

## SLWSD – Basin 4E-5 Canal Interconnect Project Narrative

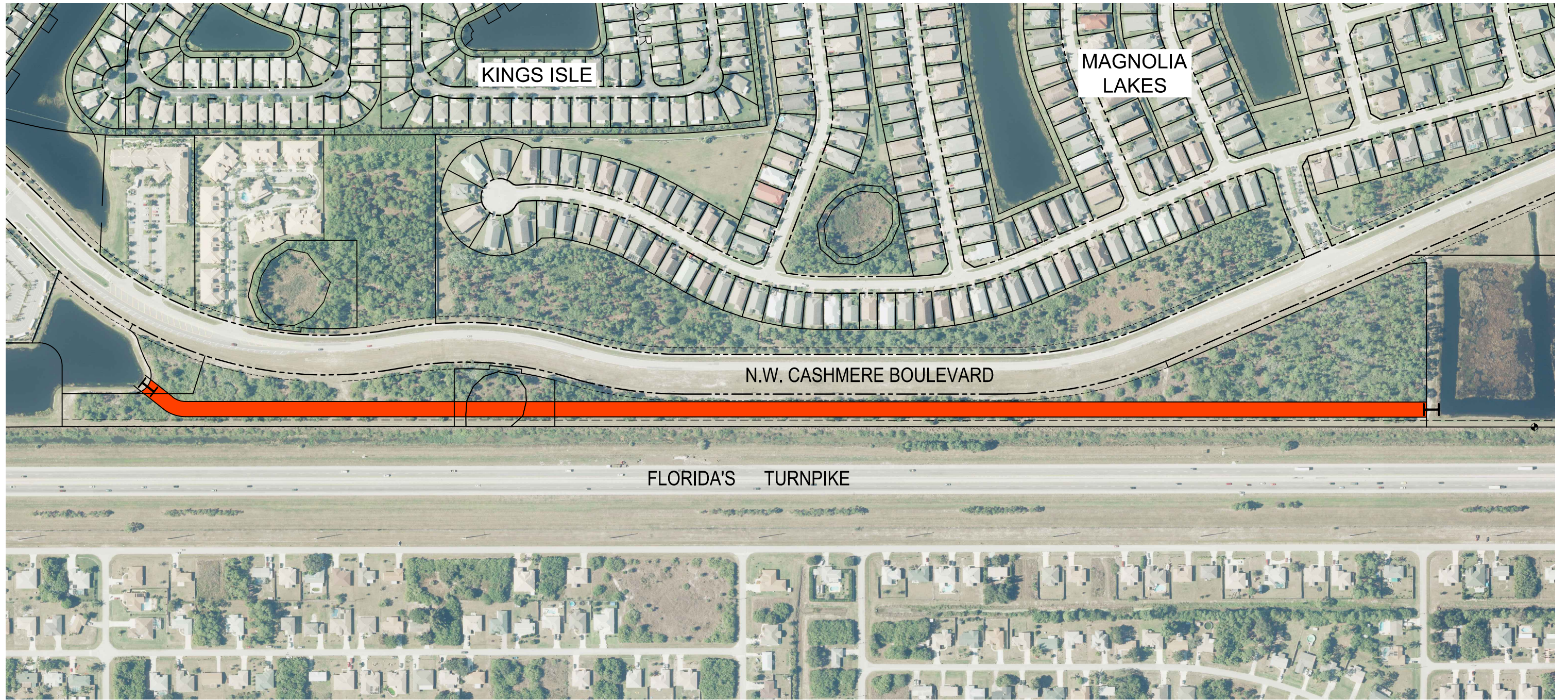
This new canal interconnect project is being constructed between the existing Basin 4E lake located north of the Lowes Improvement Center, and the existing Basin 5 lake located south of St Lucie County's Westgate K-8 school. The origination of this project dates back to field observations made on August 28, 2012 following Tropical Storm Isaac. St Lucie West and other parts of Port St Lucie experienced a two day rainfall event totaling approximately 16 inches between Isaac itself and the trailing feeder band event that occurred on Monday the 27<sup>th</sup>.

Field observations made on the afternoon of the 28<sup>th</sup>, with the gates open, indicated a water level in the Basin 5 lake approximately 1.5 feet above control, while water level in the Basin 4E lake was 2.5 feet above control. The berm adjacent to the Basin 4E control structure had breached and even with water bypassing the 4E control structure, water levels were significantly different. Basins 4E and 5 share the same 18.50 NGVD control elevation and are hydraulically connected by a piping system between the Kings Isle and Magnolia Lakes subdivisions. The above stated observations indicated that the hydraulic connection was not adequate to accommodate the storm conditions presented during this rainfall event.

The Basin 4E-5 Canal Interconnect project will provide benefit to the northeast quadrant of the system. Benefits to be received from this project include additional stormwater storage area and a better hydraulic connection between basins allowing the system to operate in a more efficient manner. The canal itself will create 3.2 acres of additional surface area thus increasing stormwater storage. The enhanced hydraulic connectivity provided by the canal will facilitate better equalization between basins allowing better utilization of both control structures.

SLWSD recently purchased a 12.45 acre parcel of land located on the northwest corner of St Lucie West Boulevard and Cashmere Boulevard and plans are underway to create a water management area to be named Lake Harvey that will provide an additional 6.6 acres of surface area to assist with both water quality and stormwater storage within Basin 4E. Once the Basin 4E-5 Interconnect Canal and the Lake Harvey projects are completed, it is anticipated that peak stages in the NE quadrant of the St Lucie West project will be reduced by over 4 inches during high intensity storm events.





**4E-5 CANAL INTERCONNECT PROJECT**

