

Utilities

Water and Sewer Service

The public water and wastewater service areas of the Annapolis Neck Small Planning Area are shown on Maps 22 and 23, respectively. As can be seen from the service area maps, not all of the Annapolis Neck peninsula is served by public sewer and water. The County has no public water service on the Annapolis Neck Peninsula south of Church Creek. Some areas have both utilities while others have only one or neither. The County's adopted *Master Plan for Sewer and Water* is the policy document for the provision and timing of public sewer and water. This policy is based largely on the *General Development Plan* and Small Area Plans.

The City of Annapolis treats and supplies all public water to its customers and utilizes the Annapolis Water Reclamation Facility (WRF), under agreement with the County, for the processing of wastewater generated within its corporate boundaries. While the County is cognizant of the City's needs, the City of Annapolis performs its own planning and development strategies and both entities interact on an as needed basis for these services.

In areas where public sewer and water are not provided, private wells and septic systems are used to provide these services. These systems are maintained privately by homeowners and businesses.

Water Supply

The area covered by public water service is called the Broad Creek 210 Water Pressure Zone (WPZ). The County operates and maintains 5 wells in the Broad Creek area that are capable of producing up to 6.9 MGD (millions of gallons per day). The Water Treatment Plant is capable of treating 6.88 MGD with a storage capacity of 4.25 MGD to meet an average daily demand of 2.1 MGD. The City of Annapolis (WPZ173) utilizes 6 wells and is capable of treating 10.0 MGD and storing 2.44 MGD of potable water to meet an average daily demand of 3.8 MGD. Both the County and the City systems are amply sized to meet the maximum daily demands of 4.74 and 7.68 MGD respectively. The Naval Academy has its own water supply.

The Annapolis Neck peninsula is unique from most other County water pressure zones in that it is isolated. Where all other areas served by public water have the ability to reroute a water supply flow from other pressure zones and even make available water from the City of Baltimore, the Broad Creek 210 pressure zone must rely on its own available sources. Herald Harbor and Gibson Island are the only other pressure zones that share this situation. The entire pressure zone also includes the communities of Riva, Edgewater, and Woodland Beach on the south side of South River.

Map 22

Map 23

Capital projects are created for the expansions and maintenance of supply and treatment as the needs require. There are two capital projects in the Broad Creek 210 Pressure Zone. One (Project #W-7537) is a transmission main running along MD 2 that has been constructed and completes the service loop to ensure continuous service to those customers on the south side of South River. The other (Project #W-7937) is a 12-inch transmission main which has been constructed with the extension of Admiral Cochrane Drive to MD 2. The water transmission main in this area will provide a needed loop to ensure continuous service to residents and businesses in the area.

Water service identified on the water master plan maps indicates future service for the South Haven, Hillsmere, Annapolis Roads, Bay Ridge, Highland Beach and Arundel on the Bay communities. There are no capital projects to extend water into these areas. While these areas are planned for service in the future as supply mains are extended, water service may be extended into these areas through an acceptable community petition or to remedy a State declared public health problem such as contamination of wells or saltwater intrusion on an accelerated schedule.

Sewer Service

The Annapolis Sewer Service Area (SSA) wastewater collection system is a composite of gravity sewers and force mains that convey wastewater to the Annapolis WRF, located on Edgewood Road across from the Villages of Chesapeake Harbor. This facility has a current rated capacity of 10.0 MGD and has recently been upgraded to meet the State's most stringent biological nutrient reduction (BNR) requirements. Use of the WRF facility is shared between the City and the County, as are the costs of operating, maintaining and expanding the facility. By agreement, the County and the City, including the Naval Academy, are entitled to equal shares of its rated capacity. However, the City and County share the total costs at the WRF based on the percentage of the total annual flow actually used by each entity.

The City of Annapolis is responsible for operation, maintenance and expansion of the portions of the wastewater collection system within their corporate boundaries. Similarly, the County is responsible for the care, upkeep and expansion of those collection system facilities located beyond the corporate limits of the City. Each government body maintains an operating budget and a Capital Projects budget to meet its financial and planning responsibilities.

The WRF is currently receiving approximately 8.0 MGD of which approximately 5.7 MGD is coming from the City, including the Naval Academy, and 2.3 MGD is originating from within the County. There is an additional requested (allocated and planned) flow demand of 2.7 MGD within the next 1 to 5 years based on projects that are in the planning pipeline. A 3.0 MGD expansion of the Annapolis WRF is required to accommodate the projected flow from the Annapolis Neck peninsula as well as portions of Edgewater.

Within the City of Annapolis there are currently 22 wastewater pumping stations. The County operates and maintains 59 pumping stations within the Annapolis Sewer Service Area. The Parole pumping station is the largest County-owned station within the Annapolis area.

There are two approved Capital Projects within the Annapolis Neck Small Planning Area. A project to improve the odor control facilities at the Annapolis WRF (Project #S7561) is currently under construction and Project #S7924 which will provide for the design and construction of the necessary expansion to 13.0 MGD at the Annapolis WRF is also underway. Although the Woodland Beach sewer pump station is located outside of the Annapolis planning area, Project #S7884 - Woodland Beach Pump Station and Force Main Upgrade, will include construction of a new force main along MD 2 and Forest Drive, within the Annapolis planning area.

Well and Septic Conditions

There is a detectable presence of iron and sulfur in well water in some wells in the Annapolis Neck area. While this may not be desirable to residents, the Health Department reports that it is not a health concern. Some residents have also reported wells going dry in the Harness Creek area. This is primarily due to the age of the wells rather than the supply of water. Some wells were dug in the Harness Creek area in the 1960's. Today, there is different and better technology for drilling wells. There have also been instances of saltwater intrusion, with wells that are close to the shoreline. These wells are generally within the Aquia aquifer. One solution to this problem is to drill wells deeper into the Magothy aquifer. Since 1988, new wells in areas that have saltwater intrusion have been required to extend into the Magothy aquifer.

The Bestgate and Harness Creek areas have a very high water table and are prone to septic and well problems. The Health Department is taking a proactive approach to maintenance and care of septic systems through a videotape that is being produced to show homeowners how to properly care for and maintain their systems.

Issues Related to Water and Sewer Service

Several concerns related to water supply and sewer service have been identified at public forums and by committee members. There are concerns about saltwater intrusion into private wells from excessive drawdown in waterfront communities. There is a general desire of current homeowners to have both public sewer and public water, however, there is also a concern that the provision of these utilities not spur unmanaged development. The impact the provision of sewer and water will have on future annexation of land from the County to the City is of concern to Annapolis Neck residents. Other concerns include the ability of the existing water supply system to provide adequate fire protection, and the location of adequate fire suppression facilities in the Annapolis Neck to respond to fire emergencies.

Designation of lands in “planned” sewer and water service categories needs to be brought

into compliance with planned land use and zoning. In particular, land designated as natural features and zoned open space, land with conservation easements, and parcels platted as open space (such as wetlands, floodplains, stream drainage sites, and forested and steep slope areas) need to be designated “no public service”. In other cases, such as land along Forest Drive recommended for down-zoning and land along Severn Grove Road designated RCA and planned low density, the sewer and water designation needs to be changed from “planned” to “future” service.

Recommendations

1. Determine the maximum feasible capacity for the Annapolis Wastewater Treatment Plant. Utilize this information to ensure that comprehensive zoning for the Annapolis Neck Small Area Plan and the Parole Town Center does not exceed the stated feasible capacity. Adjust planned densities, types of development, and phasing of development to match actual capacities.
2. Update the County *1999 Master Plan for Water Supply and Sewerage Systems* to coordinate with the growth goals of the adopted Small Area Plans.
3. Update the County *1999 Master Plan for Water Supply and Sewerage Systems* to accurately depict the applicable timing service designation for the RCA land area. Include the RCA land as an overlay zone.