For greater flow events it also acts as an offline detention facility and receives flows from One Mile Branch as the stage level rises upstream of Ashley Street and flows back into the facility, thus providing additional storage in this part of the sub-basin, which is prone to flooding especially at the nearby Coca Cola bottling facility just north of the facility. However, this detention facility is small for the drainage area it receives flows from.

- Lakeland Avenue culvert replacement: An upgrade to a 4 ft H x 6 ft W double culvert as per the 1996 MSMP recommendation was completed.
- Lee Street culvert replacement: An upgrade to a 5 ft H x 8 ft W double culvert as per the 1996 MSMP recommendation was completed.
- Williams Street culvert replacement: An upgrade to a 6 ft H x 10 ft W double culvert as per the 1996 MSMP recommendation was completed.
- Iola Drive culvert replacement: An upgrade to a 6 ft H \times 10 ft W double culvert as per the 1996 MSMP recommendation for culvert upgrade was completed.
- Edgewood Drive improvements: The existing bridge at Edgewood Drive was prone
 to blockage due to debris and this had caused flooding in some homes in the
 vicinity. The bridge was demolished and it is an open channel now.
- Lakeland Avenue drainage improvements: To alleviate street and localized flooding in the areas in vicinity of Wilson Avenue and Caswell Street, flows were routed using pipes to a ditch running parallel to Lakeland Avenue. This ditch was paved with concrete and a series of energy dissipating structures were constructed on it. The flows run in this ditch and finally discharge into One Mile Branch just downstream of the Lakeland Avenue culvert crossing.
- Another significant feature in One Mile Branch sub-basin that affects hydrology and hydraulics of the system is Valdosta State University (VSU). VSU has its campus and several other buildings in the vicinity of the One Mile Branch. VSU occupies about 130 acres in the tributary area of One Mile Branch. This area stretches from Patterson Street in the north to Wainwright Drive to the south and directly effects about 5000 feet of the stream. Most of the VSU area is developed and highly impervious, which discharges into the stream with limited treatment.
- Another location that has experienced significant erosion is the section of One Mile Branch downstream of the railroad before it confluences with Sugar Creek. A lot of debris and fallen trees were seen in this section. Debris deposits, fallen drainage pipes and damage to the upstream face of the Patterson Street culvert were observed. Significant erosion of the stream banks was seen downstream of the Park Avenue culvert crossing. Foamy and odorous discharge was observed just

