



# UPDATE JUNE 2023 WEST VILLAGES IMPROVEMENT DISTRICT WATER CONSERVATION PLAN LANDSCAPE AND RECREATIONAL USE



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JUNE 2023





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## 1.0 INTRODUCTION

WVID is a government entity that is responsible for providing numerous services to its constituents within its 11,390-acre service area (WVID Service Area). A major service feature provided by the WVID is non-potable irrigation water supplies to its customers which include residential developments, commercial enterprises, parks, and recreational fields encompassing approximately 7,175 acres (Current WUP Service Area). The WVID Service Area is shown in Figure 1-1. WVID Service Area Map.

The WVID is committed to using the lowest quality water sources in conjunction with water conservation practices to provide all users within its service area with irrigation water in the most effective and efficient manner. WVID is open to any future partnerships with the local city, county, and state entities to further incorporate the use of Alternative Water Supplies (reclaimed water) into its distribution system when they become available. The WVID will evaluate and implement the latest technologies to increase conservation during the 50-year water use permit duration, this includes potential partnerships with the Southwest Florida Water Management District (SWFWMD) on cost-sharing initiatives that aid and increase water conservation.

All users within the WVID Current WUP Service Area will be required to implement Florida-Friendly Landscaping to the greatest extent practical in the design of the residential, common area and commercial elements. University of Florida Institute of Food and Agriculture Science (IFAS), Florida Friendly Yards and Neighborhoods Handbook will be used as a guide in developing the landscape architecture for all areas of the planned community. The goal will be to develop quality landscapes that incorporate drought tolerant plantings and the use of micro-jet irrigation to maximize water conservation.

## 2.0 WATER CONSERVATION PRACTICES AND REGULATIONS

The proposed water conservation practices outlined by the WVID are presented in below:

### 2.1 PROHIBITION OF INDIVIDUALLY OWNED GROUNDWATER WELLS FOR IRRIGATION

The WVID will prohibit any of its customers from installing individual groundwater wells for the purpose of providing water for irrigation; irrigation water will be supplied by the WVID for all customers within its Current WUP Service Area. This regulation is necessary to allow for a centralized water distribution system under the direct control of the WVID for irrigation water supplied to the Current WUP Service Area. Elimination of private wells that don't meet the SWFWMD's permitting regulation and reporting requirements allows for greater control and limits irresponsible use of the area's water supplies. The implementation of the WVID Service Area and the incorporation of water conservation practices established within this plan safeguards the available water resources for the foreseeable future.

Upon build out of the WVID Current WUP Service Area, there is likely to be over 1,443 acres of residential lawn and landscape areas, and without the guidance and control of the water resources by the WVID, the owners of these residences would be compelled to use individual wells to meet their irrigation needs. This would establish considerable strain on existing water supplies to meet this unregulated demand. The WVID control of irrigation supply will increase the conservation and sustainability of the local water supplies:

- WVID will utilize reclaimed water, storm water sources to the greatest extent practical prior to the use of groundwater for irrigation needs within the Current WUP Service Area. The WVID is actively seeking and preparing for the incorporation of reclaimed water supply sources when it becomes available. The WVID will continue to work with local, county and state officials to secure, cost-share and implement the infrastructure needed to incorporate reclaimed water as a source for irrigation supply.
- The WVID will use Primary Irrigation Lake (PIL) 1, PIL 2 and PIL 3 as potential sources of water for irrigation and blending groundwater sources as the central part of the storm water capture and groundwater augmentation system. As each development within the WVID Current WUP Service Area is constructed, WVID will apply for and receive an Environmental Resource Permit (ERP) from the SWFWMD that will be used to refine the irrigation demands and provide a basis for modifying the water use permit to delineate irrigated areas and define each lake's augmentation re-pump system.
- As the WVID Current WUP Service Area is built out, reclaimed water and storm water will become more available. With each new phase of development and ERP modification, reclaimed water availability and storm water will be evaluated and as applicable used to offset groundwater quantities. Eventually reclaimed water and storm water will provide most of the irrigation supply. Table 2-21. shows at year 50, reclaimed water may be able to supply approximately 100 percent of the irrigation demand on an annual average daily basis. Table 2-2 demonstrates that reclaimed water will only make up approximately 50 percent of the peak month demand. Actual reclaimed water availability will be refined as WVID Current WUP Service Area is developed.

**Table 2-1 Annual Average Build-Out (Year 50) Source and Demand**

Source	GPD
Englewood Water District Reclaimed Water (Future)	250,000
Sarasota County Reclaimed (Future)	250,000
West Village Improvement District WWTP (Future)	3,500,000
Sub-Total Reclaimed Water (Future)	4,000,000
Storm Water (Future)	Unknown
Existing and Proposed Irrigation Well Supply	2,488,900
Total Irrigation Source Water Available at Buildout	6,488,900
Total Build-Out Irrigation Demand (Annual Average)	3,406,667

**Table 2-2 Peak Month Build-Out Source and Demand**

Source	GPD
Englewood Water District Reclaimed Water (Future)	250,000
Sarasota County Reclaimed (Future)	250,000
West Village Improvement District WWTP (Future)	3,500,000
Sub-Total Reclaimed Water (Future)	4,000,000
Storm Water (Future)	Unknown
Existing and Proposed Irrigation Well Supply	6,734,900
Total Irrigation Source Water Available at Buildout	10,734,900
Total Build-Out Irrigation Demand (Peak Month)	10,635,087

## 2.2 WVID CUSTOMER CONSERVATION INITIATIVES LANDSCAPE/RECREATION USE

The WVID as a government entity is a supplier of water that uses an integrated system to distribute water for the use of irrigation within its Current WUP Service Area. The WVID will meter water within its distribution system to measure the amount of water that is provided to each customer. The WVID is not responsible for the customer’s irrigation system and its implementation. The WVID will supply water to meet the customers demand based on the District’s AGMOD irrigation allocation program. Prior to any customer receiving irrigation water from WVID, the customer must supply a water conservation plan that at a minimum addresses the following practices outlined below. The WVID will submit the plans to the Southwest Florida Water Management District. WVID will require that each customer update their plan every 5 years from the date of initial connection to the WVID irrigation distribution system. The conservation plan at minimum will address the following items:

- Landscape planning and design will adhere to Florida Statute chapter 481 Part II, landscape architecture rules and chapter 373.185, local Florida-friendly landscaping ordinances.
- The customer will conduct monthly analysis of their irrigation systems using a dedicated computer program that operates the individual pump stations and irrigation zones. Irrigation system efficiency will be able to be monitored in real time using an integrated irrigation computer program by evaluating irrigation system pressure, pumpage, and application rates to determine if the systems are operating at peak efficiency standards. The entire irrigation system will be periodically field tested to ensure that recorded values within the irrigation program are accurate.
- The customer will adhere to all City of North Port and Southwest Florida Water Management District watering restrictions. This includes limiting irrigation to twice a week and before 10:00 AM and after 4:00 PM as indicated in the District’s Phase I Water Shortage Restrictions.

- The customer will monitor pumpage rates and irrigation system pressure in real time to determine if potential leaks or system clog exist. The customer will conduct system wide field inspections of the entire irrigation management system on a yearly basis checking nozzles, valves, filters, and meters to ensure they are operating at maximum efficiency. The customers' irrigation sprinklers run times will be controlled from their irrigation program instead of in-field timers to ensure accurate watering applications.
- The customer will reduce runoff by operating an on/off rest cycling for all irrigation zones located on the subject property. The on/off cycling ensures that the evapotranspiration needs of the plant are delivered at a rate in which the plant and soils can uptake the water. The system is then turned off to allow water infiltration into the soil for no less than twenty minutes before the system irrigates the final supplemental water demand. This on/off rest cycling ensures that runoff from irrigation is reduced and often eliminated. The customer's staff will field verify sprinkler positions to ensure that paved areas are not irrigated.
- The customer's landscape staff will conduct an ongoing analysis of the irrigation system efficiency, including conveyance, distribution, and application rates. The analysis shall will include periodic testing for application and distribution uniformity, and system maintenance to irrigate efficiently.
- The customer's landscape staff will avoid daytime irrigation, aeration or other activities which involve spraying water into the air to the greatest extent practicable to minimize water losses from evaporation and the wind. This does not apply to daytime use of water for system maintenance or other necessary non-irrigation uses.
- The customer's landscape staff will conduct an ongoing maintenance and repair program on the water distribution and irrigation systems, including a system-wide survey conducted at least once per year that includes monitoring flow rates and system pressures to detect leaks and clogs; routine cleaning of system components (nozzles, valves, filters, meters, etc.); checking controllers or timers for accurate operation; and monitoring meters for unusually high or low readings.
- The customer's landscape staff will evaluate the feasibility of improving the efficiency of the water distribution and irrigation systems, converting to a more efficient system when it is determined to be operationally and economically feasible.
- The customer's landscape staff will implement an irrigation schedule that maximizes the efficiency of delivering the correct quantity of water to the root zone at the time it is needed. This will be accomplished with automated on/off cycling to ensure that the evapotranspiration needs of the plant are delivered at a rate in which the plant and soils can uptake the water. The programmable automated on/off cycling will allow water infiltration into the soil for no less than twenty minutes before the system irrigates the final supplemental water demand. This allows for varying the irrigation schedule (time and duration) to accommodate rainy and dry seasons, adjustments for rainy versus dry and normal rainfall years. The irrigation system will also incorporate rain sensors and reduce irrigation during dormant months.

- The customer's landscape staff will monitor ambient conditions and soil profile using soil moisture sensors and weather station data to help determine when and how much irrigation water is needed.
- The customer's landscape staff will use frequent mowing practices to keep turf at an optimum constant height to provide a dense canopy to retain soil moisture by shading.
- The customer's landscape staff will reduce or eliminate irrigation runoff by monitoring irrigation duration daily so that only the water necessary for plant growth is used and avoiding irrigation of paved areas.
- The customer will incorporate Florida Friendly landscaping throughout their property whenever possible.

Customers that receive water for the irrigation of Sport Playing Fields (Recreational Use) from the WVID will address the following items in their conservation plans:

- The customer's staff will monitor their irrigation systems and sprinkler layouts to ensure that water application is targeting only the areas that require irrigation (i.e. playing areas).
- The customer will install and use an irrigation system that incorporates low water application rate equipment (30 gallons per hour or less) for lawn and landscaping areas and non-sports playing fields areas to the greatest extent technically and economically practical.
- The customer will limit frequent irrigation to sensitive water critical areas.
- The customer will adhere to rigorous standards when designing surfaces and playing areas that meet the highest quality standards expected within the related professional industry.

If the customer uses more water for irrigation than their AGMOD allocation, WVID will notify the customer that they are overusing irrigation supplies. If the customer does not come into compliance with irrigation demand allocation within 90 days, WVID will inform the customer that they are required to submit a corrective action plan. That plan, at a minimum, will include a review of their existing irrigation conservation plan and address how it is being implemented, along with providing any foreseeable updates to their plan. The corrective action plan will require identification of the cause of the overuse, and corrective actions taken to return their use into compliance. Furthermore, the corrective action plan will identify actions taken by the customer to ensure there will not be a recurrence of same issues, which caused the initial overuse.

## 2.3 IMPLEMENTATION OF LOCAL AND STATE WATER RESTRICTIONS

The WVID will require all customers within the Current WUP Service Area to adhere to City of North Port and the SWFWMD's watering restrictions. These restrictions include lawn and landscape irrigation limited to 2 days per week. Even number addresses will be watered on Thursdays and/or Sundays. Odd number addresses will be watered on Wednesdays and/or Saturdays. Common areas will be watered on Tuesdays and/or Fridays. These irrigation events will only occur between 4 pm and 10 am the following day. This is to avoid irrigation during peak periods of plant evapotranspiration. The WVID will also try to incorporate additional initiatives aimed at water conservation such as: the SWFWMD Skip-A-Week campaign, educational efforts on drought conditions and irrigation restrictions, and the IFAS Florida Friendly Yards initiative described in Section 1.

## 2.4 COMMUNITY EDUCATION ON WATER CONSERVATION

The WVID plans on implementing a robust water conservation education campaign to inform residents and commercial entities within the community on the importance and benefit of utilizing conservation practices as part of their yearly routines. The water conservation education campaign may consist of a variety of media platforms created by the WVID to provide outreach to its customers, these may include: 1.) Discussion of water conservation Action Items at each WVID customer community board meeting, 2.) Informative and educational pamphlets distributed to all customers, These proposed activities will grant the WVID the ability to educate all its customers within the Current WUP Service Area on the importance and benefit of water conservation in their daily lives.

## 2.5 FLORIDA FRIENDLY YARDS

The WVID will require that customers adhere to Florida Statute chapter 481 Part II, Landscape architecture rules and chapter 373.185, local Florida-friendly landscaping ordinances.

## 2.6 IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT INITIATIVES

Sustainable development is a key goal for the WVID as it looks to the future of planned communities and their presence within the environment. The WVID will look to programs and organizations such as the Florida Water Star and Florida Green Building Coalition (FGBC) for guidance on sustainable community development practices including indoor and outdoor water conservation criteria and ways to incorporate these ideas as key pillars in the community's development.

## 2.7 STATE FUNDED COST-SHARE PROGRAMS

The ability to partner with State organizations such as the SWFWMD to initiate and implement cost-sharing programs that further advance water conservation activities within the WVID Current WUP Service Area is very important. The current cost-share programs provided by the SWFWMD include landscape irrigation evaluations, landscape demonstrations, evapotranspiration controllers, rains sensors and soil moisture sensors. Each of these programs will be evaluated by the WVID to determine which programs will provide the greatest impact and benefit to their customers.

