

It was also reported that on occasion, as Joachim Creek begins to flood, water from the creek will back through the box culvert and begin ponding in the vicinity of North Main Street. No flap gate or slide gate were identified at the box culvert to prevent Joachim Creek from flowing through the culvert during flood events.

The owners were adamant that the discharge of storm water from the subdivision combined with overland runoff in the vicinity of the structures was resulting in increased flood risk for their structures which was their primary concern. The storm water discharge is apparently exceeding the capacity of the box culvert to adequately convey flows into Joachim Creek. Their second concern was that Joachim Creek appeared to reach flood stage more frequently than it had in the past, and that some of the flows were being conveyed back through the box culvert, unimpeded, toward North Main Street and their structures.

2.0 Potential Recommendations

Flooding in the vicinity of 1800 North Main Street appears to have three sources of origination: 1) from Joachim Creek during high stages; 2) interior drainage from subdivision where runoff is collected, conveyed and discharged through a storm water system at the railroad box culvert; and 3) overland runoff from the subdivision to the backside of the structures. Depending on the origin of the flood waters, the information provided in Table 1 could be relevant in managing the flood risk.

Table 1. Recommendations Regarding Flooding in the Vicinity of 1800 N Main Street

Flood Source	Recommendation
Joachim Creek	Requires analysis of installation of flap gate or slide gate on outlet of concrete box culvert.
Storm Water System	Interior drainage issue requires analysis of system capacity at railroad box culvert.
Overland Flow	Interior drainage issue requires analysis of redirecting runoff into storm water system.

In addition to this flood assessment, the commercial structure located at 1800 North Main Street has been incorporated into the structural assessment for Joachim Creek at De Soto and includes potential techniques for implementation to reduce future flood damages.