

October 8, 2015

Mr. Robert M. Rivera
Public Works Director
City of New Port Richey
6420 Pine Hill Road
Port Richey, Florida 34668

RE: Proposal Recommendation – Madison Street Bridge Node Repair

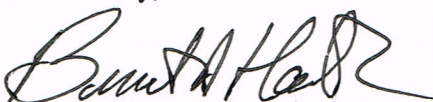
Mr. Rivera:

Improvements to the Madison Street Bridge were completed in 2001, which included the addition of pedestrian nodes at each approach corner of the bridge to allow viewing access of the Pithlachascotee River and improve the aesthetic appearance of the bridge. The pedestrian nodes were designed and constructed as free-standing structures utilizing a concrete block retaining wall, layers of compacted fill with geotextile reinforcement, and a concrete top slab. During routine inspections performed by City staff, the pedestrian nodes were observed to be in varying degrees of deterioration. In particular, the southeast, northeast, and northwest nodes show evidence of foundation settlement and the expansion joint between the node concrete slab and bridge sidewalks is compromised. As a result of these conditions, water intrusion into the node has occurred and eroded the compacted support soil material from beneath the node slabs. In addition, the tidal and river action appears to contribute to the node fill erosion. Significant cracking and settlement of the node slabs has resulted in the closure of the nodes to pedestrian use due to safety concerns.

The City contacted Stable Soils of Florida to view the node damage and prepare a proposal to stabilize the node foundation and interior fill materials, repair the retaining wall openings to prevent continued erosion, and repair the concrete top slab and any damaged bridge sidewalks. Upon review of the repair recommendations from Stable Soils of Florida, the contractor will drive ½" pipes to the bottom of the node structure and inject a polyurethane chemical to stabilize and seal any leaks at the structure foundation. The polyurethane foam material is injected under high pressures to fill voids and cracks in the wall. The polyurethane chemical stabilizer is injected to solidify the existing fill material to create a stronger foundation area. This procedure will be conducted along the wall perimeter for each node to stabilize and seal any leaks at the structure foundation. Further polymer injection will occur throughout the node structure layers to fill voids and wall openings. The sunken concrete surfaces will be lifted by chemical injection, then a surface grout will be applied to seal the cracks and provide a new walking surface.

Based upon our observation of the condition of the nodes, the continued deterioration and risk to pedestrian traffic, and the repair proposal methodology, Stroud Engineering recommends the City move forward with the proposed emergency repairs of the pedestrian nodes as submitted by Stable Soils of Florida. Should you have any questions on this recommendation, please feel free to contact me.

Sincerely,



Brent A. Heath, P.E.
Senior Engineer