

## 3.0 Facility Description

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The Patuxent WRF currently has a permitted water treatment design capacity of 7.5 million gallons per day (mgd) with an ultimate capacity of 10.5 mgd planned for future expansion. Although the facility operates 24 hours a day, the plant is staffed only one shift per day during week days and 4-6 hour shift on the weekends. For the other two shifts, the facility is monitored remotely at the Millersville headquarters using a SCADA system. Dispatchers and on-call personnel respond to system alarms to resolve operating problems as necessary.

The treatment plant is situated on a 19.26-acre site. The operating facilities occupy approximately 10.8 acres of the site and the balance, 8.5 acres, is vegetated. Currently, total impervious area is approximately 7.8 acres, including roads, structure roofs, and open tankage. Major treatment facilities and structures are described in Table 3 (provided at the end of this section). Figure 2 (in folder at back of binder) shows the current plant layout, drainage areas, storm water management structures and potential storm water pollutant sources.

### 3.1 Site Drainage and Storm Water Management Structures

Facility construction has produced four primary drainage areas as shown on Figure 2 and listed in Table 4 (at end of this section). For simplicity, the primary drainage areas have been selected to distinguish areas where runoff is collected by drainage systems (e.g. drainage collection system piping) and areas where runoff flows off-site over ground surfaces. Storm water runoff from the majority of the operational portion of the site is collected in catch basins that drain via the storm water detention pond and drainage outfall pipe to the Little Patuxent River (DA 1, Outfall 1). The storm water detention pond located at the southeast corner of the site collects runoff from mostly vegetated areas on the south and eastern side of the site (DA 2), as well as DA 1. Storm water runoff from areas on the northern and westernmost portion of the site (DA 3 and DA 4) flows over vegetation that drains to adjacent properties.

Based on observations of the facility and operations, there are few activities at the site where potential pollutants can be released and ultimately contact storm water. Brief descriptions of the structures, potential pollutants, and storm water management controls for each drainage area follow.

**DA 1** - This drainage area is 7.4± acres, most of which is classified as impervious. The majority of storm water runoff in this area flows over paved and vegetated areas to storm water catch basins. Flow over vegetated areas does not come in contact with structures or process materials. All storm water from this area is discharged via the storm drainage collection system to a junction/outlet structure in the storm water detention pond located within DA 2. A weir within the junction/outlet structure controls discharge from the storm water detention pond. Excess storm water in the detention pond flows over the weir and is conveyed by