

## Public Utilities

### Existing Conditions

#### *Sewer*

The Odenton Small Planning Area is located within the Patuxent and Piney Orchard Sewer Service Areas for sewer.

#### *Patuxent Sewer Service Area*

The Patuxent Sewer Service Area (SSA) includes the portion of the Patuxent River drainage basin east of Fort George G. Meade. This area includes the developed areas of Odenton and Crofton.

The sewer service area encompasses approximately 12,685 acres. According to the *General Development Plan* (GDP), a majority of the land within the service area is designated for low-medium residential use. The Odenton Town Center is a designated commercial revitalization area and is planned for mixed-use development. There are approximately 3,000 acres of vacant land within the service area.

There are two independently operated treatment facilities located within the Patuxent SSA.

Sewage from the service area is collected and conveyed to the Patuxent Water Reclamation Facility (WRF) located west of MD 3 just north of Crofton. The facility has a rated capacity of 7.5 MGD. As of December 2001, the average daily flow at the plant was recorded as 4.7 MGD. The effluent from the facility is discharged to the Little Patuxent River. The facility utilizes an oxidation ditch activated sludge process designed for nitrification/denitrification and phosphorus removal. Within the long range planning horizon, it is expected that the WRF will be expanded to 9.0 MGD between 2015 and 2020.

#### *Piney Orchard Sewer Service Area*

The Piney Orchard Sewer Service Area is located in the midwest portion of the County and encompasses approximately 2,000 acres of land. It is bordered by the Patuxent Research Refuge to the west and the Odenton Town Center to the north. The service area consists of an approved Planned Unit Development (PUD) known as Piney Orchard. Construction of the development began in 1987, and upon completion, it will consist of approximately 4,100 dwelling units. The planned land uses include medium density residential and mixed commercial uses. The remainder of the service area is primarily open space.

The wastewater collection system is owned by the County and operated and maintained by the Department of Public Works. The sewer collection system in the service area contains only gravity sewer mains. The service area is considered one large drainage area with no sub-drainage areas.

The wastewater treatment facility at Piney Orchard is privately owned and is operated by Maryland Environmental Services (MES). The facility is currently permitted at 1.2 MGD. The owners, Constellation Real Estate, have requested a modification of the permit to 1.75 MGD. However, additional construction would be necessary to achieve this flow.

### **Water**

The Odenton Small Planning Area is located within the Fort Meade East (King Heights/Odenton) 330 Water Pressure Zone of the County's water system.

#### *Fort Meade East (King Heights/Odenton) 330 Water Pressure Zone*

The 330 water pressure zone is situated in the central portion of the County. The area currently served within the 330 pressure zone is generally bounded by MD 3 to the southeast; Fort Meade to the west; and MD 32 to the north.

Topography of the area varies from elevation 50 to 240 feet. Static pressure range from 110 psi to 45 psi. The overflow elevation of the elevated storage tank is currently 330 feet with a low water elevation equal to 295 feet

According to the County's design criteria, the highest ground elevation that can be served from the 330 zone is 210 without providing supplemental means of pressure. There are areas with elevations exceeding 210 that are located northeast of MD 32 adjacent to the Millersville Landfill, including the Bridlewood or Sappington Hill subdivision. This area is served by the Millersville Booster Pump Station (BPS), which operates at a gradient of 360 feet.

The Odenton Water Pressure Zone contains approximately 8,500 acres of land. According to the County's GDP, a majority of the land use in this zone is designated as town center (Odenton Growth Management Area) and low medium to medium residential use. Much of the residential usage is attributed to the Piney Orchard Planned Unit Development (PUD).

There are two water treatment plants serving the 330 pressure zone: the Crofton Meadows II WTP and the Kings Heights WTP. The Crofton Meadows II WTP is located within the 290 pressure zone in Crofton. The Kings Heights WTP, located along Bruce Avenue in Odenton Heights, has four groundwater wells capable of producing up to 1.5 MGD. The plant, originally constructed in the 1950s, has a rated plant capacity of 1.44 MGD. Treatment includes aeration, prechlorination, chemical addition, sedimentation, filtration, disinfection and fluoridation. Due to recent expansion at Crofton Meadows II, the plant functions primarily to meet peak demands and serves as standby. The plant is scheduled for demolition within the next three years.

The primary supply source for the 330 zone is located within the 290 pressure zone in Crofton. The recently completed expansion at the Crofton Meadows II WTP included the construction of 330 high service pumps that allowed for abandonment of the Fort Meade BPS.

This also facilitated the construction of a new 36-inch transmission main from Crofton Meadows II WTP northwest along Waugh Chapel Road to Chapelgate Road, identified as Capital Project numbers W7656 and W7657. This recently completed transmission main was the first phase of a series of transmission mains to connect the Crofton Meadows WTP with the 330 and 295 zones. This is consistent with the County's strategic plan to provide transmission flexibility across pressure zones and reduce reliance on the City of Baltimore.

Additionally, a recently completed project, the Telegraph Road Tie Line, (Project W7728), hydraulically connects the 330 zone to the 295 zone. A division valve along this main currently isolates the zones. This provides flexibility for transferring water between zones as necessary.

## **Assets and Issues**

### ***Sewer***

#### ***Patuxent Sewer Service Area: Required Capital Projects***

More detail regarding strategic planning efforts to date that identify future system capacity needs can be found in the *2003 Master Plan for Water Supply and Sewerage Systems*. The County has received approval from the Maryland Department of Environment (MDE) for the WRF to be re-rated to 7.5 MGD. A study of the existing facility has documented its ability to meet the discharge requirements set forth by MDE at the approved re-rated capacity.

A capital project identified and programmed within the Capital Improvement Program is the Severn Run Force Main Rehabilitation Project S-7923.

Furthermore, it is anticipated that a new pump station will be needed to replace the Pigeon House Pump Station within the planning horizon in order to facilitate a comprehensive means of servicing its drainage area. Development of portions of the Odenton Town Center may accelerate the necessity for upgrades to the Odenton Interceptor within the next 10 years. An implementation plan for these and other projects will be available upon completion of the comprehensive strategic plan.

There are no required capital projects for the Piney Orchard Sewer Service Area at this time.

### ***Water***

#### ***Fort Meade East (King Heights/Odenton) 330 Water Pressure Zone: Required Capital Projects***

As described in the County Water and Sewer Master Plan, the County's *2003 Water Strategic Plan* identified infrastructure improvements in this pressure zone including the Crofton Meadows II WTP expansion (W7483), which is expandable to 30 MGD and the 36 inch water transmission main (W7656) which transmits water to the Odenton area.

With the expandable production at the Crofton Meadows II WTP and planned continuation of the existing 36-inch transmission main north from Chapelgate Road to the proposed Fort Meade BPS near the intersection of MD 175 and 713, the system will transmit water from the 330 zone to the 350, 400, and 369 zones. This is consistent with objectives of the strategic plan to provide more transmission flexibility while reducing reliance on the City of Baltimore. Should the County take over the Fort Meade water system, continuation of this transmission main construction will be accelerated to allow the County to abandon Fort Meade's existing production facility and replace it with production from Crofton Meadows II. A 24-inch transmission main would be constructed from the proposed 36-inch transmission main at MD 175 and Mapes Road to the Fort Meade production facility.

As a result of the *Midwest Corridor Water Strategic Plan*, the 330 zone now abuts the 350 zone in the Pioneer City area. As a result of the *2003 Comprehensive Water Strategic Plan* the 350 zone will continue to expand eastward to Telegraph Road, which will require new 330 to 350 booster pumps at the Telegraph Road SCW facility. However, the Telegraph SCW will continue to supply the 295 zone. Again, this is consistent with objectives of the County's *1989 and 2003 Strategic Plan* to centralize facilities, increase transmission flexibility across pressure zones and reduce reliance on the City of Baltimore.

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