



## Section 9 - Collection System Telemetry and SCADA Issues

The Town's telemetry and Supervisory Control and Data Acquisition (SCADA) systems have been evaluated as part of the Western Wake Wastewater Management Facilities SCADA Project and that evaluation will not be repeated as part of this Master Plan. However, we have reviewed the SCADA Project Final Design Report in conjunction with our evaluation of the collection system, and will be performing the initial phase of the SCADA system design. Based on our review of the report and knowledge of the scope of the SCADA system, we do not foresee any additional SCADA needs that are not already covered under the SCADA Project.

Any comments on the contents of the report are minor, and are not judged to be significant in the overall findings or sufficient to affect the report's recommendations. Our most significant comment involves the choice of the Human-Machine Interface (HMI) software for the WWRWRF SCADA Project. Although **Wonderware** is an excellent product, the Town of Cary also operates a different HMI software product at three existing facilities: the North Cary WRF, the South Cary WRF, and the Cary-Apex WTF. Each uses **GE Proficy iFIX** (formerly **Intellution iFIX**) as the HMI software. It would be desirable for all of the software within the Town to be the same to promote the enterprise interoperability goals set out in the SCADA Final Design Report. In addition, there would be costs associated with changing out the existing **GE Proficy** HMI software at the three existing facilities. These costs would be associated with initial purchase of the **Wonderware** software, translation of the existing database and graphic displays and final checking and commissioning of the software at each facility. Assuming the software change-out is desired, the Town should begin to consider this issue and budgeting of the associated costs in the capital budget.

One issue that bears on the HMI software decision is that of cyber security. The discovery of the Stuxnet worm in July 2010 was likely the first time that a worm had been specifically targeted at a plant control system. Although the Town of Cary does not operate the SCADA software targeted by this particular worm, it is likely that other worms and viruses will be created that will attack the offerings of other vendors. The new threats may not be as discriminatory as Stuxnet, which apparently was targeted at one specific facility. It is recommended that the existing HMI software installations within the Town be reviewed and maintained as up-to-date as possible, including both operating system and SCADA application software.

With respect to the SCADA Project, the current scope is currently limited to only the Tier I pumping stations. The Tier II and Tier III stations are anticipated to be included at some future date. This master plan recommends that a number of the stations that were originally intended to be included in the SCADA Project (mostly in Tiers II and III) be abandoned and consolidated into regional pumping stations. Once these recommendations are finalized and the Town begins the process of abandonment, only those stations with significant life remaining should be considered for inclusion in the SCADA system. In addition, all new regional stations should of course be included in the SCADA system at the time of their construction. It is recommended that those Tier II and Tier III stations not designated for replacement be included in the SCADA system as soon as economically feasible.



This page is intentionally left blank