



4.5.6 Alternatives Evaluation

This section describes the alternatives evaluated for the Sugar Creek Sub-basin. Based on the screening process for the alternatives evaluation, the following alternatives representing different levels of service were developed. Detailed public safety options and standards should be considered and used during final design.

- Alternative SG1: RSF near End Drive
- Alternative SG2: RSF near Lankford Drive
- Alternative SG3: Sugar Creek Stream Restoration North of Baytree Road
- Alternative SG4: Grade Control Structures at four locations throughout the Sugar Creek Sub-basin

Alternative SG1 – RSF near End Drive

This Alternative consists of constructing a 3.3-acre RSF near End Drive. The proposed RSF has a Permanent Pool Volume of 5.6 ac-ft and a Residence Time of more than 2 days. The tributary area to the facility is 267 acres. The implementation of this alternative will reduce some flooding in the neighboring structures along with reducing sediment loads.

The proposed RSF will treat 267 acres of untreated tributary area, and therefore may reduce sediment load. The land on which this facility is proposed is owned by the City. The location of the RSF is shown on **Figure 4.5.3**. **Table 4.5.5** shows the conceptual cost estimates for this alternative.

Alternative SG2 – RSF near Lankford Drive

This Alternative consists of constructing a 4.8-acre RSF upstream of Lankford Drive. The proposed RSF has a Permanent Pool Volume of 12.1 ac-ft and a Residence Time of 2.9 days. The tributary area to the facility is 1,421 acres. The implementation of this alternative will reduce some flooding in the neighboring structures along with reducing sediment loads.