way around.
3. Prohibit any further large-scale residential development.
    a. Remove large vacant parcels from the growth area – rezone/downzone if required
    b. And/or remove large S-3 parcels from the sewer service area or downgrade to S-4 or S-5 to acknowledge available treatment constraints.
4. Reserve capacity (130,000 gallons per day) to service Marling Farms and Dominion. Both subdivisions have been shown as problem areas for as long as Kent Island Estates and Romancoke.
    a. Dominion seems to be the worse of the two areas given its age. It consists of 192 parcels of which ~150 are single family homes. Note there is some waterfront commercial potential there. Estimated capacity to serve is 50,000 gpd.
    b. Marling Farms consists of 389 parcels of which ~340 are single family homes. Estimated capacity to serve is 80,000 gpd

SCHEDULE A - SUMMATION				
KNSG Sewer Capacity Estimate				
			August-21	
Current Parameters:				
Current Total Permitted Treatment Capacity			3,000,000	gallons per day
Current 3-year Average Flow Through Plant			(2,346,783)	gallons per day
Capacity Remaining - Overall			653,217	gallons per day
Ongoing Projects Previously Granted Allocation				
Residential Units	1,595	dwellings	(319,000)	gallons per day
Commercial Projects	(176 commercial apartments, 169 hotel rooms, 56,000-ft2 other)		(88,660)	gallons per day
Reserve for SKI Failing Septic Areas	1,140	dwellings & commercial	(242,155)	gallons per day
Reserve for Commercial/Institutional Use (04-68) - approx	750,000	ft2 floor area	(57,370)	gallons per day
Capacity Remaining			(53,968)	gallons per day

Opinion Strategy – No. 2
Long Term Options – Plant Capacity Expansion

Introduction – The existing 3 million gallons per day (MGD) capacity at the County's Kent Narrows/Stevensville/Grasonville Wastewater Treatment Plant (KNSG) is now nearly fully obligated using the existing and estimated future capacity commitments. These commitments are calculated using a combination of the reported actual hydraulic flow through the plant and the reserved flow allocations for unbuilt development. The resulting estimates conclude that there is an insignificant amount of remaining available capacity. Discharge capacity of the plant is currently capped by the 'pounds of nutrients' allocated to the plant via the National Permit Discharge Elimination System (NPDES) permit that fixes our Waste Allocation Load (WLA) at 36,547 pounds of nitrogen and 2,741 pounds of phosphorous per year.

Below are several explorable options to expand the capacity of the KNSG wastewater plant. Each option has its pros and cons. Each would require a modification of the discharge permit, which is a public process and depending on the level of concern and opposition, can take years to permit. A discharge permit is valid for five years. The current permit will renew on November 1, 2023 at which time a plant capacity re-rating may be under consideration (refer to Opinion Strategy No. 1). Permit re-applications are required ~18 months in advance of the permit renewal date. Any of the below options, if pursued, will need to be incorporated into the permit renewal process.

Option 1 – Expand the Capacity of the Plant - Spray Irrigation

This would require construction of new treatment facilities on the site of the current wastewater plant and would be very expensive. Agricultural lands would have to be purchased, pipes installed from the plant to the spray fields, and irrigation pivots constructed. The advantage of this option is that the flow would not count against our 'nutrient budget', in other words any nitrogen discharged on land via spray irrigation would not count against the 36,547-pound limitation. However, the acreage of the lands required are a direct function of the soil types, i.e. how naturally well drained they are (ponding and run-off would be strictly prohibited), and soils on Kent Island are typically poorly drained. As an example, Centreville requires 300-acres to spray 542,000 gallons per day on well drained soils.

Pros – Don't need Nitrogen Credits

Cons – Most expensive option, need to expand the plant, need to run pipe to fields, need to buy fields, need to buy irrigation pivots. Need well drained soils to be effective. Unlikely to be able to spray year-round so would still have some impact on nutrient budget.

Option 2 - Expand the Capacity of the Plant – Nutrient Credits

This too would require construction of new facilities on the site of the current wastewater plant and could be very expensive, however, probably less than the spray irrigation option. However, this expansion could not be undertaken without additional nutrient credits. There are some sub-options in this regard:

A. Retirement of Existing Septic Systems – The SKI project is generating nitrogen credits. These credits could then be incorporated into the discharge permit (they don't officially exist until incorporated).

Pros – While still very expensive, may be the least expensive option.

Cons – Need nutrient credits. Places the County at risk in assuming a great amount of debt to expand the wastewater plant with no commitment from future developers to purchase the allocation gained.

B. Upgrade of other existing In-County Treatment Plants – If the County were to upgrade another treatment plant within the County that is still operating at non-nutrient removal discharge levels, then the County could transfer the nutrient credits gained from that upgrade to the Kent Island plant. Only Church Hill has not upgraded its plant, and the cost per pound achieved is likely to be prohibitively expensive (you would have to build a new plant for Church Hill as well as add new treatment capacity at Kent Island).

Pros – Does not need nutrient credits

Cons – Very expensive option, requires another jurisdiction's approval and may likely require the County to operate their plant in perpetuality, or other perpetual considerations. Capacity gained would be minimal (assuming Church Hill would want twice their current capacity (80,000-gpd) for their own growth, only 120,000-gpd would be gained).

C. Trading – Approach another jurisdiction that may have unused nutrient credits that would be willing to sell/trade. This would require a perpetual trade agreement (i.e. the trade would have to be 'forever'). Unclear if such a trade has yet occurred, certainly not at the magnitude of pounds necessary to be of any value to the County.

Pros – Uses another jurisdiction's nutrient credits.

Cons – Many unknowns, trading is still in its infancy. Certainly, there will be a cost, most likely a perpetual cost, for the trade, and still need to expand the Kent Island plant. May not be enough credits available.

Other Considerations

Economics – All of the above options cost something. There are two costs that need to be considered.

Cost per Pound of Nitrogen Removed – This should be the primary cost consideration in evaluating the various options. One suggestion is to add a new, or another type of technology, to the existing plant to remove more nitrogen. Hypothetically, you could add a reverse osmosis train to the end of the plant to remove 'all' nitrogen (although how would you dispose of the nitrogen enriched reject water – can't dump it in the sewer!). Reverse osmosis is quite expensive to construct and very expensive to operate – you need to generate intense pressure to force molecules through the filter membrane – pressure = energy. A similar analysis could be undertaken for each option. Any 'innovative' process will require MDE approval and may need a pilot project to demonstrate its effectiveness.

Cost per Gallon – Allocation is sold 'per gallon'. The 2021 rate 'per gallon' is $36.73. The cost per gallon is set, in large part, to recover the cost to construct the plant's treatment capacity, or more to the point, to pay off the debt service on the new plant. If the cost of the new treatment plant is too high on a per gallon basis, new development may be unable or willing to pay that cost.

Debt

All the above options cost something, which equates to debt that the County must pay, regardless of developer demand. The last 'expansion' of 1 million gallons (which was truthfully the construction of 3 million gallons of capacity as little of the existing 2-million-gallon plant was salvageable) cost $34M – 45% of which was funded by grants. This equated to 20-years debt at $1M per year. Prior to executing that construction contract, we already had an executed DRRA with Four Seasons which guaranteed the payment of 1/3 of that cost. Even so, we had a very difficult time paying the debt until just recently. Indeed, we almost exhausted 30-years' worth of accumulated reserve funds to pay debt service. The cost of adding capacity is largely unknown. It is also unknown if any grant funds would be available to assist in the capital cost, past grant funds were solely to upgrade the plants nutrient removal ability, not to fund expansion, hence the 45% share.

SKI Nitrogen Credits

Each time a septic system is connected to our plant, a few pounds of nitrogen credit is eventually earned. The amount credited is a function of the location of the septic system to tidal waters (i.e., in the Critical Area or not) or proximity to perennial streams. Once all 4 phases of SKI's septic systems are connected, the County will gain approximately 13,000 pounds of nitrogen credits. As noted above, those credits don't 'exist' until incorporated into the plant's discharge permit – so probably 10 years from now. This would equate to about 1 million gallons of flow. Note this only allows you to expand your flow, you still need to expand the capacity of the treatment process at the plant.

MS4 vs. SKI Nitrogen Credits

The County remains in litigation with MDE on the implementation of the Municipal Separate Storm Sewer System (MS4) permit. Even so, it is a foregone conclusion that the County will not escape the permit, the litigation at this point is to seek clarity of certain aspects of the permit.

This permit is much like the County's sewer discharge permit except that it is designed to 'treat' rain runoff, not sewage. 'Treatment' of the runoff is via various, and numerous, (and costly) small ponds, constructed wetlands, and other naturally filtering features. If areas are currently untreated, the permit requires the County to 'treat' the runoff by constructing various features.

In accordance with the permit, as currently written, the County is required to treat 200-acres of existing impervious area by 2025. Note these are not impervious acres that the County owns, the vast majority is on private property. The estimated cost to achieve this (ignoring the fact it would take numerous private property owners permission as well as their lands) was estimated to be $10 to $15 million. In addition to the construction cost, there is also a perpetual maintenance obligation that the County would have to assume.

However, in lieu of actual treatment, the permit allows nutrient credits as an 'in lieu' method of treatment. The 'in lieu' computation is on a 'so many acres per retired septic system' basis. The current metric is 0.39 acres per septic system, however that metric is subject to change. Assuming it doesn't, that would equate to about 500 septic systems.

Kent Narrows/Stevensville/Grasonville (KNSG) Wastewater Treatment Plant Sewer Capacity Issue – Frequently Asked Questions

- What is TMDL?
    - Total Maximum Daily Load (TMDL) is a pollution diet for the Chesapeake Bay Watershed which identifies the maximum amount of pollutant a waterway can receive and still meet water quality standards. The Bay TMDL was established on December 29, 2010 and includes the States of Maryland, District of Columbia, Pennsylvania, Virginia, New York, Delaware, and West Virginia. The TMDL is required under the federal Clean Water Act. Each State was allocated a particular million pounds/year then the State of Maryland broke the allocated amount down to watershed basins. All State of Maryland jurisdictions, and municipalities within the watershed are held for accountability for pollutant loads of nitrogen, phosphorus, and sediment.

- How does TMDL impact sewer capacity in Queen Anne's County?
    - Each individual wastewater treatment plant is held to an NPDES (National Pollutant Discharge Elimination System) Permit which allots the amount of nitrogen and Phosphorus that can discharge from the Plant within a given year. This discharge limit is referred to as the nutrient cap. The KNSG plant has a nutrient cap of 36,547 pounds of nitrogen and 2,741 pounds of Phosphorus per year at its current design flow of 3 million gallons per day (gpd). nitrogen is the limiting factor.

- What is the difference between a nutrient cap and the design flow?
    - A nutrient cap is measured in pounds, design flow is measured in gallons – however they are inter-related. The nutrient cap, i.e., 36,547 pounds for nitrogen, is the total amount of pounds per year that is allowed to be discharged at the design flow, which is 3 million gallons per day. The nutrient cap is prorated as a function of flow. Daily nutrient discharges are measured on the basis of milligrams per liter (mg/l). In order to be considered an Enhanced Nutrient Removal facility, as is the Kent Island plant, the maximum nitrogen concertation allowed to be discharged is 4 mg/l for nitrogen, and 0.3 mg/l for phosphorus. So, if the flow through the plant as only 1.5 million gallons per day, the annual nutrient cap for nitrogen would be reduced to 18,274 pounds.

- Do other counties/wastewater treatment plants have this issue?
    - All other wastewater treatment plants within the Chesapeake Bay Watershed have nutrient caps and are required to track their nutrients. At this time Queen Anne's County does not know of any other jurisdiction or municipalities that have reached a nutrient cap. Although, at some point in time it will happen for others. Queen Anne's County will coordinate with Maryland Department of the Environment (MDE) to address how this unprecedented threshold may be managed through the County's NPDES permit.

- What options does the County have?
    - Please see the attached Sewer Capacity Management Strategies (Short Term and Long Term Options). All options would require a modification to the NPDES Permit with Federal and State review. This process can occur every five years with the soonest being 2023. At this time the Plant is demonstrating outstanding operating performance.

      Options that the Department of Public Works have considered for review include re-rating the capacity of the current plant, spray irrigation, nutrient trading, and utilizing credits created from SKI.

- What is 'Schedule A'?
    - The existing 3 million gpd capacity at the County's KNSG Wastewater Treatment Plant is now nearly fully obligated on paper and is outlined in Schedule A which is found in the Comprehensive Water and Sewer Plan (CWMP). Schedule A is a planning tool that tracks the residential, commercial, and multi-use commitments and provides the approximate existing and future sewer treatment capacity available based on current data.

- What about the APFO?
    - The Adequate Public Faculties Ordinance (APFO), Chapter 28 of the Queen Anne's County Code, is in place to ensure that public facilities needed to support new development meet the level of service standards or do not cause a reduction in the level of service for any public facilities. Public facilities include water, sewer, schools, and transportation. If sewer treatment facilities are not adequate according to an APF determination, the applicant can propose to submit a mitigation plan. The County is not able to exceed the NPDES permit pollutant loading. A mitigation plan will not allow the pollutants loadings to be greater than the limit assigned by MDE; therefore, the nutrient cap for nitrogen limits an applicant from seeking a mitigation plan.

- How does the QAC Comprehensive Plan and Comprehensive Water and Sewer Plan work together to address this issue?
    - The update to the Comprehensive Plan guides all County pans, including the CWSP. Comprehensive Plan chapters like Land Use, Environment, Community Facilities & Services, and the Water Resources Element work together to guide the Comprehensive Water and Sewer Plan. Goals and strategies found in the Plan work to create guidance or mold the CWSP. The CWSP will be updated after the adoption of the Comprehensive Plan. The drafted actions and strategies will also guide development in conjunction with available public facilities.

Resolution

Resolution 04 - 68

Sewer Policy Statement

Whereas the Queen Anne's County Commission have long stated our desire to protect the environment and the Chesapeake Bay, and

Whereas the Queen Anne's County Commission have a policy of increasing the amount of desirable commercial development and controlling the rate of residential development, and

Whereas the Queen Anne's County Commission wishes to control growth in Queen Anne's County, and especially on Kent Island, and protect communities that could have future health problems, and

Whereas the Queen Anne's County Commission have been delayed with regard to the completion of the 2004 update to Master Water Sewer Plan as they wait for an opinion of the Attorney General, and await the results of an alternative septic study, and not made a final decision on which communities will be served, or if vacant lots are to be served, and

Whereas the Queen Anne's County Commission desires to effectively state its policy and plan with regard to how the sewer is handled prior to issuing/ voting on the bids for the sewer plant,

Therefore, be it resolved that the Board of Queen Anne's Commission will include terminology in the final version of Master Water Sewer Plan, or an amended current plan, to provide for the following principles:

1. Public Health SEWER RESERVE - 500,000 gallons are to be reserved for possible failing sceptics. This reserve is not removable without a 4/5th vote of the Queen Anne's County Sanitary Commission.

2. Commercial/ Institutional SEWER RESERVE - 200,000 gallons are to be reserved for commercial and institutional uses. This reserve is not removable without a 4/5th vote of the Queen Anne's County Sanitary Commission.

3. The remaining new 300,000 gallons of capacity is designated for current commitments, and for growth off Kent Island.

QUEEN ANNE'S COUNTY
BOARD OF COUNTY COMMISSIONERS

Joseph F. Cupani, President

R. O. "Nemo" Niedomanski

Benjamin F. Cassell, Jr.

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Attest:

Margie A. Houck

Margie A. Houck, Executive Assistant