To the Residents of Garden Lakes

Garden Lakes is a quite nice, picturesque, community in which to live. Our mature landscapes, with many large trees, abundant plant beds, and acres of grass area require a considerable amount of effort, time, and money to properly maintain. It is extremely important for our residents to have, at least, some understanding of what it takes to keep our community's appearance to a standard that we all come to appreciate and expect.

Our massive lawn and plant irrigation system has, in the last several years, experienced an extreme amount of neglect and hardships. And to compound the situation, few in Garden Lakes understand the scope of our irrigation system, its size, or needs. While we all criticize its shortcomings, only a handful understand what it really takes to keep our system up and running.

What we do know about our system is this. There are 10 irrigation pumps that are located within Garden Lakes. There are approximately 34 different timing controllers, which are responsible for the 'start and stop times' of about 450 different zones, each zone having an electrically operated valve that opens and closes to operate the water heads we see water coming from. Why we use the term 'about', is that we have a huge problem. We have no drawings available showing the locations of any of these zone valve boxes, or the wiring locations for them. They are buried underground by design, most under 4”-6” of grass and/or soil. This creates a problem of massive proportions, as poking, prodding, and electronic wire tracking can take a technician with advanced electronic locating equipment anywhere from 30 minutes to upwards of 30 hours to locate a single valve needing repair or replacement. Of the valves that have been located and serviced, many are over 1000' away, and a few, more than 3000' from either the irrigation pump, or the actual zone of heads they service. Having wires buried underground, the signal can often be traced, however, if there is a break in the wire somewhere, and electricity is not continuous, the signal pickup is lost, and it then becomes nothing more than a 'guessing game' locating and repairing the problem. Strange as it is, repairing the problem is not a problem, finding the problem is the problem. This is one very important thing to understand in the tedious process. The next thing, from the 450 different zone valves, it is estimated that there are well over 7,500 different heads that disperse water to our plants, lawns, and common areas we have in Garden Lakes. There are a variety of types of irrigation 'heads' that do our watering for us. There are short, somewhat flexible ones that are located near the foundations of houses and water the bordering plants. They are also located in many of the clubhouse and center 'island' areas. There are an estimated 3,500 of this type. There are also rotor heads, most all are buried in turf and plant bed areas, and they water areas with a 'back and forth' motion, covering larger areas. It is estimated that there are about 1,000 of them within Garden Lakes neighborhood, again no way to know the exact amount. And there are pop up heads, almost always located under grassy areas, and the total quantity is estimated to be in excess of 3,000 community wide.
The process of simply cleaning the grass from the areas where the heads are located takes an amount of time that is unbelievable. Cleaning, checking the direction of water flow, and typical maintenance checks, require on average 3-5 minutes each, which translates to 15-20 per work hour. To complete that task throughout the entire community, with 4000 locations to do, takes 1 person roughly 200-250 working hours to complete. At 40 hours weekly, it takes 1 person, 5-6 weeks just to complete the operation one time. Three times each year – 15-18 weeks time. Add to that, the average monthly quantity of heads (usually pop up type) replaced monthly that are destroyed by vehicles running over them at the roadway's edges total 80-100. That's 950-1200 on an annual basis. The larger rotor heads, as well as the interior located pop up heads become broken from various causes, many times the mowers running them over. This can total another 300-750 replacements per year. Each replacement takes upwards of 10 minutes per occurrence, adding another 200-400 hours per year to complete. The shrub heads often get broken by the trimming crews, and average another 50-75 repairs per month, or 600-900 per year, or another 150 hours of work annually.

An explanation of each pump house operation is also important in understanding why many of us experience times during the year of 'no water'. Each pump house, with a total in Garden Lakes of 10, average 3 controllers per pump house. We all have 2 water days, when operational, per week. For 1 controller to run its entire cycle, takes an average of 10 hours. The rotor zones run about 1 hour each, as water is spread out over a larger area. The lawn area pop up heads, since their spray coverage is continuous, run about 30 minutes, and the shrub heads that water many of the 'around the house' plants and beds run on average 15 minutes each. Many of the controllers operate, on average, 15 zones each. A typical week goes something like this—on day one, for example, the #1 controller runs operation, on day 2 the #2 controller runs its cycle, from the same pump. On day three, the #3 controller runs its 15 or so zones. There are 4 of the pump houses that operate a 4th controller, so on day four, #4 controller will run its zones, day 5 starts back with controller #1 and the whole series is repeated over and over each and every week. Most of our pumps run in excess of 60 hours each and every week. This is why it is important to also have a much better 'pump replacement and maintenance' system in place than we currently employ. If one pump goes inoperable, it affects usually over 45 zones, and loses coverage to a very large area. As well, if one valve becomes stuck opened, which is when some one notices water on 'all night long', the whole pump must be shut down until the valve is repaired. It was only about 2 years ago, that filters were installed on each pump, so we have 28 years or debris of various types lodged in the supply lines somewhere or anywhere. Then we go back to the #one problem discussed earlier... whether the tech can find the inoperable valve. If its one that has been problematic before and charted, it makes the repair much easier. If not, they have to go on an 'Easter Egg hunt' to locate that valve. Once again; 30 minutes to 30 hours discovery time. Average repair time only 45-60 minutes.
Another major factor in overall irrigation maintenance in Garden Lakes is our trees and their root systems. Tree roots often damage and break the main lines that carry the water from the pump houses to the valves, then onto the sprinkler heads themselves. Once any main line has a break, that entire pump house must be shut off until the repair is completed. A 2 1/2” or 3’ pipe carries about 150 gallons of water per minute, and will flood any yard area in fairly quick order. That will, once again, affect about 45 zones, one tenth of all Garden Lakes, on average 30 homes. This is one problem that our trees, as nice as they are, create, and we are just going to have to contend with.

We have a group of concerned residents, formed a much needed irrigation committee, have experienced some severe financial funding setbacks, and recently, hopefully, have decided to 'turn the tide', and improve conditions with this massive system. The problems have been years in the making, and it will not be completely corrected overnight. Understanding this is going to be a full time undertaking is a huge step to improving the system and situation.

In conclusion, one thing is certain. The irrigation system in Garden Lakes is extremely large, quite complex, and needs full time attention and proper funding to maintain. Many things need be accomplished, from daily servicing, to a parts, inventory, storage and work facility, to improving overall efficiency. We owe it to ourselves and future residents, not to mention our bylaws require its use and proper maintenance. This is a very nice neighborhood, and we must all strive to keep it that way. Once we get our system up and 'ahead of the game', each component can then begin to set sites on improving their landscaping and cosmetic appearance, making Garden Lakes as a whole a much improved, wonderful, and beautiful place to call home.

On behalf of the entire Garden Lakes Irrigation Committee

Dan Bemben