



The bay on the right side of the stream is the preferential flow path during low flows with the left bay receiving flows only in higher flow events. Through this depositional feature, the stream has created a more stable cross-section, one that it will recreate each time its stable channel dimensions are disturbed. This means that if the shelf upstream of the culvert is cleared away in an attempt to increase conveyance, the stream will promptly erode the bed and banks upstream and place that material to form a new shelf.

On the downstream side of the W. Magnolia Street culvert there are deep, advancing gullies approaching the street through the denuded bank. Proceeding downstream, the gullies are often filled with garbage and debris (**Figure 3.3.10**). Downstream of W. Magnolia Street, the channel steepens again and the knick points are once again common features of the clayey bed, including a 3-foot drop about 400 feet downstream of the W. Magnolia Street culvert (**Figure 3.3.11**). The reach has frequent debris jams usually composed of household garbage dumped into the stream (**Figure 3.3.12**). The knick zones and knick points occur roughly every 50 to 100 feet until the confluence with Brown's Canal. At this confluence, the dominant fluvial process shifts abruptly from incision to deposition. Brown's Canal is delivering abundant sand to the main stem. Downstream of the confluence sand bar formation is more common and the bars exert a greater influence on channel stability.

Lankford Drive to Baytree Road

Reach Length: 4315 feet

Reach Average Slope: 0.41%

Proceeding downstream from Lankford Drive, the stream is deeply incised and there is a particularly large log jam storing sediment about 450 feet downstream of the crossing followed by a series of knick points. The depth of incision is approximately 5-7 feet based on the height of mature trees above the low flow line. At the confluence with One Mile Creek, the depositional pattern begins again though to a lesser degree than at the Brown's Canal confluence. One Mile is also deeply incised and the high channel bars just downstream of the confluence indicate that this stream is also a sediment source. Sugar Creek is storing some of this sand near the confluence. However about 500 feet downstream of the confluence with One Mile, the Sugar Creek bed is exposed clay and the channel is characterized by a series of riffles and relatively small knick points. This sequence of high bars storing sand and in some cases advancing across the channel interspersed with locally steeper clay or gravel bed repeats several times in this reach. While not consolidated or persistent, advancing sand bars are driving scouring flows against the opposite bank, and widening the channel though at a much slower rate than would occur if the bars could consolidate (**Figure 3.3.13**).