

## **Foreword**

The Central Florida Water Initiative (CFWI) is a collaborative process involving the Department of Environmental Protection, the St. Johns River Water Management District, the South Florida Water Management District, the Southwest Florida Water Management District, the Department of Agriculture and Consumer Services, regional public water supply utilities, and other stakeholders. As set forth in the Central Florida Water Initiative Guiding Document of January 30, 2015, the initiative has developed an initial framework for a unified process to address the current and long-term water supply needs of Central Florida without causing harm to the water resources and associated natural systems. The “CFWI Area” is all of Orange, Osceola, Polk, and Seminole Counties, and southern Lake County.

Section 373.0465, Florida Statutes, directs the agencies to develop a water supply planning process to identify measures necessary to prevent further harm to water resources in the area. The CFWI’s planning process concluded that traditional resources alone cannot meet future water demands or currently permitted allocations without resulting in unacceptable harm to water resources and related natural systems. The public interest requires protection of the water resources from harm.

Section 373.0465, Florida Statutes, directs the Department of Environmental Protection to adopt uniform rules for application within the CFWI Area. Rules 62-41.300 through 62-41.305, F.A.C., and this Supplemental Applicant’s Handbook address the public interest by providing a uniform regulatory framework to allow for the allocation of available groundwater in the area, subject to avoidance and mitigation measures to prevent harm. This regulatory framework is one component of a comprehensive joint water management strategy for regional water resource management that also includes regional water supply planning, alternative water supply project funding, and water resource investigations and analyses. These rules will apply to consumptive use permit applicants in the CFWI Area and supersede portions of Chapters 40C-2, 40D-2 and 40E-2, F.A.C., regulating the consumptive use of water in the CFWI Area explicitly identified in the chapter.

## CFWI – 1.0 General Provisions

### CFWI - 1.1 Definitions

The following definitions are applicable to the terms in this CFWI Supplemental Applicant’s Handbook for Consumptive Use Permitting. Where the identical term is used in section 1.1 of the St. John’s River Water Management District Applicant’s Handbook for the Consumptive Uses of Water, South West Florida Water Management District Water Use Permit Applicant’s Handbook, Part B, and the Applicant’s Handbook for Water Use Permit Applications within the South Florida Water Management District, (collectively referred to as the “Districts’ applicant’s handbooks”), the terms below shall supersede and replace the corresponding term in its entirety. All other terms referenced in the Districts’ applicant’s handbooks shall remain in full force and effect.

- A. **“Central Florida Water Initiative Area”** or **“CFWI Area”** is as defined in section 373.0465(2)(a), F.S.
- B. **“Central Florida Water Initiative (CFWI) Supplemental Applicant’s Handbook for Consumptive Use Permitting,”** also referred to as the **“Supplemental Applicant’s Handbook”** means an applicant’s handbook that supplements, and in places supersedes and replaces, the Districts’ applicant’s handbooks for use within the CFWI Area and which is incorporated by reference in subsection 62-41.302(1), F.A.C.
- C. Within the CFWI Area, **“harmful to the water resources,”** as used in section 373.219(1), F.S., means a determination of harm to the water resources following an evaluation of the conditions for issuance of permits set forth in subparagraphs 62-41.301(2)(g), F.A.C., as those conditions are evaluated in the Supplemental Applicant’s Handbook.
- D. **“Endangered or threatened species”** or **“listed species”** means those animal species that are identified as endangered or threatened by the US Fish and Wildlife Service, the National Marine Fisheries Service, or the Florida Fish and Wildlife Conservation Commission, as well as those plant species identified as endangered or threatened by the US Fish and Wildlife Service or National Marine Fisheries Service, when such plants are located in a wetland or other surface water.
- E. **“Area of Influence”** means:
  - 1. For withdrawals from groundwater systems the area of influence is defined by the cone of depression.
  - 2. For withdrawals from surface water systems the area of influence is defined as the extent to which the withdrawal results in an impact to surface water levels or flows using the best available tools.
- F. **“Cone of Depression”** means the conical shape taken by the potentiometric surface or water table showing the variation of drawdown, with distance, due to pumping from a well or wellfield.

- G. **“Demonstrated 2025 Demand”** means the quantity of water needed to meet demands in 2025. Demonstrated 2025 Demand will be calculated utilizing the methodologies described in section 2.0 of the Supplemental Applicant’s Handbook.
- H. **“Existing Uses”** means those permitted consumptive uses in effect as of (effective date).
- I. **“New Uses”** means those uses permitted after (effective date).
- J. **“Redistributed Uses”** means wellfield management and optimization techniques or relocation of wells that redistribute a permittee’s withdrawals from the Upper Floridan aquifer. This can include regional redistributions with multiple partners or permittees.

### **CFWI – 1.2 Modification of Existing Permits**

Nothing in this Supplemental Applicant’s Handbook shall create a presumption with regards to the modification of any applicable existing consumptive use or water use permit within the CFWI Area through the process described in this section. Following the effective date of these rules, each District shall modify all applicable existing consumptive use or water use permits with withdrawal points within the CFWI Area by letter modification to be consistent with Rules 62-41.301 through 62-41.305, F.A.C., and this Supplemental Applicant’s Handbook. Notice of agency action will be provided to the applicant and to persons who have requested notice as required by section 120.60, F.S. At a minimum such permit modifications of existing consumptive use or water use permits within the CFWI Area shall incorporate the applicable measures and conditions described in sections 1.1 (Definitions), 2.0 (Demonstration of Water Demand), and 5.0 (Special Permit Conditions) of this Supplemental Applicant’s Handbook, including all subparts. Specifically:

- A. All permits shall be modified to be consistent with the provisions of section 2.8. Allocations will be calculated in accordance with the designated use class of the permitted use and the corresponding method of allocation described in section 2.0; however, the District shall not limit an Upper Floridan aquifer allocation for a public use type permit to its Demonstrated 2025 Demand, as specified in section 2.8, unless the District demonstrates the permittee’s allocation is detrimental, individually or cumulatively with other permitted allocations, to other water users or to the water resources of the state.
- B. The applicable permit conditions specified in section 5.0 shall be incorporated into all existing consumptive use permits in the CFWI Area and shall be placed on all permits for new uses within the area.

### **CFWI - 1.3 Environmental Resource and Consumptive Use Permitting Concurrency**

Within the CFWI Area, this section, CFWI - 1.3, shall be in addition to the SJRWMD Applicant's Handbook for the Consumptive Uses of Water and shall supersede in its entirety section 1.3.5 of the SWFWMD Water Use Permit Applicant's Handbook, Part B, subsection 40D-2.301(3), F.A.C., and section 1.4.6 of the Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District.

If an individual Consumptive Use Permit (CUP) application includes either of the following two requests for a consumptive use of water, then the CUP application shall not be considered complete until the applicant has submitted a complete application for an environmental resource permit (ERP), pursuant to Chapter 62-330, F.A.C.:

- A. Requests to irrigate golf course areas, cemeteries, nursery plants, agriculture crops, or landscaped areas, that are a part of an artificially-created surface water management system that requires an individual or general ERP; or
- B. Requests to dewater for a project that requires an individual or general ERP under Chapter 373, F.S.

In all other cases, the District can take final agency action on the CUP application without regard for the status of the ERP application.

The requirement to submit a complete application for an ERP shall not apply to:

- A. Requests for a consumptive use of water associated with phosphate mining with an approved reclamation plan pursuant Chapter 378, F.S.;
- B. Requests for a consumptive use of water associated with an ERP project that qualifies for a general permit under section 403.814(12), F.S.; or
- C. A CUP application that does not meet the conditions for issuance in Rule 62-41.301, F.A.C.

### **CFWI - 2.0 Demonstration of Water Demand, Allocations, and Source Identification**

Within the CFWI Area, sections, CFWI - 2.0 – 2.6, inclusive of all subsections, supersedes, 2.2. (excepting 2.2.2.5. through 2.2.2.5.1 B, 2.2.3.2 through 2.2.3.2.2, 2.2.5.5 through 2.2.5.5.5, 2.2.6.1 through 2.2.6.1.2, 2.2.8 through 2.2.8.2, 2.2.9, and 2.3(e) of the SJRWMD Applicant's Handbook; sections 2.0, 2.1.1. (excepting 2.1.1.4), 2.3 (excepting 2.3.7), 2.4.1, 2.4.3 (excepting 2.4.3.1.1 and 2.4.3.1.7), 2.4.4 (excepting 2.4.4.1.), 2.4.5 (excepting 2.4.5.1), 2.4.6 (excepting 2.4.6.1), and 2.4.7 (excepting 2.4.7.1), of the SWFWMD Applicant's Handbook; and the introductory paragraph to section 2.0, subsections 2.2.3, 2.2.4.A, 2.2.4.B.2, 2.3 (including section 2.3.2.B but only as to dewatering associated with mining projects, and excepting 2.3.1.D., 2.3.2.D.1., 2.3.2.E.1., 2.3.2.F.1., 2.3.2.G) of the SFWMD Applicant's Handbook.

To receive a permit, an applicant must demonstrate that the proposed water use is a reasonable-beneficial use of water, as required by section 373.223, F.S., as further explicated in the conditions for issuance in Rule 62-41.301, F.A.C. The proposed withdrawal of water must be supported by information that provides reasonable assurance that the withdrawal quantities are necessary to supply a certain reasonable demand. Only the portion of demand for which an applicant can provide such reasonable assurance will be permitted. Additional or alternative provisions are required for uses within the Southern and Dover/Plant City Water Use Caution Areas in accordance with Rule 62-41.305, F.A.C.

An applicant's allocation reflects a consideration of factors including demands and, as applicable, treatment losses, reclaimed water and other sources of water, conservation, and water purchased, sold, or transferred, and documented historical information. When necessary to prevent water resource impacts or implementing projects that add new sources of water, allocations can be expressed in increments over the permit term.

In no case, however, will the allocation be greater than the total rated capacity of all existing and proposed withdrawal facilities.

Each permit issued by the District shall identify the source of withdrawal, the use type, and the location of the withdrawal.

## **CFWI - 2.1 Allocation Expression**

Applicants shall request quantities in gallons per day (gpd) or million gallons per day (mgd) for each component of demand according to the demand components listed for each use type.

### **CFWI - 2.1.1 Annual Quantity**

The annual quantity is determined by calculating the total quantity of water to be withdrawn over a 12-month period. A daily average is calculated by dividing the annual quantity by 365. The annual average quantity must equal the quantities required by each demand component for the particular use.

### **CFWI - 2.1.2 Peak Month**

The peak month allocation represents the greatest quantity permitted to be used in any single month. The peak month allocation is determined by dividing the month of highest water use by the number of days in that month for the associated use type. For agricultural and landscape/recreation use types, the peak month allocation is determined by identifying the peak month demand under the 2-in-10 year drought in addition to the demand associated with other agricultural uses that are not calculated based on rainfall.

## CFWI - 2.2 Public Water Supply Use Type

### CFWI - 2.2.1 Public Water Supply Demand Calculation and Components

Generally, public supply demand will be calculated using the average gross per capita rate for the most recent five years as applied to the applicants' service areas' residential population served. See section 2.2.3.2.

Alternative methodologies may be used if there is reasonable assurance that the methodology is appropriate for the service area and that the withdrawal quantities requested are necessary to supply the proposed demand. Examples of alternative methodologies are utility-level growth rates for applicants with a large number of dwelling units occupied by non-residents or reasonable design per capita for new developments.

Within the Southern Water Use Caution Area, section 2.3.7 of the SWFWMD Applicant's Handbook shall be used to determine an applicant's demand; however, allocations from the Upper Floridan Aquifer shall be determined using section 2.8 of the CFWI Supplemental Applicant's Handbook.

Demand quantities shall be based on raw water demand. Applicants shall request total water quantities in gpd or mgd for each demand component, as defined below, in order to justify the quantities requested in the application.

- A. Residential use shall be divided into single-family residential use (including mobile homes) and multi-family residential use.
- B. Non-Residential or Other Metered use shall include all uses other than residential accounted for by meter.
- C. Estimated Unmetered use shall include estimates of unmetered uses that are tracked by the applicant.
- D. Treatment losses shall include significant treatment process losses associated with making the water potable, such as reject water in desalination, membrane cleaning or back-flush quantities associated with sand filtration systems. Treatment losses are calculated as raw water into the plant minus treated water out of the plant.
- E. Water losses are equal to the total water plant input minus all accounted uses described in A. through D. above. Water losses shall not exceed 10% of total distribution quantities.
- F. Exports / Imports shall include the quantity of water delivered to other entities through agreements or contracts and the duration of the water service delivery. For those utilities that purchase supplemental water from another utility, the volume of water historically purchased (or contracted to be purchased for proposed uses) for an average and maximum daily basis and the duration of the agreement / contract shall be provided.

### **CFWI - 2.2.2 Public Water Supply Population Projections for the Residential Demand Component**

The applicant must provide population projections for those who will be served by the public supply system.

To determine future population to be served, population data should be derived from the most recent county-level/parcel level forecast of population based on published University of Florida, Bureau of Economic and Business Research (BEBR) - Medium projections for target year(s). Other accepted sources of population data that may be used to supplement BEBR medium projections to evaluate the population projections include:

- The current Comprehensive Land Use Plan developed under Part II, Chapter 163, F.S.;
- Historic growth rate at utility-level based on an average of five years of historic population times the base year served dwelling unit population (estimate of total residential dwelling units multiplied by the estimate of persons per household). The base year would be defined as the last full year. Average of five years historic population would include the base year and four years prior;
- The current CFWI Regional Water Supply Plan; and
- Regional Planning Council Data and Special population studies.

If an applicant proposes an adjustment to the BEBR-medium projection or utility level growth rate, the applicant must provide reasonable assurance through specific data and analysis that the adjustment better predicts population growth rate due to significant changes in factors affecting the applicant's service area's population growth rates (either up or down) in the most recent five years that would render a five-year average not representative for projecting over the requested permit duration. The specific data and analysis should include an alternate five-year average calculation.

Public supply entities that provide water supply for predominantly commercial uses that do not support a permanent population are excluded from these calculations and demand projections shall be evaluated using best available information.

For all methods, seasonal service area population may be used, if applicable, and, if used, shall be estimated using methods recommended by either the Department of Economic Opportunity or proposed by the utility and approved by the District. Applicants may also identify tourist population, if known. In addition, the population to be served can be a mixture of permanent and non-permanent population as long as it is consistently used.

### **CFWI - 2.2.3 Per Capita Daily Water Use**

The per capita use rate that is the most representative of anticipated demands, considering the water conservation plans required by the Districts, shall be identified and used for water demand projection purposes.

### **CFWI - 2.2.3.1 Uniform Method for Calculating Gross Per Capita Daily Water Use**

Gross Per Capita is defined as:  $(WD + IM - EX) / RP$  Where:

- WD = groundwater, surface water and stormwater withdrawals.
- IM = water imported/purchased from other supplier(s). Irrigation water, excluding Reclaimed Water, provided to the applicant's service area by a separate utility shall be counted as imported water
- EX = water exported/sold to other supplier(s)
- RP = Residential Population (for a Utility Service Area) is based upon total residential dwelling units served, which include Single Family Residential, Multi-Family Residential (apartments, townhomes, condos, duplexes) and Mobile Homes, multiplied by a utility-specific estimate of persons per household. The applicant shall provide reasonable assurance that the utility specific persons per household figure used demonstrates a reasonable method for determining persons per household within its service area. Examples of typically reliable data include census-based averages, BEBR persons per household estimates, and utility documented surveys.

### **CFWI - 2.2.3.2 Uniform Method for Calculating Residential Per Capita Daily Water Use**

Residential Per Capita is defined as Total Residential Water Use (or Water Use by Dwelling Units) divided by Service Area Residential Population (RP).

### **CFWI - 2.2.4 Defining the Public Water Supply Service Area**

#### **A. Public Service Commission Service Territory**

If the applicant is regulated by the Public Service Commission (PSC), the service area should be that area for which the utility has obtained a certificate from the PSC that the applicant intends to serve during the requested permit duration. If the projected future service area is larger than the area certificated at the time of application, the applicant will solicit the opinion of the PSC as to the ability of the applicant to serve the area and provide the PSC's response to the District. If the PSC determines that the applicant is capable of serving the area, the projected service area will be used in the demand calculation. If used, a special condition to the permit shall require the permittee receive a certificate from the PSC for the expansion within two years of permit issuance. If a permittee will not serve a new demand located within either the existing or proposed service area, the permitted allocation is subject to modification.

#### **B. Local Government Franchise**

If the applicant is regulated by a local government, the service territory should be that area for which the applicant has obtained a franchise that the applicant intends to serve during the requested permit duration.

If the projected future service area is larger than the area franchised at the time of application, the applicant will solicit the opinion of the local government as to the ability of the applicant to serve the area and provide the local government's response to the District.

If the local government determines that the applicant is capable of serving the area, the projected service area will be used in the demand calculation. If used, a special condition to the permit shall require the permittee receive a franchise from the local government for expansion within two years.

#### C. Unregulated Service Territory

If the applicant is not regulated by either local government or the PSC, the projected service area must: (1) conform to the area that the utility can reasonably serve within the permit duration; and (2) not already be within another entity's established service area. If the applicant is claiming service areas outside of its legal boundaries or within the legal boundaries of another utility, an explanation, with supporting documentation, must be provided in the application.

#### D. Conflicting Service Territories

If, during review of a permit application, conflicting service area claims arise between applicants or between an applicant and public supplier permittee, the users must resolve the dispute between themselves, or seek resolution before the PSC, the local government, or through a body with substantive jurisdiction to resolve the conflict, whichever is applicable to the applicant. An applicant may amend its application to either remove the services areas in dispute or to include an allocation based only on the non-disputed portions of the projected service areas; otherwise, the District will allocate based on the non-disputed portions of the projected service area.

### **CFWI - 2.3 Industrial/Commercial/Institutional/Electric Power Generation (ICI) Use Type**

#### **CFWI - 2.3.1 ICI Demand Components**

Reasonable demand is based on the amount of water needed to perform an ICI process in an efficient, non-wasteful and economic manner. To demonstrate the quantities applied for are reasonable, applicants must identify the quantities needed for each demand component listed below. Applicants shall request quantities in gallons per day (gpd) or million gallons per day (mgd) for each demand component.

Applicants for ICI use must identify the demand for the following demand components:

- A. Processing and manufacturing, which includes water lost in processing and manufacturing where water is an input in the process.
- B. Office and personnel use, which includes personal and sanitary use.
- C. Landscaping and irrigation.

- D. Other needs. All “other needs” shall be specified in the application along with supporting documentation to meet the conditions for issuance pursuant to 62-41.301, F.A.C.

### **CFWI - 2.3.2 ICI Demand Calculation by Demand Component**

The applicant shall calculate demands under this section by preparing a water balance for the types of activities associated with the application. The water balance may be in the form of a spreadsheet or flow diagram, indicating all sources and losses. An example water balance diagram is provided in Design Aid 1.

#### **CFWI - 2.3.2.1 Processing, Manufacturing, and Power Generation**

The water balance shall include the below information.

- A. The applicant shall provide a written account of where water is used in manufacturing or processing; where and in what quantities water is lost in manufacturing or processing; and where and in what quantities water is disposed in the manufacturing or processing.
1. All water sources that input to activity must be listed – e.g., groundwater from wells, groundwater from dewatering, surface water withdrawals, collected rainfall, recycled or reused water.
  2. The amount of water used from all sources should equal the sum of the water used, lost and disposed.
- B. The applicant shall list all uses and losses including, as applicable:
1. Water used to wash product.
  2. Evaporation from settling/recirculation ponds.
  3. Water retained and shipped with product.
  4. Water used to separate or beneficiate the product.
  5. Water used to transport the product (slurry).
  6. Animal needs.
  7. Draining or filling augmentation of ponds, pools, flumes and aquatic habitats necessary for processing and manufacturing.
- C. The applicant shall identify the final disposal of all water including, as applicable:
1. Off-site discharges.
  2. Disposal/recharge through percolation ponds.
  3. Disposal by spray irrigation.
  4. Water entrained in materials.
  5. Recycling of wastewater.

#### **CFWI - 2.3.2.2 Personal use**

Personal water use includes water needed for personal use such as restroom facilities and for drinking, bathing, cooking, sanitation, and cleaning. Based on the information provided,

demands for personal use shall then be calculated using gallons per employee/contractor or visitor needed based on best available information from typically reliable data sources such as US Department of Energy, American Water Works Association Research Foundation, Pacific Institute, Conserve Florida on-line library, or US Environmental Protection Agency.

- A. In determining the number of employees/contractors, if applicable, the applicant shall use the average number of employees/contractors per shift, number of shifts per workday, and number of workdays per year.
- B. If an applicant is requesting an allocation for this demand component for visitors, the applicant shall use the annual average number of visitors for the most recent five years. Alternative methodologies can be used if an applicant presents reasonable assurance that the methodology is appropriate for the use and that the withdrawal quantities requested are necessary to supply the proposed need or demand.

### **CFWI - 2.3.2.3 Landscape Irrigation**

Demands for landscaping and irrigation will be calculated by providing information utilizing the application of supplemental irrigation demands set forth in section 2.5.1.1.A.

### **CFWI - 2.3.2.4 Other needs**

An applicant shall provide reasonable assurance that all “other needs” requested, such as outside use, air conditioning, and unaccounted uses, meet the conditions for issuance pursuant to Rule 62-41.301, F.A.C.

## **CFWI - 2.4 Mining and Mining Dewatering Use Type**

### **CFWI - 2.4.1 Mining and Mining Dewatering Demand Components**

The reasonable-beneficial need for a requested allocation must be based on the amount of water needed to extract subsurface materials or control surface water or groundwater when performing activities such as excavation or construction as well as moving, handling and processing the extracted material. Applicants must demonstrate that the quantities applied for relate to reasonable mining, processing, and mining dewatering needs.

To demonstrate the quantities applied for are reasonable, an applicant must identify the quantities needed for each demand component. Typically, requested quantities are based on historical information or comparable uses or projected future use, where available. Applicants shall request quantities in gallons per day (gpd) or million gallons per day (mgd) for each demand component.

Applicants for mining and mining dewatering use must identify the demand for the following demand components:

- A. Mining, mining dewatering, and processing

- B. Office and personnel use, including water for personal needs such as drinking, bathing, cooking, sanitation, or cleaning.
- C. Landscaping and irrigation.
- D. Other needs, includes the total requested withdrawal quantity minus the quantity for the demand components identified above. All “other needs” shall be specified in the application along with supporting documentation to meet the conditions for issuance pursuant to 62-41.301, F.A.C.

## **CFWI - 2.4.2 Mining and Mining Dewatering Demand Calculation**

The applicant must prepare a water balance to calculate the proposed demands. The water balance shall include all four demand components, if applicable, listed in 2.4.1, above. The water balance may be in the form of a spreadsheet or flow diagram indicating all sources and losses. An example water balance diagram is provided in Design Aid 1. The water balance must identify the demand for each of the following components as applicable:

- A. Mining, mining dewatering, and processing
  - 1. Provide a written account of where water is generated and used in the mining and mining dewatering processes; where and in what quantities water is lost in the mining and mining dewatering processes; where and in what quantities water is disposed of or reused in the mining and mining dewatering processes; and where and in what quantities water is used for processing extracted materials.
    - i. All water sources that input to activity must be listed – e.g., groundwater from wells, groundwater from water table dewatering or drainage for mining, surface water withdrawals, collected rainfall, recycled or reused water.
    - ii. The amount of water used from all sources should equal the sum of the water used, lost and disposed.
    - iii. If processing of materials is associated with the mining or mining dewatering, a water balance diagram combining these activities is preferred over separate water balances for each activity.
  - 2. Uses and losses must be listed including as applicable:
    - i. Water used to wash the product.
    - ii. Evaporation from settling/recirculation ponds.
    - iii. Water retained and shipped with the product (product moisture).
    - iv. Water used to separate or beneficiate the product.
    - v. Water used to transport the product (slurry).
  - 3. The final disposal of all water then must be identified. Disposals include:
    - i. Off-site discharges.
    - ii. Disposal/recharge through percolation ponds.
    - iii. Disposal by spray irrigation.
    - iv. Water entrained in materials.
    - v. Recycling of wastewater.

The amount of water withdrawn should equal the sum of the system uses, losses, and disposals.

- B. Personal water use is water needed for personal use such as restroom facilities and for drinking, bathing, cooking, sanitation, and cleaning office areas. Demands for personal use shall be calculated using section 2.3.2.2 above.
- C. Landscaping and irrigation. Demands for landscaping and irrigation will be calculated as set forth in 2.5.1.1.A.
- D. Other needs. An applicant shall provide assurance that all “other needs” requested, such as outside use, air conditioning, and unaccounted uses, meet the conditions for issuance pursuant to 62-41.301, F.A.C.

## **CFWI - 2.5 Agricultural Use Type**

Applicants must demonstrate that the quantities applied for relate to one or more of the following use categories: irrigation, livestock, aquaculture, and other agricultural water needs.

### **CFWI - 2.5.1 Agricultural Irrigation**

For agricultural irrigation, the applicant must demonstrate that an irrigation system exists or is proposed and capable of delivering the requested amount. For proposed systems, a schedule for implementation of the irrigation system is required.

Within Southern Water Use Caution Area (SWUCA), sections 2.1, 2.4.3.1.1 and 2.4.3.1.7 of the SWFWMD Applicant’s Handbook shall be used to determine an applicant’s demand and allocation. Within the Dover/Plant City Water Use Caution Area (DPCWUCA), sections 2.1 and 3.9.4 of the SWFWMD Applicant’s Handbook shall be used to determine an applicant’s demand and allocation.

- A. The four major categories of agricultural irrigation-related water use are:
  - 1. Supplemental Irrigation: The supplemental irrigation requirement for agricultural uses is calculated as specified in subsection 2.5.1.1. For improved pasture irrigation, see section 2.5.1.2.
  - 2. Field Preparation, Crop Establishment, And Heat Stress: If an allocation is requested for the purposes of field preparation, crop establishment, and heat stress, quantities shall be calculated for water demands above the supplemental irrigation crop requirements. These quantities will be based on a demonstrated demand, such as plant cooling and soil saturation for bed preparation.

Quantities for heat stress protection shall be calculated based on the number of acres to be protected, the crop grown, the irrigation system used, and the hours of crop protection required. If the number of hours is not known, the peak quantity will be based on the best available data for crop protection recurrence and duration. The applicant may propose to use alternative factors if the

factors described above are not applicable due to issues associated with the particular crop. In such a case, the applicant must provide reasonable assurance supporting the use of alternative factors. Typically reliable sources of information include information provided by the manufacturer of the system, or University of Florida Institute of Food and Agricultural Sciences (UF IFAS), Natural Resources Conservation Service (NRCS-USDA) and Florida Department of Agriculture and Consumer Services (FDACS) publications.

3. Other Water Uses: If an allocation is requested for chemigation and leaching of salts from the root zone, the total allocated inches per irrigated acre per season for these uses shall be no more than 10% (for low volume irrigation systems) and 5% (for overhead irrigation systems) of the requested supplemental irrigation requirement. Allocations requested must be specific to the crops grown.
4. Freeze Protection: Where freeze protection quantities are necessary, the quantities shall be calculated based on the system design capacity (pump capacity, number of acres, the planting density, the number of emitters, and the capacity of the emitters in gallons per minute) or other appropriate value, the crop to be protected, and the type of freeze protection utilized. The freeze protection allocation will be made based on a 24-hour maximum daily requirement per freeze event. In no case will the freeze protection allocation be greater than the total rated capacity of all existing and proposed withdrawal facilities. The applicant must provide reasonable assurance supporting freeze protection values (mgd/acre) for its crop type(s). Typically reliable sources of information include UF IFAS, NRCS-USDA and FDACS publications.

#### B. Uses and Irrigation Allocation Rate

Applicants intending to grow annual crops over the permit term shall submit an application representing the most water-intensive crop scenario intended, considering both annual average and peak month quantities needed. A permittee may then change crop types during the permit term without modification, provided (a) the crop actually irrigated uses no more water than the most water-intensive crop permitted, and (b) the quantity that the District permits for the acreage and crop actually irrigated is not exceeded.

Acreage submitted to the District shall be based on area measurements rather than other measurements such as rolls of plastic.

Other non-irrigation system related water uses shall be permitted in accordance with the appropriate use type set forth in this Supplemental Applicant's Handbook.

## **CFWI - 2.5.1.1 Irrigation Demand Calculation**

The reasonable demand for supplemental irrigation will be calculated as described in this section. Factors in determining the supplemental irrigation requirement include crop type, planted acreage, irrigation method, soil type, planting dates, precipitation, evapotranspiration, and duration of growing season.

### **A. Supplemental Irrigation**

The supplemental irrigation requirement is the amount of water needed for a particular crop beyond the amount of water provided by effective rainfall.

In determining reasonable need, the District will determine the supplemental irrigation requirements for both drought and average annual conditions. Drought allocation will be considered the amount of supplemental irrigation required during a 2-in-10 year rainfall condition. Average annual allocation will be considered the amount of supplemental irrigation required during a 5-in-10 year rainfall condition. This quantity does not include crop protection.

The method used to develop supplemental irrigation requirements must provide reasonable assurance supporting the requested quantity for the supplemental irrigation requirement for its crop type(s). The applicant must demonstrate that the proposed method accurately determines supplemental irrigation water use needs based on site-specific conditions, exemplified by the type of crop grown, the irrigation method employed, the season in which the water is used to grow the crop, general crop location including soil type, historical pumping data of permittee, historical pumping data of a particular crop type, and associated atmospheric conditions. Typically reliable sources of information and supplemental irrigation models include UF IFAS, NRCS-USDA, FDACS and Water Management District publications as well as Agricultural Field Scale Irrigation Requirements Simulation, GIS-Based Water Resources Agricultural Permitting and Planning System, AGMOD, and the Modified Blaney Criddle Method. Individual Water Management District Supplemental Applicant's Handbook Design Aids and associated supplemental irrigation requirement tools may also be used to determine supplemental irrigation requirements for all crop types.

### **B. System Efficiency**

Applicants shall use efficient practices for the irrigation system selected. Accepted system efficiency is provided in Table 2-1. The applicant may use an alternative method to determine system efficiency if the system efficiencies in Table 2-1 are not applicable due to factors associated with the particular irrigation system. Only factors that are permanent and maintainable for the entire permit duration may be considered. In such a case, the applicant must provide reasonable assurance supporting an alternative system efficiency. Typical reliable sources of information include information provided by the manufacturer of the system or UF IFAS, NRCS-USDA and FDACS publications.

**Table 2-1. Irrigation Application Efficiencies Used to Determine the Supplemental Irrigation Requirement**

System	Method	Efficiency (%)	Multiplier (=100/Efficiency)
Micro, Drip	Micro-irrigation Drip, Overhead Drip, Low Volume, Drip -With Plastic, Drip-Without Plastic, Drip Irrigation (Surface and Subsurface), Drip Tape	85%	1.18
Micro, Spray	Spray Jet Spinners, Low Volume Spray, Micro Sprinkler, Sprinkler (Under Tree)	80%	1.25
Center Pivot with drip hoses	Center Pivot with drip hoses	80%	1.25
Center Pivot/Linear Move with Sprinkler Irrigation	Center Pivot/Linear Move with Sprinkler Irrigation	75%	1.33
Sprinkler*	Overhead Sprinkler, Overhead (multiple sprinkler), Sprinkler (Over Plant), Impact Sprinkler, High Center Rotary Action Sprinkler (Example - Wobblers Brand)	75%	1.33
Volume Gun or Traveling Gun System	Traveling Gun, Walking Gun, Large Gun Sprinkler, Volume Gun, Portable Gun, End Gun	70%	1.43
Seepage Fully Enclosed	Seepage Fully Enclosed	75%	1.33
Perforated Drain Systems	Perforated Pipe (Example - Irridrain Brand), Perforated Drain Tiles	75%	1.33
Seepage	Semi-Closed Ditch, Semi-Closed Furrow, Seepage/Furrow, Sub-irrigation, Semi-closed Flow-Through, Flood/Seepage, Seepage – Existing Citrus, Hay, Pasture, Seepage – With Plastic, Seepage – Without Plastic, Crown Flood Seepage	50%	2.00

\*System efficiency requirements for container nursery with overhead sprinklers are identified in 2.5.1.1.D

**C. Citrus Irrigation System Efficiency**

The accepted standard irrigation system efficiency will be required of all initial applicants whose irrigation systems are not constructed. Upon permit renewal or when acreage is added to a permit during modification, the standard irrigation system for citrus will be required for new acreage. New acreage includes: (1) acres not previously proposed for

irrigation and (2) acres previously proposed for irrigation and still proposed for irrigation, but for which the permittee did not construct irrigation system under its existing permit.

The accepted standard irrigation system efficiency for citrus projects is 80% or higher. The allocation shall reflect this system efficiency even if the system itself has a lower efficiency.

#### D. Container Nursery System Efficiency

The optimal irrigation methodology for nursery container projects is a micro-irrigation system, overspray irrigation tailwater recovery system, or other specific design elements capable achieving the equivalent efficiency of overhead irrigation system to the extent economically, environmentally, and technically feasible. A different efficiency standard may apply on a case by case basis taking into consideration the container sizes and quantity thereof and when all irrigation system optimization efforts have been applied.

### **CFWI - 2.5.1.2 Improved Pasture Irrigation**

For improved pasture irrigation, the applicant shall demonstrate that an irrigation system exists or is proposed and capable of delivering the requested amount. For proposed systems, a schedule for implementation of the irrigation system is required. The applicant shall provide reasonable assurance of the amount of improved pasture acreage reasonably expected to be irrigated in any given growing season as the basis for the net irrigated acreage. In determining the reasonable irrigation allocation for improved pasture, the following requirements shall apply:

- A. Overhead sprinkler irrigation: The allocation will be based on the number of acres of pasture grass that will be irrigated, and the irrigation equipment efficiency associated with overhead sprinklers (Table 2-1).
- B. Subirrigation: The allocation will be based on the amount of water needed to maintain water levels of the irrigation canals that comprise the water delivery system. The applicant shall calculate the demands based on the number of acres of pasture grass that will be irrigated and supplemental irrigation demands as described in section 2.5.1.1 The irrigated acreage shall be determined from the extent to which the water is distributed to the root zone of the pasture grass.

Irrigation systems constructed with lateral ditch spacing of 400 feet or less are considered to provide irrigation to all the acreage incorporated within the system. For irrigation systems where lateral ditch spacing is greater than 400 feet, the applicant must provide site specific information that supports adequate water table management required for the irrigation allocation requested. For an existing system, site specific information is not required and are considered to have adequate water table management required for the irrigation allocation requested unless documentation demonstrates otherwise. For irrigation systems that consist of main ditches without laterals, or laterals with a spacing greater than is sufficient to provide irrigation to all the pasture grass, the irrigated acreage will be calculated by multiplying the length of the ditches by the effective irrigation area as determined by soil and pasture grass type. If the above lateral

ditch spacing is not applicable due to soil and pasture grass type, the applicant must provide reasonable assurance supporting lateral ditch spacing greater than 400 feet. Applications to irrigate unimproved pasture will not be approved.

**CFWI - 2.5.2 Livestock**

The reasonable demand for livestock use will be derived by multiplying the estimated total number of animals by gallons needed per day per animal. The livestock water use will be determined using the gallons needed per day per animal identified in Table 2-2.

**Table 2-2. Livestock Water Demands**

<b>Animal</b>	<b>Use per animal (gpd)</b>
Beef Cattle	12
Chickens	0.10
Dairy Cattle (Milking)	150
Dairy Cattle (Dry)	20
Goats	2
Hogs	2
Horses	12
Rabbits	.05
Sheep	2
Turkeys	1

If the above livestock water use values are not applicable due to the proposed livestock operations, or for livestock other than those listed above, the applicant must provide reasonable assurance supporting its values (gpd/animal) for its livestock. Typically reliable sources of information include UF IFAS, NRCS-USDA or FDACS publications.

**CFWI - 2.5.3 Aquaculture**

The reasonable demand for aquaculture is determined by the number and volume of ponds and tanks and their filling and recirculation requirements and other factors that may contribute to maintaining necessary water levels or water quality. In instances where there are discernable water sources and losses, applicants should rely on a water balance method for demonstrating reasonable demand. All water sources that input to the activity must be listed in the water balance. The amount of water used from all sources should equal the sum of the water used, lost, and disposed.

**CFWI - 2.5.4 Other Agricultural Water Demands**

The reasonable demand for other agricultural uses, such as crop washing and processing for distribution, cooling of animals or product, spray tanks, non-potable shop needs, or disease control spray stations, is determined based on supporting information provided by the applicant.

The applicant must provide reasonable assurance supporting the requested allocation in order to demonstrate that it is a reasonable-beneficial use. Typically reliable sources of information include UF IFAS, NRCS-USDA or FDACS publications.

### **CFWI – 2.5.5 Irrigation Pumpage Compliance**

If the District performs an analysis and determines that the allocated supplemental irrigation quantities are exceeded when the rainfall deficit is less severe than the drought conditions serving as the basis for the allocation, then before deciding whether to undertake any enforcement action, the District shall either:

- A. Request the permittee to submit a report that includes reasons why the allocated quantities were exceeded, measures taken to meet the allocated quantities, and a plan to bring the permit into compliance.; or
- B. Consult informally with the permittee as to the reason why the allocated quantity was exceeded.

The District shall evaluate information submitted by permittees who exceed their allocated quantities to determine whether there is good cause for the exceedance. Good cause justifying an exceedance includes documentation of unusual water needs, such as weather conditions creating greater irrigation needs than normal. However, even with such documentation, phased reductions in water use will be required unless the District determines that water usage was reasonable under the circumstances reported and that further reductions are not feasible. A permit modification is required to implement any increase in allocated quantities.

### **CFWI - 2.6 Landscape/Recreation Use Type**

Landscape irrigation includes the outside watering of shrubbery, trees, lawns, grass, ground covers, vines, gardens and other such flora, not intended for resale, that are planted and are situated in such diverse locations as residential and recreation areas, cemeteries, public, commercial and industrial establishments, ballfields, and public medians and rights of way.

The reasonable need for a recreational or landscape irrigation use is based on the amount of water needed to supply the supplemental irrigation requirements of the type of turf or landscape grown. In determining reasonable need, the District will determine the supplemental irrigation requirements for both drought and average annual conditions. Drought allocation will be considered the amount of supplemental irrigation required during a 2-in-10 year rainfall condition. Average annual allocation will be considered the amount of supplemental irrigation required during a 5-in-10 year rainfall condition.

The supplemental irrigation requirement for landscape and recreation irrigation projects, including golf courses, shall be calculated pursuant to 2.5.1.1.A and B.

Non-irrigation recreational demands shall be calculated pursuant to 2.3.

## **CFWI - 2.7 Annual Conservation Goal Within the CFWI**

The permittee or applicant shall provide an annual conservation goal that is consistent with the CFWI regional water supply plan. These annual conservation goal requirements are separate and distinct from any other conservation requirements of the permit and do not supersede any sections of the Districts applicants' handbooks, except that section 2.7.2 of the CFWI Supplemental Applicant's Handbook shall supersede sections 2.4.8.2, 4.4.4.2, and 4.4.5 of the SWFWMD Applicant's Handbook. Nonetheless, annual conservation goals should not be inconsistent with the conservation requirements of the permit. An annual conservation goal is consistent with the CFWI regional water supply plan if it includes activities or actions that prevent or reduce unnecessary uses and improve and/or maintain already achieved efficiencies of use. For all use types including public supply permits with an annual average daily quantity of 100,000 gpd or greater and whose commercial water use equals or exceeds 30 percent of its total water use, the annual conservation goal shall be met by developing and implementing an Annual Conservation Goal Implementation Plan (ACGIP) as set forth in section 2.7.1. However, the annual conservation goal for public supply permittees is set forth in sections 2.7.2 and 2.7.3, except the public water supply permittees whose commercial use equals or exceeds 30 percent of its total water use shall not be subject to section 2.7.3.

Agricultural users shall meet the requirements of an annual conservation goal by developing and implementing an ACGIP as set forth in section 2.7.1. and report in accordance with that section. In lieu of an ACGIP, agricultural users with a total allocation less than 100,000 gpd may enroll in an adopted FDACS Best Management Practices (BMPs) program applicable to their commodity and implement the BMPs annually. Agricultural users that utilize the FDACS BMPs as their annual conservation goal shall maintain documentation supporting the enrollment and implementation of selected BMPs. The permittee shall report to the District its progress toward achieving the conservation goals in any compliance report required pursuant to section 373.236, F.S., or, if a compliance report is not required pursuant to section 373.236, F.S., as part of any application to renew or modify the permit.

### **CFWI - 2.7.1 Annual Conservation Goal Implementation Plan**

The ACGIP must contain annual conservation goals for at least five years (current year plus four additional years) or through the end of the permit, whichever is shorter; identify the person(s) or positions(s) responsible for overseeing implementation of the goal(s); and contain an annual record of whether each listed annual goal was met. An ACGIP is iterative and may be modified by the permittee without the need to modify the permit; however, all versions of the ACGIP must be kept up to date, and must be signed and dated and maintained at the permittee's principal place of business through the term of the permit (inclusive of any extension). The applicant or permittee must submit the ACGIP to the District as part of the application for a renewal of an existing consumptive use permit, a modification of an existing consumptive use permit with an increased allocation or permit duration, or an application for a new consumptive use permit.

Except for public supply permittees with an annual average daily quantity of 100,000 gpd or greater and whose commercial water use equals or exceeds 30 percent of its total water use, the permittee shall report to the District its progress toward achieving the conservation goals within

the ACGIP in any compliance report required pursuant to section 373.236, F.S., or, if a compliance report is not required pursuant to section 373.236, F.S., as part of any application to renew or modify the permit. A public water supply permittee with an annual average daily quantity of 100,000 or greater and whose commercial use equals or exceeds 30 percent of its total water use, shall report its progress toward achieving the conservation goals within the ACGIP annually.

For many conservation efforts, a single year's conservation implementation results in multi-year annual water savings with proper maintenance and operation that may extend beyond the permit term. Facility design, certain device or irrigation infrastructure replacement, and similar conservation activities typically do not occur on an annual basis. However, these designs and activities will produce benefits over multiple years and may produce benefits over multiple permit terms. In such a situation, the annual conservation goal shall not be interpreted to require the applicant or permittee to implement new practices in each year. Rather, the applicant or permittee may fulfill the requirements of this rule and the ACGIP by maintaining such practices.

In its sole discretion, an applicant may incorporate the ACGIP as part of the conservation plan within its permit. In such a case, any changes to the ACGIP would require modification of the permit.

The annual conservation goals in an ACGIP must include either of the following:

- A. Conservation BMPs and conservation programs. The applicant or permittee shall list any applicable practice(s), measure(s), program(s), device replacement(s), or other actions that improve or maintain expected water use efficiency that it intends to implement for each year included in the ACGIP. The applicant or permittee shall propose to maintain and operate installed water conserving designs or features as part of this approach.

For each conservation BMP and conservation program listed, the applicant or permittee must include a brief statement of the applicant's implementation strategy. Examples of brief statements include, but need not be limited to, FDACS BMP program being implemented, geographic target areas, use sectors targeting (residential, commercial, irrigation customers, etc.), media strategies, and other similar factors in developing a conservation BMP. If devices are proposed as a BMP (such as rain sensors, toilet rebates, etc.), the number expected to be funded should be included as part of the strategy.

For each conservation BMP and conservation program, the applicant or permittee must list components of the permittee's implementation strategy for the BMP or program. The applicant shall include an estimated water savings, where applicable, based on best available information from appropriate data sources.

- B. Other metrics. Alternatively, the applicant/permittee shall identify other annual measurable conservation benefits that demonstrate an improvement or maintenance of the applicant/permittee's projected water use efficiency due to the

applicant/permittee’s conservation program. This may include benefits associated with facility or manufacturing designs that improve or maintain the applicants or permittee’s water use efficiency.

An example ACGIP template is provided as Design Aid 2. This template is not incorporated by reference in Chapter 62-41, F.A.C., and permittees are not required to use it.

### **CFWI - 2.7.2 Residential Per Capita Water Use Goal**

For public supply use only, an applicant or permittee must implement an end-of-permit residential per capita water use goal. Residential per capita water use goal shall be calculated using the following formula:

Total Residential Water Use (or Water Use by Dwelling Units) divided by Service Area Residential Population.

A public supply permittee with an annual average daily quantity of 100,000 gpd or greater whose commercial water use is less than 30 percent of its total water use shall track its progress toward achieving the end-of-permit residential per capita water as a distinct metric within an annual report outlined in section 2.7.3.1.A. All other public supply permittees shall address the residential per capita water use goal in their ACGIP.

### **CFWI - 2.7.3 Public Supply Use Type Annual Conservation Goal**

Public supply permittees with an annual average daily quantity of 100,000 gpd or greater and whose commercial water use is less than 30 percent of its total water use, shall meet the requirements of the annual conservation goal by demonstrating yearly progress toward a gross per capita daily water use rate of no greater than 115 gpd or a functional per capita daily water use rate of no greater than 100 gpd. The per capita daily water use rate may be calculated using one of the following methods:

#### **A. Gross Per Capita Method**

1. Gross Per Capita Water Use Rate, as defined in section 2.2.3.1.
2. Adjusted Gross Per Capita Water Use Rate

$$\frac{(WD + IM - EX - TL - SU - GC - EM)}{RP}$$

Where:

- WD, IM, EX, and RP are defined in section 2.2.3.1., and TL is defined in section 2.2.1.
- SU = is defined as follows
  - Single Significant Use: Significant uses associated with an Industrial/Commercial facility or other non-residential, non-governmental facility that is supplied with 25,000 gpd or more of water on an annual average basis (calculated for a calendar year),

or whose water use comprises more than 5% of the utility's annual water use (calculated for a calendar year). If a facility consists of one or more buildings under common ownership, maintenance, and management control at a single site or campus, individual components of the facility may be combined to meet the significant use threshold. However, facilities that are not related under common ownership, maintenance, and management control shall not be combined to meet the significant use threshold. If the 25,000 gpd criteria is used for a facility, the 5% criteria may not also be used, and vice-versa. This Single Significant Use deduction can be used in conjunction with the significant use deductions for regional government, higher education, and regional health care facilities as described below.

- Combined Regional Government and Higher Education Facilities: Some of the water provided to regional governmental or higher education facilities (which may consist of one or more buildings under common ownership, maintenance, and management) that are located inside the utility's service area but also serve persons who live outside of the utility's service area may be deducted. The name and use for each facility deducted must be provided. The deduction shall be calculated as follows:
  - Add the amount of water in gpd provided to all eligible facilities.
  - Using the most recent U.S. Census for the county, determine the percent of the permanent county population not living in the utility's service area.
  - Multiply the percent of county residents who do not live within the utility's service area times the combined use of the facilities. The amount calculated can be deducted.

Note: City parks, recreation centers, public and private K-12 schools, city or town governmental facilities, local vocational-technological schools, and other facilities which generally only serve the service area population shall be excluded. However, water use for K-12 schools that do not serve any of the service area population may be deducted by the applicant or permittee. The water use of these facilities may not be deducted under the provisions of this section if the permittee includes net commuter population estimates in the service area population estimates. The following are examples of facilities for which the water provided may be partially deducted:

- Community colleges, colleges, and universities (public or private), and
  - County, state, and federal regional administrative and maintenance facilities.
- Individual Regional Health Facilities: Some of the water provided to health care facilities such as regional hospitals or specialty

clinics (which may consist of one or more buildings at a single site or campus under common ownership, maintenance and management) that are inside the utility's service area but also serve persons living outside the utility service area boundaries may be deducted. The allowable deduction is calculated individually for each health care facility. It is the ratio of annual admissions with patient zip codes outside the service area to the total number of annual admissions times the water provided to the health care facility. The name and water use for each facility must be provided. The water use of these facilities may not be deducted under the provisions of this section if the permittee includes net commuter population estimates in the service area population estimates.

- Individual Industrial/Commercial Facilities Where Water is the Primary Ingredient of the Final Product: Individual facilities such as brewers, soft-drink bottlers, and juice reconstitution plants (which may consist of one or more buildings at a single site or campus under common ownership, maintenance and management) where water is the primary ingredient of the final product may deduct 100% of the water in the product.
- GC = Separately metered golf course irrigation quantities from groundwater, surface water, reclaimed water, or stormwater provided to golf courses inside the service area. The quantities provided may be deducted only if they are included in the permitted quantities for the service area and reported as WD in the Annual Report described below. The GC withdrawal quantities deducted shall not exceed those actually provided, or those that would be permitted for use, whichever is less.
- EM = Quantities permitted and used for environmental mitigation as a condition of the permit, provided that such quantities are separately metered and reported as WD in the Annual Report described below.

### 3. Alternative Gross Per Capita Water Use Rate

$$\frac{(WD + IM - EX - TL - SU - GC - EM - ST - RW)}{RP}$$

Where:

- WD, IM, EX, TL, SU, GC, EM, and RP are defined above.
- ST = Separately metered and reported stormwater quantities captured by the permittee that are included in the utility's permitted quantities for uses inside the service area other than for golf course irrigation. The stormwater withdrawal quantities deducted shall not exceed the quantities actually provided, or those that would be permitted for the use by the District, whichever is less. Stormwater quantities deducted as GC use above may not be included in this deduction for stormwater. The surface

withdrawal points from the stormwater catchments shall be permitted on the provider's consumptive use permit and must be reported as WD in the Annual Report described below to be deducted. The stormwater deduction shall not be taken where the quality of the groundwater source to be permitted or replaced is of lower water quality but is suitable for the intended use, unless the use of the stormwater in such cases reduces adverse impact to the water resources.

- RW = Standard deduction of 50%, or if the applicant chooses, up to the limit of the actual amount of reclaimed water that has received at least secondary treatment and is provided to directly replace an existing or potential use of higher quality water. To be deducted, it must be provided to any metered use located outside the utility potable service area boundary or to any single-site separately-metered use within the utility potable service area boundary that uses 25,000 gpd or more on an annual average basis during the per capita reporting period, except that no deduction shall be taken for quantities used for:
  - Residential irrigation (single family, multi-family or mobile home), or
  - Common area irrigation, including entranceways, parking lots, irrigated areas within roadway rights-of-ways (e.g., road and sidewalk medians), open spaces, community areas, and public parks.

This deduction shall not be taken if the reclaimed water replaces existing demand on the permittee's potable system. Any deduction over the standard 50% reclaimed water per capita credit must be substantiated with verifiable and corresponding reductions in the supplied CUP pumpage (all deductions subject to District approval).

## B. Functional Population Per Capita Method

### 1. Functional Gross Per Capita Water Use Rate

$$\frac{(WD + IM - EX)}{FP}$$

Where

- WD, IM, and EX, are defined in section 2.2.3.1.
- FP = functional population is the served permanent population as adjusted by the seasonal resident, tourist, group quarters and net commuter population within a utility's service area. Service area functional population estimates must include estimates of permanent residents, temporal residents, and group quarters populations, and may include estimates of tourist and net commuter populations.

2. Adjusted Functional Per Capita Water Use Rate

$$\frac{(WD + IM - EX - TL - SU - GC - EM)}{FP}$$

Where

- WD, IM, EX, TL, SU, GC, and EM are defined in section 2.7.3.A.2
- FP is defined above.

3. Alternative Functional Per Capita Water Use Rate

$$\frac{(WD + IM - EX - TL - SU - GC - EM - ST - RW)}{FP}$$

Where

- EM, ST, and RW are defined in section 2.7.3.A.3
- WD, IM, EX, TL, SU, GC, and FP are defined above.

**CFWI - 2.7.3.1 Compliance with Per Capita Daily Water Use Rate**

Section 2.7.3.1 only applies to public supply permittees with an annual average daily quantity of 100,000 gpd or greater and whose commercial water use is less than 30 percent of its total water use.

A. Annual Report

For all public supply permits with an annual average daily quantity of 100,000 gpd or greater, compliance with the Residential Per Capita Water Use Goal and the Public Supply Annual Conservation Goal shall be monitored via an Annual Report that each permittee must submit to the district by April 1 of each year.

For the Public Supply Annual Conservation Goal, quantities included in the calculation for the Gross Per Capita Water Use method or the Functional Per Capita Water Use method in section 2.7.3 shall be documented and reported by the permittee in the Annual Report for the reporting period included in the permit as follows:

1. WD (Withdrawals) – Documentation shall consist of pumpage records in annual average gpd as metered at the well head(s), wellfield departure point, surface water intake facility, stormwater facility or reclaimed water lines. The pumpage records shall be totaled for a total withdrawal quantity for the reporting period.
2. IM (Imported Water) – Documentation shall consist of a summary report of the water purchased or otherwise obtained in bulk from another utility for potable use in the service area in annual average gpd, and the supplier's CUP number(s), or consumptive use permit number if the supplier is in another water management district. Quantities shall be determined at the departure

point from the supplier's service area. Irrigation water imported into the service area from another utility must be documented separately according to the use type (for example, commercial, residential, recreational/aesthetic).

3. EX (Exported Water) – Documentation shall consist of annual average gpd transferred in bulk quantities to another utility, and the recipient's CUP number(s), or permit number if the recipient is in another water management district. Quantities shall be determined at the departure point from the exporting permittee's service area. Water supplied to wholesale public supply customers that are not required to obtain a Wholesale Public Supply Consumptive Use Permit that are included in this category shall be identified by customer name and quantity.
4. TL (Treatment Losses) – Documentation shall consist of the annual average gpd lost in routine treatment for potability. Examples of treatment losses types are desalination reject, membrane cleaning and sand filtration backwash. Treatment losses are calculated as raw water into the plant minus treated water out of the plant.
5. SU (Significant Uses) –
  - a. For Single Significant Uses, documentation shall consist of:
    - i. the type of Industrial/Commercial use.
    - ii. the customer's name and mailing address.
    - iii. the customer's contact person's name, email address and telephone number.
    - iv. annual average daily quantities provided.
    - v. supporting meter readings or bills.
    - vi. a conservation plan that describes the permittee's specific water conservation programs for significant users.
    - vii. a water audit that documents the type(s) of water uses that occur within the significant user's facility, quantities used per type, and leak detection and other water conservation activities undertaken by the user.
  - b. For Combined Regional Government and Higher Education Facilities, documentation shall consist of:
    - i. the deduction calculation.
    - ii. the facility name.
    - iii. the facility's contact person's name, email address, and telephone number.
    - iv. annual average daily quantities provided.
    - v. from the most recent Census, the percent of the county total population not living in the utility service area.
    - vi. a conservation plan specific to each group type (regional government and/or qualifying education facilities) shall be provided in lieu of a water conservation plan for each individual customer deducted.

- c. For Individual Regional Health Facilities, documentation shall consist of:
  - i. the name of the facility.
  - ii. the facility's contact person's name, email address and telephone number.
  - iii. the types of water use and the annual average quantities provided for each type of use.
  - iv. the total number of patients during the reporting period.
  - v. the number of patients with postal zip codes outside the service area.
  - vi. a conservation plan that describes the permittee's specific water conservation programs for each significant user.
  - vii. a water audit that documents the type(s) of water uses that occur within the significant user's facility, quantities used per type, and leak detection and other water conservation activities undertaken by the user.
  
- d. For Individual Industrial/Commercial Facilities Where Water is the Primary Ingredient of the Product, documentation shall consist of:
  - i. the name of the facility.
  - ii. the type of facility.
  - iii. the facility's contact person's name, email address, and telephone number.
  - iv. annual average daily quantities provided.
  - v. the percent of the final product that is water.
  - vi. a conservation plan that describes the permittee's specific water conservation programs for each significant user.
  - vii. a water audit that documents the type(s) of water uses that occur within the significant user's facility, quantities used per type, and leak detection and other water conservation activities undertaken by the user
  
- 6. GC (Golf Courses) – Documentation shall include a report on the permitted and separately metered quantities from groundwater, surface water, reclaimed and stormwater sources used for golf course irrigation. To deduct these quantities, the quantities must be authorized for golf course irrigation in the permit for which per capita is being calculated.
  
- 7. EM (Environmental Mitigation) – Documentation shall include a report on the permitted and used quantities for the reporting period in gpd for environmental mitigation as required by the permit for which per capita is being calculated.
  
- 8. ST (Stormwater) – Documentation shall include a report on the separately metered stormwater quantities generated and used in the service area that are included in the utility's permit for the service area for uses other than golf course irrigation. If the stormwater quantities are not reported as WD, they

may not be deducted. The report shall include the number of connections by use type (e.g., residential, commercial, recreation aesthetic, etc.)

9. RW (Reclaimed Water Credit) – Documentation shall include a report on separately metered reclaimed water quantities generated by:
  - viii. Name of the customer;
  - ix. Account number;
  - x. Customer service address;
  - xi. Quantities provided during the reporting period in average gpd;
  - xii. Claimed deduction during the reporting period in average gpd;
  - xiii. Meter size;
  - xiv. Whether the use is inside or outside of the potable service area boundary; and
  - xv. Description of the use (may not include residential or common area irrigation as described in section 2.7.3).

An example Annual Report template is provided as Design Aid 3. This template is not incorporated by reference in Chapter 62-41, F.A.C., and permittees are not required to use it.

**B. Phase-In Where a Gross Per Capita Daily Water Use Rate of 115 gpd or a Functional Per Capita Daily Water Use Rate of 100 gpd is Exceeded as of December 31, 2023**

Existing permittees with a five-year Alternative Per Capita Water Use Rate greater than their per capita goal as of December 31, 2023, shall achieve the Alternative Per Capita Water Use Rate goal as set forth below, or earlier if the permittee deems it feasible. The five-year Alternative Per Capita Water Use Rate shall be calculated as the average of the Alternative Per Capita Water Use Rates documented or calculated for 2023 and the four years prior.

1. By July 1, 2024, the permittee shall submit to the district a plan that identifies conservation or water supply project(s) that will be developed and implemented to achieve the per capita goal.
2. By December 31, 2033, the permittee shall achieve a per capita rate not greater than the midpoint between the five-year average Alternative Per Capita Water Use Rate calculated as of 2023 and their per capita goal.
3. By December 31, 2043, the permittee shall achieve an Alternative Per Capita Water Use Rate that is not greater than their per capita goal.
4. A permittee that does not achieve an Alternative Per Capita Water Use Rate that is less than or equal to 100 gpd when calculating using the Functional Population Per Capita method or 115 gpd when calculating the Gross Per Capita method set forth above by December 31, 2043, shall submit documentation upon request from the District that explains the reasons for not

being able to meet the conservation goal or a variance has been granted from the Public Supply Annual Conservation Goal.

#### C. Documentation of Per Capita Daily Water Use Calculations for the Annual Report

If the permittee achieves the 115 gpd gross per capita water use rate goal or the 100 gpd functional per capita water use goal using the gross per capita water use rate calculation in 2.7.3.A.1. or 2.7.3.B.1., no further calculations are required in the Annual Report. If the permittee achieves the applicable per capita water use goal using the adjusted per capita water use rate calculation in 2.7.3.A.2. or 2.7.3.B.2., no further calculations are required in the Annual Report. If the permittee cannot achieve the applicable per capita water use goal using the gross per capita or adjusted per capita water use rate calculations, the Annual Report must include the alternative per capita water use rate calculation in 2.7.3.A.3. or 2.7.3.B.3.

The District will evaluate the information submitted by permittees, including those operating under a Goal-based Water Conservation Plan, who have an Alternative Per Capita Water Use Rate greater than 100 gpd when calculated using Functional Population Per Capita method or 115 gpd when calculated using the Gross Per Capita method set forth above. Permittees may justify lack of achievement by documenting any unusual water needs, such as infrastructure improvements or unusual plant establishment needs. However, justification for non-compliance does not constitute a waiver of the District's authority to enforce the terms and conditions of the Permit.

#### **CFWI - 2.8 Allocations from the Upper Floridan Aquifer**

The following requirements shall apply to all applicants proposing to withdraw water from the Upper Floridan aquifer. All withdrawals must meet the conditions for issuance in Rule 62-41.301, F.A.C.

For purposes of this section, 2.8, withdrawals from the Floridan aquifer above the uppermost middle-confining unit are considered coming from the Upper Floridan aquifer and withdrawals from the Floridan aquifer below the middle confining unit are considered coming from the Lower Floridan aquifer. Withdrawals from wells that are open to both the Upper and Lower Floridan aquifers shall be treated as an Upper Floridan aquifer withdrawal subject to these requirements, unless the applicant can demonstrate the extent of their proportionate flow from the Lower Floridan aquifer. Proportionate flow from the Lower Floridan aquifer shall not be subject to these requirements. Applicants can demonstrate the proportionate flow from the Lower Floridan aquifer using hydrogeologic data and evaluations (including, but not limited to, packer testing and velocity/flow measurements).

Permit durations shall not be affected for allocations limited to the Demonstrated 2025 Demand.

If additional water use from the Upper Floridan aquifer, a lower quality source or alternative water supply is needed to meet current or future demands as calculated in sections 2.8.4.2, 2.8.4.3, or 2.8.4.4, the applicant shall submit a plan pursuant to section 2.8.4 to provide reasonable assurance the conditions for issuance are met for those additional quantities.

In addition to the rules in this section, new or increased allocations for all use types in SWUCA under this section, inclusive of all subsections, will be evaluated pursuant to section 3.9.2, inclusive of all subsections, of the SWFWMD Applicant's Handbook, Part B, as referenced and incorporated in rule 62-41.300(3) and 62-41.305(4), F.A.C.

### **CFWI - 2.8.1 Agricultural, Recreational, or Landscape Irrigation Use Types**

Self-supplied agricultural, recreational, or landscape irrigation uses whose allocation is based on the amount of water needed to supply the supplemental irrigation requirements of the type of crop, turf or landscape grown are limited to the quantity of water from the Upper Floridan aquifer as calculated in section 2.5.1 and 2.6.

### **CFWI - 2.8.2 Industrial/Commercial/Institutional and Mining/Mining Dewatering Use Types**

For Industrial/Commercial/ Institutional and Mining/ Mining Dewatering use types, the Demonstrated 2025 Demand is the existing permitted allocation, as of the effective date of this rule [date]. Any additional allocations are subject to the requirements of section 2.8.5.

### **CFWI - 2.8.3 Public Supply Use Types**

For Public Supply use types with an annual average allocation greater than 100,000 gallons per day, an applicant or permittee shall be restricted to a maximum allocation from the Upper Floridan aquifer in an amount no greater than its Demonstrated 2025 Demand. However, the District shall not limit an Upper Floridan aquifer allocation to its Demonstrated 2025 Demand, unless 1) the District demonstrates in the letter modification process in section 1.2 the permittee's allocation is detrimental, individually or cumulatively with other permitted allocations, to other water users or to the water resources of the state, or 2) the permittee or applicant demonstrates a new or increased allocation from the Upper Floridan aquifer can occur without increasing impacts above its Demonstrated 2025 Demand through impact offsets, substitution credits, land use transitions, redistributed uses, or other reclaimed water or aquifer recharge. A permittee shall only be required to address its relative contribution of detriment to other water users or to the water resources of the state. Allocations for withdrawals from all other sources will not be reduced.

The District may authorize a permittee to retain some or all of a previously approved allocation above its Demonstrated 2025 Demand from the Upper Floridan aquifer where it considers any conservation, water resource or water supply development projects (such as substitution credit, other reclaimed water or aquifer recharge) completed by the applicant or permittee but not fully utilized before December 31, 2015, or completed by the applicant or permittee after December 31, 2015 to provide net water resource benefits to the Upper Floridan aquifer. For projects completed by the applicant or permittee before December 31, 2015, only the net resource benefits to the Upper Floridan aquifer created by new or increased utilization of the project shall be considered by the District. The District's consideration shall include projects that were

authorized in connection with a permittee's existing permit and projects for reuse supplementation consistent with Rule 62-40.416(9), F.A.C.

If the harm associated with an authorized withdrawal from the Upper Floridan aquifer has been or will be mitigated in accordance with the conditions of a permit or other agency action existing as of {rule effective date}, then the allocation will not be reduced to the Demonstrated 2025 Demand.

For Public Supply use types with an allocation from multiple sources, any reduction in allocation shall be made from a permittee's current allocation from the Upper Floridan aquifer. Design Aid 4 provides example scenarios of how this section applies to an allocation from multiple sources.

Permittees, at their option, may request to combine or aggregate permits in accordance with Chapters 40C-2, 40D-2, or 40E-2, F.A.C., as applicable. In addition, permittees may combine or aggregate permits across District boundaries, if they provide water to the same service area.

### **CFWI - 2.8.3.1 Exceptions:**

The restrictions in subsections 2.8.1 through 2.8.3 on groundwater allocations shall not limit existing permitted groundwater withdrawals or new uses from:

- A. Aquifer storage and recovery wells that receive only surface water, stormwater, or reclaimed water, when the volume of water withdrawn does not exceed the volume of water injected; or
- B. An injection/recovery wellfield that injects surface water, stormwater, or reclaimed water that is not required under District rules to be provided to other uses, through one or more wells for storage within an aquifer zone and subsequently recovers it through wells from the same aquifer zone and in the same wellfield, when the volume of water withdrawn does not exceed the volume of water injected; or
- C. A recharge/recovery project that receives only surface water, stormwater, or reclaimed water (such as indirect potable reuse), that is not required under District rules to be provided to other users, when the volume of water recovered does not exceed the volume of water recharged, and the drawdown due to recovery of water from the Upper Floridan aquifer will be offset in the:
  1. surficial aquifer by recharge from the project, and
  2. Floridan aquifer by recharge from the project, except immediately adjacent to the recovery well(s).

## **CFWI - 2.8.4 Allocations from the Upper Floridan Aquifer Above the Demonstrated 2025 Demand**

By December 31, 2023, any permittee or applicant seeking a permit duration extending beyond 2025 whose projected water demand will exceed its Demonstrated 2025 Demand shall submit a plan to the District describing how the remainder of their demand will be met (e.g., impact offsets, substitution credits, redistributed uses (including wellfield management and optimization), land use transitions, alternative water supply development). The plan shall propose projects and identify a schedule for implementation. Annual updates detailing progress shall be provided to the District. The annual status reports shall include work completed to date, expenditures, and any anticipated changes in timelines.

An applicant may obtain an allocation for additional water from the Upper Floridan aquifer over the applicant's Demonstrated 2025 Demand, as identified in subsections 2.8.4.1 through 2.8.4.5 below:

### **CFWI - 2.8.4.1 Temporary Allocations**

A “temporary allocation” is water temporarily required by a permittee to meet the reasonable demands while implementing an offset (see subsection 2.8.4.2 below), a substitution credit or land use transition (see subsection 2.8.4.3, below), or an alternative water supply (See subsection 2.8.4.4, below). Temporary allocations from the Upper Floridan aquifer are only available for existing permitted uses while the necessary offsets or alternative water supplies are being developed and implemented. The permit will be conditioned with dates and milestones for development of the alternative water supply or offset. Temporary allocations under this subsection shall not exceed a permittee's existing allocations as of (effective date of the rule).

#### **CFWI - 2.8.4.1.1 Temporary Allocations Related to Implementation of Offsets, Substitution Credits, Land Use Transitions or Alternative Water Supply Projects**

For purposes of this section, a single-phase alternative water supply project is one that is expected to be completed within 7 years of (effective date of these rules). A temporary allocation for implementation of offsets, substitution credits, land use transitions, or a single-phase alternative water supply project shall be reduced to be consistent with this subsection when the project is anticipated to be available, consistent with permit conditions.

The permit conditions governing the quantity and duration for the temporary allocation for implementation of offsets, substitution credits, land use transitions, or single-phase alternative water supply project shall be based on expected due diligence of the applicant, as determined by applying the factors in A through C, below, to implement the project in an expeditious manner, not to exceed five years unless specifically approved by the Governing Board. The duration shall be determined considering the following factors:

- A. The projected time period for design, receipt of necessary authorizations, and construction of the project;

- B. The timing of demands to be met from the project;
- C. Other factors that indicate the reasonable period required to develop the project.

For purposes of this section, a multi-phase alternative water supply project is one expected to be completed in incremental phases within 20 years of (effective date of these rules), unless a longer period of time is approved by the District. To request a temporary allocation for a multi-phase alternative water supply project, the applicant or permittee shall submit a plan to the District for review and approval by the Governing Board, consistent with any applicable delegation. The plan must include a schedule for increases or decreases in temporary allocations as phases are commenced and then completed. The temporary allocation shall be permanently eliminated only when the final phase of the multi-phase alternative water supply project is completed and the alternative water source is available. The phasing of these temporary allocations shall be consistent with the permit conditions.

The permit conditions governing the quantity, timing and duration of the temporary allocations for a multi-phase alternative water supply project shall be based on expected due diligence of the applicant as determined by applying the factors in A through D, below, to implement the multi-phase project in an expeditious manner. The duration of the temporary allocation for each phase of the alternative water supply project shall be determined considering the following factors:

- A. The projected time period for design, receipt of necessary authorizations, and construction of each phase of the alternative water supply;
- B. The timing of demands to be met from each phase of the alternative water supply project;
- C. Any agreement entered by the permittees committing themselves to implementation of the multi-phase alternative water supply project.
- D. Other factors that indicate the reasonable time period required to develop each phase of the multi-phase alternative water supply project.

#### **CFWI - 2.8.4.1.2 Temporary Allocations Related to Projects and Measures for MFLs and MFL Implementation Strategies**

To request a temporary allocation to facilitate implementation of projects and measures approved as part of a prevention or recovery strategy or to comply with permit conditions related to the consumptive use being in accordance with an MFL or MFL implementation strategy, the applicant or permittee shall submit a plan to the District for review and approval by the Governing Board, consistent with any applicable delegation. The plan must include a schedule for implementation of projects and measures designed to facilitate achievement of the MFL. The phasing of these temporary allocations shall be consistent with the permit conditions.

The permit conditions governing the quantity, timing and duration of the temporary allocations shall be based on expected due diligence of the applicant as determined by applying the factors

in A through C, below, to implement the projects or measures in an expeditious manner. The duration of the temporary allocation shall be determined considering the following factors:

- A. The projected time period for design, receipt of necessary authorizations, and construction of the projects or measures;
- B. The timing of demands to be met from the projects or measures;
- C. Other factors that indicate the reasonable period required to develop the projects or measures.

#### **CFWI - 2.8.4.2 Implementation of Offsets**

The applicant may propose the implementation of offsets for additional allocations of water from the Upper Floridan aquifer over the applicant's Demonstrated 2025 Demand. If the applicant selects this option, the applicant shall propose, identify a schedule for implementation, and construct and operate adequate offsets to eliminate the impacts from the projected increase in volume of withdrawals from the Upper Floridan aquifer beyond the applicant's Demonstrated 2025 Demand. An offset will be approved if the applicant's modeling shows the offset prevents an increase in impacts from the Upper Floridan aquifer withdrawal over the applicant's Demonstrated 2025 Demand. Offsets include the use of impact offsets [subsection 62-40.416(7), F.A.C.], recharge systems, seepage barriers, or other types of offsets.

#### **CFWI - 2.8.4.3 Substitution Credits, Redistribution or Land Use Transitions**

The applicant may propose the implementation of substitution credits, the retirement or reduction in use of existing consumptive use permits that existed on [rule effective date], or the redistribution of Upper Floridan aquifer withdrawals for additional allocations of water from the Upper Floridan aquifer over the applicant's Demonstrated 2025 Demand. If the applicant selects this option, the applicant shall identify legal existing use allocations to be terminated or reduced as stated below or shall provide a plan for redistributing existing Upper Floridan aquifer withdrawals. The request will be approved if the applicant's modeling or hydrologic data demonstrates that the requested allocation can occur without further lowering the potentiometric surface of the Upper Floridan aquifer when compared to the applicant's Demonstrated 2025 Demand potentiometric surface, so as not to cause additional harm to water resources of the area, and if all other conditions for issuance are met. The applicant must demonstrate that water is available by providing documentation of the implementation of a substitution credit [subsection 62-40.416(8), F.A.C.], other modification or retirement of the historic consumptive use permit, or redistribution of Upper Floridan aquifer withdrawal before issuance of the proposed permit under this rule.

For agricultural, recreational, and landscape irrigation uses, the retired quantity will be based on the average annual allocation, which is the amount of supplemental irrigation required during a 5-in-10 year rainfall condition. For all other use types, the retired quantity will be based on the Demonstrated 2025 Demand, actual permitted allocation, or the average of the last five years of use, whichever is less.

#### **CFWI - 2.8.4.4 Development of Alternative Water Supplies**

To meet projected water demands in excess of an applicant's Demonstrated 2025 Demand, the applicant may propose an alternative water supply, as defined in section 373.019(1), F.S. If the applicant selects this option, the applicant shall propose, identify a schedule for implementation, and construct and operate alternative water supplies. To the extent an alternative water supply requires District approval, it will be approved if it is adequate to meet the conditions for issuance.

#### **CFWI - 2.8.4.5 Conservation**

In determining the amount of offsets that must be developed as set forth in subsection 2.8.4.2 and 2.8.4.3 above, the applicant may subtract the portion of its demand that the applicant demonstrates will be satisfied by water conservation.

#### **CFWI - 2.8.5 New Uses**

In addition to meeting the conditions for issuance, applications for new uses that request the use of groundwater from the Upper Floridan aquifer for a duration beyond 2025 shall be met from the implementation of the methods described subsections 2.8.4.2, 2.8.4.3 and 2.8.4.4. This provision does not apply to self-supplied agricultural, recreational, or landscape irrigation use types uses.

#### **CFWI - 2.8.6 Competing Applications**

In adopting these rules, the agencies acknowledge the increasing stress on the water resources in the CFWI and the mandate of the legislature to foster the development of additional water supplies and avoid the adverse effects of competition. However, these rules do not abrogate the rights of the Governing Board or of any other person under section 373.233, F.S. The CFWI regulatory framework provides a comprehensive strategy for allocations of available groundwater and expeditious development of supplemental water supply projects to minimize competition and thereby provide greater certainty of outcome than competition.

#### **CFWI - 2.9 Use of Lowest Quality Water Source**

Except when the use is for those activities described below, applicants must provide reasonable assurance that the proposed use (or portion of the proposed use) will be met with the lowest quality water source that is suitable for the purpose and is technically, economically, and environmentally feasible.

The following uses are exempt from this section: water used for washing hands during and after harvest activities; water that is applied in any manner that directly contacts produce during or after harvest activities (for example, water that is applied to produce for washing or cooling activities, and water that is applied to harvest crops to prevent dehydration before cooling); and water used to make ice that directly contacts produce during or after harvest activities.

It is possible that the unavailability of higher quality sources may necessitate the development of lowest quality sources and appropriate treatment to meet projected demands, including the demands resulting from the activities listed above. Nothing in this section shall prohibit an applicant from applying to use a lowest quality water source for those listed above.

### **CFWI - 2.9.1 Technical Feasibility**

The applicant shall submit the following information for use in evaluating the technical feasibility for any lowest quality water source, as applicable:

- A. Whether a lowest quality water source exists and is available at the project site.
- B. Whether the source is offered to or controlled by the applicant;
- C. Whether the applicant is capable of accessing the source;
- D. Whether the use of the lowest quality source is consistent with existing state or federal law,
- E. The quality, quantity, and reliability of the lowest quality water source,
- F. The crop/turf type being irrigated, including factors such as saline sensitivity. Typically reliable sources of information include the UF IFAS and FDACS publications; and
- G. Any other relevant information, which may include market criteria, including foreign market requirements, provided by the applicant.

For reclaimed water, the following additional information shall also be used, as applicable:

- H. The type of reuse system and level of treatment afforded by the applicable reuse utility.
- I. Whether the Department has permitted the reuse facility that will provide the reclaimed water supply and/or has permitted the use or discharge of the reclaimed water to the receiving waterbody, if applicable.
- J. The water quality parameters of the reclaimed water for the constituents that are pertinent to the intended use.
- K. Whether the proposed use is located within a mandatory reuse zone.
- L. Whether the proposed use is in an area that is or may be served with reclaimed water by a reuse utility within five years from the date of application. To demonstrate this criterion, the applicant shall provide written documentation from the applicable reuse utility addressing the availability of reclaimed water. The applicant shall request from the reuse utility a letter stating that reclaimed service is not available, or providing the following information:
  - 1. If reclaimed water is not available at the property boundary, the applicant shall provide the following:
    - i. An estimate of the distance in feet from the applicant's property boundary to the nearest potential connection point to a reuse line.
    - ii. The date the reuse utility anticipates bringing the connection to the applicant's property boundary.
  - 2. If reclaimed water is available at the property boundary, the applicant shall provide:

- i. The peak, minimum, and annual average daily quantity in gallons per day of reclaimed water supply available from the nearest potential connection point, as well as expected average monthly quantities.
- ii. The reliability of the potential reclaimed water supply (i.e., on-demand 24/7, or bulk-interruptible diurnal or seasonal, length of supply agreement).
- iii. The typical operating pressures at which the reuse utility will provide reclaimed water at the nearest connection point to the applicant's property boundary, including any typical seasonal or other fluctuations in the operating pressure.

Reuse utilities will have up to thirty (30) days after receipt of the documentation request by an applicant to provide a written response to the applicant. If a reuse utility fails to respond to a request for documentation within thirty (30) days, the applicant shall furnish the District with a copy of its request, proof of receipt by the reuse utility, and a statement attesting that the reuse utility failed to provide the requested information. Upon the failure of a reuse utility to respond to a request for documentation, the applicant shall complete the feasibility evaluation utilizing the best available information.

### **CFWI - 2.9.2 Environmental Feasibility**

The environmental feasibility of using a lowest quality water source shall be evaluated based on whether the use of a lowest quality water source would result in adverse environmental impacts. For example, the use of a lowest quality water source must be consistent with the recovery or prevention strategy of a waterbody with an established Minimum Flow or Minimum Water Level.

### **CFWI - 2.9.3 Economic Feasibility**

An applicant must provide an assessment of the economic feasibility if the lowest quality water source is technically and environmentally feasible and the applicant asserts the use of the lowest quality water source is not economically feasible. The applicant shall submit the following information for the Districts to consider in evaluating the economic feasibility of using a lowest quality water source, as applicable:

- A. The costs and benefits of using the lowest quality water source as compared to the higher quality water source, including the amount of lowest quality source water that can be produced or used relative to the cost;
- B. Impact on rates or charges associated with the applicant's operation to account for costs associated with using the lowest quality water source; and
- C. Other factors affecting the economic feasibility of using the lowest quality water source given the applicant's particular situation.

For reclaimed water, the applicant shall obtain from the applicable reuse utility and provide the following additional information, as applicable:

- D. The reclaimed water rate(s) the reuse utility would charge the applicant (e.g., the cost per/1000 gallons) and any other periodic, fixed, or minimum charges for use of reclaimed water by the applicant;
- E. The reclaimed water availability charges the reuse utility would charge the applicant in lieu of connection to the reclaimed water distribution system;
- F. Other one-time charges for the connection to the reclaimed water distribution system and
- G. Whether the reuse utility provides funding assistance to offset the costs to connect to the reclaimed water distribution system or assists potential customers in converting their operations to use reclaimed water.

The Supplemental Applicant’s Handbook Design Aid 5, titled, “Guidelines for Preparation of Reuse Feasibility Studies for Consumptive Use Permit applicants” is available solely to provide applicants with useful tools and suggestions that may assist in the preparation of reuse feasibility studies for consumptive use permits under Chapter 62-41, F.A.C. The Design Aid is not incorporated by reference in Chapter 62-41, F.A.C., and applicants are not required to use the tools or suggestions of this Design Aid when preparing a reuse feasibility study.

**CFWI – 3.0 Harm to the Water Resources of the Area**

Only within the CFWI Area, this section, CFWI – 3.1. through 3.5., supersedes in its entirety sections 2.3(g), 3.4, and 3.7 of the SJRWMD Applicant’s Handbook, sections 3.3, 3.4, 3.5, and 3.8 of the SWFWMD Applicant’s Handbook; and sections 3.3, 3.4, 3.5, and 3.8 and subsection 2.3.2.B.2.d.i, of the SFWMD Applicant’s Handbooks.

To provide reasonable assurance of compliance with the conditions for issuance in Rule 62-41.301(2)(g)2., F.A.C., an applicant must demonstrate that the use will meet the requirements of this section. The District will utilize the conditions for issuance in Rule 62-41.301(2)(g), F.A.C., and sections 3.1 through 3.5 of this Handbook, to determine whether a use will cause harm to the water resources of the area.

**CFWI – 3.1 Harmful water quality impacts to the water source resulting from the withdrawal or diversion**

A CUP application will be denied if the water withdrawal(s) would cause harmful water quality impacts to the water source resulting from the withdrawal or diversion. For example, (a) the induced movement of a contamination plume; or (b) the alteration of the rate or direction of the movement of a contamination plume, as evidenced by the predicted influence the water withdrawals would have on inducing movement of the contamination plume or as indicated by a sustained increase in background levels in contaminant concentrations.

### **CFWI – 3.2 Harmful water quality impacts from dewatering discharge to receiving waters**

The use must not cause harmful water quality impacts from dewatering discharge to receiving waters. Dewatering water must be retained onsite, unless the applicant demonstrates it is not technically feasible to retain the dewatering water onsite. If offsite discharge is requested, the applicant shall provide documentation authorizing the applicant to discharge directly into the receiving waterbody or adjacent lands and a demonstration that the receiving waterbody or adjacent lands are capable of accepting the dewatering discharge. Applicants who have obtained and are in compliance with a National Pollutant Discharge Elimination System (NPDES) or ERP for dewatering shall be considered to not cause harmful water quality impacts from dewatering discharge to receiving waters.

### **CFWI – 3.3 Harmful saline water intrusion or harmful upconing resulting from water withdrawals**

The purpose of this section is to determine whether saline water intrusion or upconing is harmful to the water resources of the area. Saline water intrusion can cause harm not only to fresh water resources, but also water resources with higher chloride concentrations and total dissolved solids concentrations (e.g., brackish water).

“Saline water intrusion” means the movement of water caused by withdrawals resulting in increases in total dissolved solids (TDS) or chloride concentrations. “Saline water intrusion” as used in the CFWI is not limited to the intrusion of water defined as “saline” by a water management district or other publication, but includes an increase in TDS or chloride concentrations from that existing prior to the proposed withdrawal. Saline water intrusion can occur laterally or vertically (the latter is termed “upconing”). Saline water intrusion is harmful when the increase in total dissolved solids or chloride concentrations detrimentally effects the applicant or other existing legal users of water, or is otherwise detrimental to the public interest.

The District will not consider saline water intrusion as harmful if it is the result of seasonal fluctuations; climatic conditions; or operation of the Central and Southern Flood Control Project, secondary canals or stormwater systems.

Nothing in this section shall be used to determine whether a source qualifies as an alternative water supply, as defined in section 373.019, F.S, or qualifies for funding by a District.

To satisfy the requirements of this section, an applicant shall provide reasonable assurance that the applicant’s proposed use will not cause harmful saline water intrusion or upconing. As part of the consideration of whether the use will cause harmful saline water intrusion or upconing, the following factors must be considered as applicable:

- A. Whether there is movement of more saline water to a greater distance inland or towards a withdrawal point than from that existing prior to the proposed withdrawal and not as a result of seasonal fluctuations or climatic conditions;

- B. Whether there is a sustained amount and rate of increase of TDS or chloride concentrations at the base of the aquifer(s) or producing zone(s) from that existing prior to the proposed withdrawal;
- C. Whether there would be adverse impacts to values or functions of wetlands or other surface waters, including springs;
- D. Whether a higher quality water source would be adversely impacted by the withdrawal;
- E. Whether the anticipated increase in TDS or chloride concentrations can be monitored and treated by the applicant for its intended purpose; and
- F. The geographic extent of any increase in TDS or chloride concentrations.

**CFWI - 3.3.1 Technical Assistance**

- A. The Supplemental Applicant’s Handbook Design Aid 6, titled “Calculation of the Maximum Safe Yield of Well for the Prevention of Upconing”, is available solely to provide applicants with useful tools that may assist in presenting reasonable assurance that the withdrawal will not cause harmful upconing under the proposed consumptive use permit applications evaluated under Chapter 62-41, F.A.C. This calculation may not be appropriate in all location for every well – applicants should consult Design Aid 6 for more information. The Design Aid is not incorporated by reference in Chapter 62-41, F.A.C., and applicants are not required to use the tools of this Design Aid when preparing its reasonable assurance nor is the district required to rely on its submittal as reasonable assurance.
- B. Applicants under 100,000 gpd are encouraged to seek technical assistance from the Districts.

**CFWI – 3.4 Harmful hydrologic alterations to natural systems, including wetlands or other surface waters**

This section establishes the standards for evaluating impacts to natural systems, including wetlands or other surface waters, pursuant to the conditions for permit issuance in Rule 62-41.301, F.A.C. These standards apply to all water withdrawals, including applications for the initial use of water, modifications, and renewals of consumptive use permits, and authorized water uses, herein referred to as the “water use.” In its evaluation of the applicant’s water use, the extent of hydrologic alterations caused by the applicant’s water use shall be considered, except as otherwise provided herein.

Districts shall not consider impacts to wetlands and other surface waters not caused by the water use, including, but not limited to, impacts caused by existing surface water management activities, drainage, water table lowering, roads, levees and adjacent land uses.

### **CFWI – 3.4.1 Identification of Wetlands and Other Surface Waters**

Wetlands and other surface waters as delineated pursuant to Chapter 62-340, F.A.C. or identified using alternative methods outlined below, that are within the area of influence of a water withdrawal, are subject to section 3.4 through subsection 3.4.7, except as provided by the exclusions in subsection 3.4.2.

Reasonable scientific judgment shall be used to evaluate the existence and extent of a wetland or other surface water, including all reliable information, such as visual site inspection and aerial photointerpretation. In addition, relevant information submitted pursuant to Chapters 62-330 or 62-340, F.A.C, in support of an ERP/Surface Water Management (SWM) Permit shall be considered.

In determining the location of wetlands and other surface waters, the applicant may consult staff reports of previously issued ERP and SWM Permits for the site and adjacent sites, National Wetland Inventory (NWI) Maps, Land Use/Land Cover maps, NRCS-USDA soils maps, formal and informal wetland determinations issued by the District or Department, and other similarly reliable sources of information. District staff will attempt to locate the landward extent of wetlands or other surface waters visually by: onsite inspection, aerial photointerpretation, or photointerpretation in combination with ground truthing, without quantitative sampling. The methodology shall not be used to delineate areas which are not wetlands as defined in subsection 62-340.200(19), F.A.C.

### **CFWI – 3.4.2 Exclusions of Certain Wetlands and Other Surface Waters**

The District will not consider the following impacts as harmful to natural systems, including wetlands or other surface waters.

- A. For the purposes of this subparagraph A only, “isolated wetland” means any area that is determined to be a wetland in accordance with Chapter 62-340, F.A.C., but that does not have any connection via wetlands or other surface waters as determined using Rule 62-340.600, F.A.C. The District will not consider impacts to isolated wetlands one half (0.5) acre or less in size unless:
  1. The wetland is used by endangered or threatened species;
  2. The wetland is in an area of critical state concern designated pursuant to Chapter 380, F.S.;
  3. The wetland is connected by standing or flowing surface water at seasonal high water level to one or more wetlands, and the combined wetland acreage so connected is greater than one half (0.5) acre. Wetland connection is determined by the delineation methods for surface waters set forth in Chapter 62-340, F.A.C.; or
  4. The District establishes that the wetland to be impacted is, or several such isolated wetlands to be impacted are, cumulatively, of more than minimal value to fish and wildlife.
- B. Wetlands or other surface waters which were either authorized to be impacted through a permit issued under Part IV of Chapter 373, F.S., or Part VIII of Chapter

403, F.S. (1984 Supp.) as amended, or allowed by an exemption under those statutes (or rules promulgated thereunder).

- C. Ponds constructed in uplands and less than one acre in area and drainage ditches that were constructed in uplands, so long as:
  - 1. Such ponds or ditches are not part of a permitted wetland creation, preservation, restoration or enhancement program; and
  - 2. Such ponds or ditches do not provide significant habitat for endangered or threatened species.

However, consideration of such systems shall be subject to all other conditions of permit issuance.

- D. Wetlands or other surface waters to the extent they have been specifically authorized to be impacted or mitigated pursuant to a previously issued consumptive use permit, unless the applicant proposes additional impacts. In such case, the District will only consider the proposed additional impacts to wetlands or other surface waters.

### **CFWI - 3.4.3 Evaluation of Harm to Natural Systems**

Harm to the water resources will be evaluated by comparing the existing natural system to the predicted post withdrawal conditions. Previously permitted or exempt physical alterations to environmental features, such as drainage systems or water control structures, will be considered as the existing condition. However, areas impacted by activities in violation of a District or Department rule, order, or permit adopted or issued pursuant to Chapter 373, F.S., or Part VIII of Chapter 403, F.S. as amended, will be evaluated as if the activity had not occurred.

The evaluation of wetlands and other surface waters will consider their hydrologic characteristics and susceptibility to harm resulting from hydrologic alterations attributed to the proposed water withdrawals individually and cumulatively. The assessment of impacts expected due to the water use will be based on the best available information. An applicant shall only be required to address its relative contribution of harm to the wetlands and other surface waters from its water use.

To evaluate the conditions below, the applicant must provide the following supporting information as applicable to assist in the impact evaluation:

- A. Scaled map and recent aerial photographs that identify the:
  - 1. Area of influence of the individual and cumulative effects of the proposed water use;
  - 2. The locations of all wetlands and other surface waters that occur within the area of influence of the individual and cumulative effects of the proposed water use, including wetlands and other surface waters located outside the applicant's property boundaries; and
  - 3. Locations of existing and proposed withdrawal facilities.

- B. Information about the hydrology and current conditions of the wetlands and other surface waters.
- C. Information regarding the potential impact of the individual and cumulative effects of the proposed water use on the wetland or other surface water in its current condition.
- D. A summary report of any modeling performed and electronic copies of any modeling files for District staff to review.
- E. Site specific information shall be submitted by the applicant, if requested by the District or if otherwise deemed relevant by the applicant, for determining whether the narrative standards, set forth below, have been met. The applicant shall provide site specific information on the local hydrology, geology, actual water use or unique seasonality of water use, including:
  - 1. Consideration of site specific hydrologic or geologic features that affect the projected drawdown, including the existence and extent of confining layers that impede the vertical movement of water under the wetland, preferential flow paths, seepage face wetlands that receive high rates of inflow, or the effects of soil depth and type on moisture retention, to the degree that actual field data support how these factors affect the potential for impacts of the water use on the wetland or other surface water.
  - 2. If the applicant asserts that the actual water use has not caused harm to wetlands or other surface waters, site specific information on the condition of the wetlands or other surface waters in question must be provided in conjunction with pumpage records or other relevant evidence of actual water use to substantiate the assertion. Applicable monitoring data and historic photography shall be submitted, if available.
  - 3. Other relevant factors or information in assessing the potential for harm to wetlands and other surface waters, such as the condition, size, depth, uniqueness, location, and fish and wildlife utilization, including listed species, of the wetland or other surface water.
- F. Where there is potential for harm, information required to determine whether the harm can be eliminated pursuant to section 3.6 below.
- G. A monitoring plan to assess the effects of the water use, if required. A monitoring plan shall be required when necessary to provide continued verification that no harm is occurring due to the water use.
- H. If the applicant asserts the exclusions in subsections 3.4.2, above, apply to wetlands or other surface waters within the area of influence of the proposed water use, the applicant must provide appropriate information supporting this assertion, including relevant information from the permit file.

**CFWI - 3.4.4 Harm to Wetlands**

Harm to wetlands is:

- A. Changes in wetland hydroperiods including wet season water levels from the withdrawal or diversion that cause wetlands plant species composition or community zonation to be adversely impacted.
- B. Changes in hydrology from the withdrawal or diversion that adversely impact wetland habitat functions for aquatic or wetland dependent flora or fauna either temporally or spatially. Wetland habitat functions include, but are not limited to, providing cover and refuge; breeding, nesting, denning, and nursery areas; corridors for wildlife movement; food chain support; and natural water storage, natural flow attenuation, and water quality improvement, which enhances fish, wildlife, and endangered and threatened species utilization.
- C. Changes in hydrology from the withdrawal or diversion that alter habitat for endangered or threatened species to the extent that utilization by those species is impaired.

#### **CFWI - 3.4.5 Harm to Flowing Systems**

Harm to flowing systems is:

- A. Changes in flow rates from the withdrawal or diversion that cause adverse impacts to aquatic or wetland dependent flora or fauna in springs, including those classified as Outstanding Florida Springs, streams, rivers or estuaries.
- B. Changes in flow rates from the withdrawal or diversion that cause downgradient watercourses to experience changes to flow rates that cause adverse impacts to aquatic or wetland dependent flora or fauna.

#### **CFWI - 3.4.6 Harm to Lakes**

Harm to lakes is:

- A. Changes in water levels from the withdrawal or diversion that cause adverse impacts to aquatic or wetland dependent flora or fauna.
- B. Changes in water levels from the withdrawal or diversion that cause flows to downgradient watercourses to experience changes to flow rates that cause adverse impacts to aquatic or wetland dependent flora or fauna.

#### **CFWI – 3.5 Otherwise Harmful to the Water Resources of the Area**

The issuance of a permit shall be denied if the withdrawal or use of water would otherwise be harmful to the water resources.

### **CFWI - 3.6 Eliminating Harm**

To the extent that harm is determined, the applicant shall modify the project design or water use to eliminate harm to protected wetlands and other surface waters. Changes to the project design or water use include developing alternative water supply sources, reducing proposed withdrawals, implementation of wellfield optimization plan, relocation of withdrawal facilities, implementation of water conservation measures and creation of hydrologic barriers.

Where a permittee requires time to complete changes to the project design or water use changes and a stepped allocation has been authorization, the project design or water use changes shall be completed in accordance with a timeframe set forth in the permit, as appropriate.

### **CFWI – 4.0 Harm to Existing Offsite Land Uses**

Within the CFWI Area, this section, CFWI - 4.0, supersedes Section 3.6 of the SFWMD and SWFWMD Applicant's Handbooks; and section 2.3(f) and section 3.5 of the SJRWMD Applicant's Handbook.

This section describes how an applicant establishes reasonable assurance with the conditions for issuance set forth in Rule 62-41.301(2)(f), F.A.C.

This section does not establish a property right in water, but prohibits harm from a water use to certain land uses that are dependent upon water being on or under the land surface.

Adverse impacts to existing off-site land uses are exemplified by, but not limited to:

- A. Significant reduction in water levels in a surface water body;
- B. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from water use;
- C. Adverse flooding; and
- D. Adverse impacts to recreational uses.

In addition, for uses of water associated with dewatering, an applicant must demonstrate that the proposed consumptive use will not cause harm to existing offsite land uses due to the discharge of water associated with dewatering activities, as defined in this section.

Whether an existing offsite land use is considered under this section depends on whether there is a reasonable expectation that water will continue to exist on or under the land surface to support that offsite land use. When determining whether there is a reasonable expectation in the occurrence of water for an existing offsite land use, the District will consider:

- A. Only those offsite land uses existing at the time of the current application;

- B. The historic natural and artificial hydrologic variations on the offsite property;
- C. The design function of the offsite property;
- D. The purpose and nature of the water or water source on the offsite property, such as surface water management or water quality treatment; and
- E. Hydrologic variations that have occurred or are expected to occur as a result of authorized consumptive use withdrawals.

To be considered under this rule, the impact on an existing offsite land use must be the result of a withdrawal associated with a proposed consumptive use. Impacts to land uses can be caused by many different activities, such as drainage activities, reduced rainfall, regional trends, and other non-consumptive use related influences. Impacts from these non-consumptive use influences will not be considered or mitigated for under this section.

The applicant must identify those existing land uses that are potentially impacted by the withdrawal associated with their consumptive use, such as seepage irrigated crops and surface water management systems. The applicant must demonstrate that the resulting change in water levels related to the proposed withdrawal will not cause harm, as described in this section above. Methods for avoiding harm to existing offsite land uses include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, mitigating the damages caused, or, in the case of dewatering discharges, taking other actions to avoid increasing the potential for flooding. However, an applicant may accept adverse flooding impacts, for example, on land owned by the applicant or land for which the applicant has demonstrated sufficient legal authority to accept such flooding impacts.

The District shall include as a condition in any applicable permit the requirement that the permittee mitigate harm to existing offsite land uses caused in whole or in part by the permittee's consumptive use. The permit condition shall require the permittee to submit a mitigation plan for approval by the District that identifies actions necessary to mitigate unanticipated harm to existing offsite land uses. Such actions must be sufficient to restore the land use that existed prior to the impact and may require a permit modification. A mitigation plan may include replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means. The mitigation plan will require a permittee to mitigate immediately or upon the actual occurrence of harm.

### **CFWI – 5.0 Special Permit Conditions**

The following special limiting permit conditions shall be added, as identified below to existing permits and permits for new uses within the CFWI Area.

- A. For all use types, except agricultural and landscape/recreation, the following special permit conditions shall be added:
  - 1. By December 31, 2023, if the permittee's permit duration extends beyond 2025 and the projected water demand at the end of the permit term exceeds the allocation authorized under section 2.8 of the CFWI Supplemental

Applicant's handbook, then the permittee shall submit a plan to the District describing how the remainder of its demand will be met (e.g., offsets, substitution credits, land use transitions, redistributed uses, alternative water supply development). The plan shall propose projects and identify a schedule for implementation. Annual updates shall be due on December 31 of each subsequent year detailing progress shall be provided to the District. The annual status reports shall include work completed to date, expenditures, and any anticipated changes in timelines.

- B. For all public supply permits with an annual average daily quantity of 100,000 gpd or greater and whose commercial water use is less than 30 percent of its total water use, the following special permit conditions shall be added:
1. The quantities included in the permit are based on an average per capita rate of \_\_\_\_\_ gpd.
  2. The permittee's per capita water use rate shall be monitored via the Annual Report that is required to be submitted by April 1 of each year for the term of the permit. permittees within the CFWI may use the "Public Supply Annual Report," referred to in section 2.7.3.1 of the CFWI Supplemental Applicant's Handbook as Design Aid 3, to assist with properly documenting the information that must be included in the Annual Report. At a minimum, the Annual Report must contain the following information:
    - a. Calculation of the Alternative Per Capita Water Use Rate pursuant to section 2.7.3. All components of the Alternative Per Capita Water Use Rate equation are subject to the requirements set forth in section 2.7.3.1(A) of the CFWI Supplemental Applicant's Handbook.
    - b. Documentation of each component of the Alternative Per Capita Water Use Rate equation, as applicable, pursuant to section 2.7.3.1(A) of the CFWI Supplemental Applicant's Handbook.
    - c. A service area map or file showing the current utility service area. Any changes to the utility service area relative to the existing boundaries in the District's Geographic Information System (GIS) layer must be identified and documented.
    - d. Residential water use, which consists of the indoor and outdoor water uses associated with each category of residential customer (single family units, multi-family units, and mobile homes), including irrigation uses, whether separately metered or not. The permittee shall document the methodology used to determine the number of dwelling units by type and the quantities used. Estimates of water use based upon meter size will not be accepted. If mobile homes are included in the permittees multi-family unit category, the information for them does not have to be separated. The information for each category shall include:
      - i. Number of dwelling units per category;
      - ii. Number of domestic metered connections per category;
      - iii. Number of metered irrigation connections;

- iv. Annual average quantities in gallons per day provided to each category; and
  - v. Percentage of the total residential water use provided apportioned to each category.
- e. Non-residential water use, which consists of all quantities provided for use in a community not directly associated with places of residence. For each category below, the permittee shall include annual average gpd provided, the percent of total non-residential use quantities provided, and the number of metered connections:
- i. Industrial/commercial/institutional uses, including those associated lawn and landscape irrigation use;
  - ii. Agricultural uses (e.g., irrigation of a nursery);
  - iii. Recreation/Aesthetic, including irrigation (excluding golf courses) of common areas, stadiums, and school yards;
  - iv. Golf course irrigation;
  - v. Firefighting, system testing and other accounted uses;
  - vi. K-through-12 schools that do not serve any of the service area population; and
  - vii. Water loss, defined as the difference between the output from the treatment plant and accounted residential water use (iv above), non-residential and estimated unmetered use (this section), and treatment losses.
- f. A water audit report, if water losses are greater than 10% of the total distribution quantities. The water audit shall include:
- i. Evaluation of:
    - (1) leakage associated with transmission and distribution mains;
    - (2) overflow and leakage from storage tanks;
    - (3) leakage near service connections;
    - (4) illegal connections;
    - (5) description and explanations for excessive distribution line flushing (greater than 1% of the treated water volume delivered to the distribution system) for potability;
    - (6) fire suppression;
    - (7) un-metered system testing;
    - (8) under-registration of meter; and
    - (9) other discrepancies between the metered amount of finished water output from the treatment plant less the metered amounts used for residential and non-residential uses specified in Parts 4 and 5 above, and
  - ii. A schedule for a remedial action-plan to reduce water losses below 10%.
- g. If the permittee cannot achieve the Public Supply Use Type Annual Conservation Goal according to the time frames included in section 2.7.3.1.C, the Annual Report shall include an explanation detailing

why the per capita water use rate was not achieved and measures taken to comply with the Annual Conservation Goal.

3. In addition to the Annual Report required by section 2.7.3.1 of the CFWI Supplemental Applicant's Handbook, permittees in the Southern Water Use Caution Area and the Dover/Plant City Water Use Caution Area shall submit Parts D through E of the "Public Supply Annual Report For Individual Permits Over 100,000 GPD Annual Average Quantities Form" (Form No. LEG-R.103.00 (5/14)), and all required attachments, including the Public Supply Service Area General Information Form, by April 1 of each year.
- C. If the permittee or applicant is required to develop an Annual Conservation Goal Implementation Plan (ACGIP) pursuant to section 2.7, then the following special permit condition shall be added:
1. The permittee shall develop and maintain an Annual Conservation Goal Implementation Plan (ACGIP) pursuant to section 2.7 of the CFWI Supplemental Applicant's Handbook for Consumptive Use Permitting. The ACGIP shall outline conservation goals for no less than 5 years. Agricultural permittees implementing BMPs in lieu of an ACGIP must maintain documentation supporting the enrollment and implementation of selected BMPs. The permittee shall submit the ACGIP upon request by the District, during a 10-year compliance report, and with an application for permit renewal or modification except for a public water supply permittee with an annual average daily quantity of 100,000 gpd or greater and whose commercial use equals or exceeds 30 percent of its total water use, shall report its progress toward achieving the conservation goals within the ACGIP annually.
- D. For self-supplied agricultural, recreational, or landscape irrigation uses whose allocation is based on the amount of water needed to supply the supplemental irrigation requirements of the type of crop, turf or landscape grown, the following special permit conditions shall be added and shall supersede Section 5.2.E of the SFWMD Applicant's Handbook and Section 2.3.3 of the SWFWMD Applicant's Handbook except within the SWUCA and Dover/Plant City WUCA, compliance with the 2-in-10 year and 5-in-10 year annual allocation shall be determined using Section 2.3.3 of the SWFWMD Applicant's Handbook:
1. a. Total annual allocation is \_\_\_\_\_ million gallons (\_\_\_\_\_ mgd or gpd) for a 2-in-10 year drought condition. This allocation represents the amount of water required to meet the water demands as a result of deficit rainfall quantities occurring during a drought with the probability of recurring twice every ten years. The permittee shall not exceed this allocation in hydrologic conditions less than a 2-in-10 year drought event. For a 5-in-10 year condition the amount of water used to meet the average annual water demands in years in which total rainfall equals the quantity expected in a mean annual (5-in-10-year) condition is \_\_\_\_\_ million gallons (\_\_\_\_\_ mgd or gpd). Compliance with this annual allocation is based on the quantity

withdrawn over a [calendar year beginning on January 1 and ending on December 31] or [for SWUCA & Dover/Plant City WUCA: 12-month moving average].

- b. If the District performs an analysis and determines that the allocated supplemental irrigation quantities are exceeded when the rainfall deficit is less severe than the drought conditions serving as the basis for the allocation, then before deciding whether to undertake any enforcement action, the District shall either:
  - A. Request the permittee to submit a report that includes reasons why the allocated quantities were exceeded, measures taken to meet the allocated quantities, and a plan to bring the permit into compliance.; or
  - B. Consult informally with the permittee as to the reason why the allocated quantity was exceeded.

The District shall evaluate information submitted by permittees who exceed their allocated quantities to determine whether there is good cause for the exceedance. Good cause justifying Permittees may justify an exceedance includes documentation of by documenting unusual water needs, such as weather conditions creating greater irrigation needs than normal. However, even with such documentation, phased reductions in water use will be required unless the District determines that water usage was reasonable under the circumstances reported and that further reductions are not feasible. A permit modification is required to implement any increase in allocated quantities.

- 2. Total maximum monthly allocation is \_\_\_\_\_ million gallons. Compliance with the maximum monthly allocation is based on the greatest quantity withdrawn in any single month.
- 3. If the rainfall deficit is more severe than the drought conditions serving as the basis for the allocations, the permittee's withdrawals shall not exceed that amount necessary to continue to meet the reasonable-beneficial demands, provided no harm to the water resources occur and:
  - a. All other conditions of the permit are met; and
  - b. The withdrawal is otherwise consistent with any applicable declared Water Shortage Order in effect.

# Design Aids for the Central Florida Water Initiative (CFWI) Supplemental Applicant's Handbook

These Design Aids are not incorporated by reference in Chapter 62-41, F.A.C., and therefore do not constitute rules of the Agencies. They are intended solely to provide applicants with useful tools, example calculations, and design suggestions that may assist with the requirements within Chapter 62-41, F.A.C.

**FOR USE STATEWIDE BY AND FOR THE:**  
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



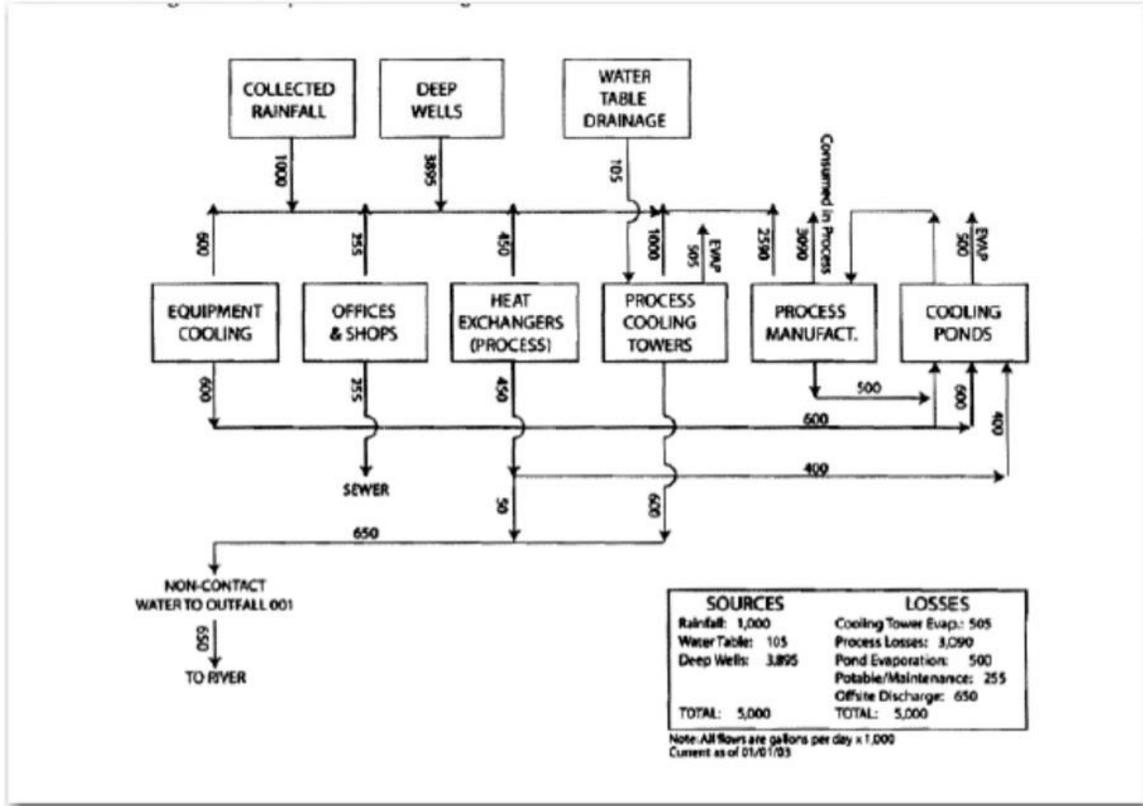
June, 2021

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# DESIGN AID 1: Water Balance Diagram Example

Figure 2-1 Example Water Balance Diagram



## DESIGN AID 2: Annual Conservation Goal Implementation Plan

*The following page reflects a sample of the Annual Conservation Goal Implementation Plan that may be used by water users in their complete discretion.*

GENERAL INFORMATION	
Permittee Name	
CUP Number	
Person(s)/Position(s) Responsible for ACGIP	
Last Updated Date	
Signature of Responsible Person	

ACGIP Term, if applicable	<i>Enter the years the ACGIP is applicable for. It must be at least 5 years (current year plus 4 additional years) or for the term of the permit, whichever is less.</i>
Annual Conservation Goal Type	<input type="checkbox"/> Conservation BMPs & Conservation Programs <input type="checkbox"/> Other Metrics

CONSERVATION BMPS AND CONSERVATION PROGRAMS				
Time Period	BMP or Conservation Program	Strategy Associated with the Goal	Achieved/ Not Achieved	Estimated Water Savings <i>(optional)</i>
<i>Enter the year or years you intend to implement the listed BMP/Program</i>	<i>Briefly state the BMP or conservation program (e.g., toilet rebates).</i>	<i>Briefly describe the strategy associated with the BMP or conservation program (e.g., 600 toilet rebates are made available and will be promoted via social media targeting residential houses built before 1994.)</i>	<i>State whether the goal was achieved or not achieved</i>	<i>Option to include the estimated water savings associated with implementing the BMP or conservation program.</i>

*\*Add additional rows for each BMP.*

OTHER METRIC			
Time Period	Metric	Achieved/ Not Achieved	Estimated Water Savings <i>(optional)</i>
<i>Enter the year or years you intend to implement the listed BMP/Program</i>	<i>Briefly state the metric (e.g., achieving a set per capita reduction; achieving and maintaining an efficiency for a system) and how it will be measured annually.</i>	<i>State whether the goal was achieved or not achieved</i>	<i>Option to include the estimated water savings associated with achieving the metric.</i>

*\*Add additional rows for each metric.*

RESIDENTIAL PER CAPITA WATER USE (for Public Supply only)
<input type="checkbox"/> Residential per capita: _____ gcpd <i>Use the formula: Total Residential Water Use (or Water Use by Dwelling Units) divided by Service Area Residential Population</i>

**DESIGN AID 3:**  
**20\_\_ Public Supply Annual Report**  
**For Individual Permits Over 100,000 GPD Annual Average Quantities**

**PART A. Per Capita Water Use Rate**

Please submit water use information for January 1 – December 31, 20\_\_\_. The information included in this Design Aid is required to be submitted as a condition on your Water Use Permit (WUP). Requirements are given in detail in section 2.7.3.1 of the Central Florida Water Initiative Supplemental Applicant’s Handbook.

<b>WUP No(s):</b>		<b>Reporting period (mo/yr-mo/yr):</b>	
<b>Issue Date (of the most recent revision of the WUP):</b>		<b>Contact Phone #:</b>	
<b>Permittee Name:</b>		<b>Contact Name:</b>	
<b>Address:</b>		<b>County:</b>	
	<b>Equation Component</b>	<b>WATER USE CATEGORY</b>	<b>Annual Average Quantity</b>
1	WD	<b>Total Withdrawals</b> ground water, surface water, and stormwater. Attach meter readings and pumpage from 1/1/ through 12/31/ .	gpd
2	IM	<b>Imported Water</b> Supply itemized list of quantities per supplier. If applicable, include the WUP number (CUP No.) of each supplier listed.	gpd
3	EX	<b>Exported Water</b> Supply itemized list of quantities per receiver. If applicable, include the WUP number (CUP No.) of each receiver listed.	gpd
4	<b>Gross Water Use: WD + IM – EX</b>		<b>gpd</b>
5	<input type="checkbox"/> RP <input type="checkbox"/> FP	<b>Residential Population Served, or Functional Population</b> (Check box and supply supporting calculations, see instructions)	# people
6	<b>Gross Per Capita = (WD + IM – EX)/RP or FP</b>		<b>gpcd</b>
7	TL	<b>Water Treatment Loss</b> (Provide documentation of each type claimed.)	gpd
8	SU	<b>Significant Uses</b> Provide documentation of deductions as required in the Supplemental Applicant’s Handbook and include a separate report summarizing significant uses.	gpd
9	GC	<b>Golf Course Deduction</b> (See definitions for requirements and limitations.)	gpd
10	EM	<b>Environmental Mitigation</b> if required by the District per your water use permit (attach documentation of quantities used).	gpd
11	<b>Adjusted Gross Per Capita = (WD + IM – EX – TL – SU – GC – EM)/RP or FP</b>		<b>gpcd</b>
12	ST	<b>Stormwater Deduction</b> (See definitions for requirements and limitations.)	gpd
13	RW	<b>Reclaimed Water Deduction</b> (See definitions for requirements and limitations.)	gpd
14	<b>Alternative Per Capita = (WD + IM – EX – TL – SU – GC – EM – ST – RW)/RP or FP</b>		<b>gpcd</b>

15	<b>Per Capita Noncompliance Report:</b> A report explaining why a utility had a Compliance Per Capita rate greater than 100 gpd. The report shall include an explanation detailing why the per capita water use rate was not achieved, measures taken to comply with the per capita water use rate of 100 gpd, and a plan that identifies conservation or water supply project(s) that will be developed and implemented to achieve the per capita water use rate of 100 gpd	<input type="checkbox"/> Attached <input type="checkbox"/> N/A
16	<b>Service Area Map:</b> Submit a map or file showing the current utility service area. Any changes to the utility service area relative to the existing boundaries in the District's Geographic Information System (GIS) layer must be identified and documented.	<input type="checkbox"/> Attached <input type="checkbox"/> Unchanged

**Definitions for Part A:**

**Instructions regarding Per Capita Daily Water Use Rate calculations:** Only complete the per capita calculations that show a per capita rate of 115 gpd or less if using Residential Population, or 100 gpd or less if using Functional Population. If the goal is met using the Gross Per Capita Water Use Rate, the Adjusted Per Capita does not have to be calculated. If the goal is met using the Adjusted Per Capita rate, then the Alternative Per Capita does not have to be calculated.

**Total Withdrawals (Raw Water Pumpage):** Annual average gallons per day ground water, surface water and stormwater withdrawals as metered at the wellhead(s), wellfield's departure point, or surface water intake facility.

**Imported Water:** Annual average water imported or purchased from other supplier(s). Irrigation water, excluding reclaimed water, provided to the applicant's service area by a separate utility shall be counted as imported water.

**Exported Water:** Annual average gallons per day of water transferred in bulk quantities from your utility to other potable water suppliers. Determine quantities at the departure point from your service area.

**Water Treatment Loss:** Annual average gallons per day which are lost in routine treatment for potability. Examples of treatment loss types are desalination reject, membrane cleaning and sand filtration backwash. Treatment losses are calculated as raw water into the plant minus treated water out of the plant. Treated water volume delivered to the distribution system includes water from withdrawals plus imports, minus exports, minus treatment losses. Treatment loss and line flushing quantities shall be separately calculated and documented.

**Residential Population:** The population within a utility's service area, based upon total residential dwelling units served, which include Single Family Residential, Multi-Family Residential (apartments, townhomes, condos, duplexes) and Mobile Homes, multiplied by a utility-specific estimate of persons per household. Utility-specific persons per household should be based on a reasonable method of calculation, such as census-based averages, BEBR persons per household estimates, and utility documented surveys.

**Functional Population:** The served permanent population as adjusted by the seasonal resident, tourist, group quarters, and net commuter population within a utility's service area.

**Significant Uses:** Includes Single Significant Uses, Combined Regional Government and Higher Education Facilities, Individual Regional Health Facilities, and Individual Industrial/Commercial Facilities Where Water is the Primary Ingredient of the Final Product, as defined in Section 2.7.3.A. of the CFWI Supplemental Applicant's Handbook.

**Environmental Mitigation Use:** Separately-metered annual average quantities used by a utility to mitigate withdrawal-related stress to a specified environmental feature as required by the utility's Water Use Permit.

**Golf Course Deduction:** Separately metered golf course irrigation quantities from ground water, surface water, reclaimed water or stormwater provided to golf courses inside the service area. The quantities provided may be deducted only if they are included in the permitted quantities for the service area and reported as withdrawals (WD) in the Annual Report. The "GC" withdrawal quantities deducted shall not exceed those actually provided, or those that would be permitted for use by the District, whichever is less.

**Reclaimed Water Deduction:** Standard deduction of 50%, or if the Applicant chooses, up to the limit of the actual amount of reclaimed water that has received at least secondary treatment and is provided to directly replace an existing or potential use of higher quality water. To be deducted, it must first be provided to any metered use located outside the utility potable service area boundary and then to any single-site separately-metered use within the utility potable service area boundary that uses 25,000 gallons per day or more on an annual average basis during the per capita reporting period, except that no deduction shall be taken for quantities used for residential irrigation (single family, multi-family or mobile home) or for common area irrigation, including entranceways, parking lots, irrigated areas within roadway right-of ways (e.g., road and sidewalk medians), open spaces, community areas, and public parks. Any deduction over the standard 50% reclaimed water per capita credit must be substantiated with verifiable and corresponding reductions in the supplied WUP pumpage (all deductions subject to District approval).

**Stormwater Deduction:** Separately metered and reported stormwater quantities captured by the permittee that are included in the utility's permitted quantities for uses inside the service area other than for golf course irrigation. The stormwater withdrawal quantities deducted shall not exceed the quantities actually provided, or those that would be permitted for the use by the District, whichever is less. Stormwater quantities deducted as golf course (GC) use above may not be included in this deduction for stormwater. The surface withdrawal points from the stormwater catchments shall be permitted on the provider's water use permit and must be reported as withdrawals in the Annual Report to be deducted. The stormwater deduction shall not be taken where the quality of the ground water source to be permitted or replaced is of lower water quality but is suitable for the intended use, unless the use of the stormwater in such cases reduces adverse impact to the water resources.

**Service Area Map:** Please review the public supply service area maps currently in the District's Geographic Information System (GIS) to determine if updating is necessary. Make any changes relative to the existing boundaries in the District's layer and complete the service area information forms attached. If updating is not necessary, please indicate so.

**PART B. Residential and Non-Residential Water Use**

Please submit water use information for January 1 – December 31, 20\_\_.

**SERVICE CATEGORIES:** Quantities to be reported are **annual average gallons per day** (total number of gallons supplied per reporting period, divided by 365 days per year) and are to include both indoor and outdoor use, whether separately metered or not. On a separate sheet, permittees are to document the methodology used to determine the number of dwelling units by type and their quantities used. Estimates of water use based on meter size will not be accepted. If mobile homes are included in the Permittees multi-family unit category, the information for them does not have to be separated.

<b>Residential Water Service Category</b>	<b>Number of Dwelling Units</b>	<b>Number of Metered Connections</b>	<b>Annual Average (gpd)</b>	<b>% of Total</b>	<b>Documentation on an Attached Sheet</b>
1. Single Family Dwelling Units					<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Multiple Family Dwelling Units					<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Mobile Home Dwelling Units					<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Residential Irrigation Accounts	N/A				<input type="checkbox"/> Yes <input type="checkbox"/> No
5. Subtotal of Residential Service					<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Non-Residential Water Service Category</b>		<b>Number of Metered Connections</b>	<b>Annual Average Gallons Per Day</b>	<b>% of Total</b>	
6. Industrial/Commercial Uses					
7. Agricultural Uses					
8. Recreational/Aesthetic Uses					
9. Golf Course Irrigation					
10. Fire and Other Accounted Uses					
11. <b>SUBTOTAL</b> (Add items 5 through 10)					
12. Water Loss					
<b>TOTAL</b> (Add items 11 and 12)( = line 5 on Part A)				<b>100</b>	

## **Definitions for Part B:**

**Note:** Utilities serving municipalities shall provide dwelling unit, use, and connection data for all accounts regardless of whether they are categorized as “inside” or “outside” city for rate purposes. Dwelling units that are intended as public accommodations shall not be included in dwelling unit counts if they are also used in the calculation of tourist population.

**Single Family Dwelling Units:** These are single, detached dwelling units intended for private residential use, whether individually or master-metered. If the utility categorizes mobile homes or duplexes as single family dwelling units that is acceptable if noted and they are not counted in other dwelling unit categories. Provide the number of single family units served (not accounts/connections) and the number of metered connections serving these units.

**Multiple Family Dwelling Units:** These are attached dwelling units in structures containing two or more residences, whether individually or master-metered. Provide the number of dwelling units served (not accounts/connections) and the number of metered connections serving these units. If the utility categorizes mobile homes as multi-family units, that is acceptable if noted and they are not counted in other dwelling unit categories. Data associated with multifamily dwelling units such as water use and metered connections must be reported as residential, even though classified as commercial by the utility.

**Mobile Home Dwelling Units:** Dwelling units capable of being moved from one location to another. This excludes manufactured or prefabricated housing that are not intended to be moved. If mobile homes are counted as single family dwelling units by your utility, they can be included under the single family dwelling unit category, but not both mobile home and single family. Mobile homes can be counted as multiple family dwelling units if so categorized by your utility, but not both mobile home and multiple family. Please note how mobile homes are being categorized if other than in the mobile home category.

**Indoor/Outdoor Residential Use:** Most residential water use is not metered separately for a customer’s indoor and outdoor use. Thus, the metered water quantities on the single or master meter will include both use types. However, if there is a separate meter for outdoor use (irrigation water for associated lawn and ornamentals) for any type of dwelling unit, that “outdoor” quantity is to be documented under the residential irrigation accounts water use.

**Industrial/Commercial Use:** Include retail/wholesale, manufacturing, processing, government buildings, libraries, airports, universities, and other such accounts in this category. Permittees are not to include multi-family connections that are classified internally as commercial accounts in this category; rather, these are to be counted in the Multiple Family Dwelling Units category, and the number of dwelling units provided. Include lawn & landscape irrigation quantities associated with this category.

**Agricultural Use:** Provision of water for the irrigation of hay fields, row crops, citrus, etc., or other agricultural use. This does not include quantities associated with irrigation of a lawn that is connected with a residential account or irrigation of grounds associated with multiple family or mobile home dwelling units.

**Recreational/Aesthetic Use:** Provision of separately metered water for the irrigation of commercial entities, parks, theme parks (water parks, recreational attractions), aquariums or other

use for recreational purposes or for visual enhancement (excluding the irrigation for golf courses and associated clubhouse grounds). Note: irrigation accounts associated with residential development use should be counted in the appropriate residential category.

**Golf Course Irrigation:** Provision of separately metered water for the irrigation of golf courses and associated clubhouse grounds.

**Water Loss:** The total water system output minus all accounted uses. Water losses include: leakage associated with transmission and distribution mains, overflow and leakage from storage tanks, leakage near service connections, illegal connections, flushing of distribution lines in excess of 1% of the total distribution volume delivered to the distribution system, unmeasured flows associated with fire suppression, as well as un-metered system testing, under-registration of meters, and other discrepancies between the metered amount of finished water output from the treatment plant less the metered amounts specified herein.

**PART C. Residential Per Capita Water Use Goal**

Please submit water use information for January 1 – December 31, 20 . The information included in this Design Aid is required to be submitted as a condition on your Water Use Permit. Requirements are given in detail in Section 2.7.2 of the Central Florida Water Initiative Supplemental Applicant’s Handbook.

	<b>WATER USE CATEGORY</b>	<b>Annual Average Quantity</b>
<b>1</b>	<b>Total Residential Water Use (Section B, Line 5)</b>	gpd
<b>2</b>	<b>Residential Population Served (Section A, Line 5)</b>	# people
<b>3</b>	<b>Residential Per Capita Water Use Goal: Total Residential Water Use/RP</b>	gpcd

## DESIGN AID 4:

### Application of Section 2.8 of the CFWI Supplemental Applicant’s Handbook to Permits with Multiple Sources

The following are examples of how the requirements in Section 2.8 of the CFWI Applicant’s Handbook will apply to permittees with multiple water sources, with at least one source that includes the Upper Floridan aquifer. These examples are provided for informational purposes only.

#### Example #1

A permittee has a total permitted allocation of 20 million gallons per day (mgd), with 10 mgd from the Upper Floridan Aquifer (UFA) and 10 mgd from surface water. The permittee’s 2025 Demonstrated Demand is 15 mgd. Section 2.8 limits the UFA allocation to the 2025 Demonstrated Demand. Since the 2025 Demonstrated Demand is *more* than the current allocation from the UFA, there is no reduction needed to the UFA allocation.

New UFA Allocation: 10 mgd (no change)

New Total Allocation: 20 mgd (no change)

Current Allocation	2025 Demonstrated Demand	New UFA Allocation	New Total Allocation
Total: 20 mgd	Total: 15 mgd	No Change	Total: 20 mgd (no change)
• 10 mgd UFA			• 10 mgd UFA
• 10 mgd Surface Water			• 10 mgd Surface Water

#### Example #2

A permittee has a total permitted allocation of 20 mgd, with 15 mgd from UFA and 5 mgd from the Lower Floridan aquifer (LFA). The permittee’s 2025 Demonstrated Demand is 12 mgd. Since the 2025 Demonstrated Demand is *less* than the current allocation from the UFA, the UFA allocation is reduced by the difference (3 mgd).

New UFA Allocation: 12 mgd (reduction of 3 mgd)

New Total Allocation: 17 mgd (reduction of 3 mgd, no change to AWS quantities)

Current Allocation	2025 Demonstrated Demand	New UFA Allocation	New Total Allocation
Total: 20 mgd	Total: 12 mgd	12 mgd (reduction of 3 mgd)	Total: 17 mgd (reduction of 3 mgd)
• 15 mgd UFA			• 12 mgd UFA
• 5 mgd LFA			• 5 mgd LFA

Note that in this example, the 3 mgd reduction to the UFA allocation may be lessened if the permittee has implemented applicable water supply or water resource development projects since December 2015. See Section 2.8.4 of the Supplemental Applicant’s Handbook for more information.

Example #3

A permittee has a total permitted allocation of 20 mgd, with 15 mgd from UFA and 5 mgd from the LFA. The permittee’s 2025 Demonstrated Demand is 7 mgd. Since the 2025 Demonstrated Demand is *less* than the current allocation from the UFA, the UFA allocation is reduced by the difference (8 mgd).

New UFA Allocation: 7 mgd (reduction of 8 mgd)

New Total Allocation: 12 mgd (reduction of 8 mgd, no change to AWS quantities)

Current Allocation	2025 Demonstrated Demand	New UFA Allocation	New Total Allocation
Total: 20 mgd	Total: 7 mgd	7 mgd (reduction of 8 mgd)	Total: 12 mgd (reduction of 8 mgd)
• 15 mgd UFA			• 7 mgd UFA
• 5 mgd LFA			• 5 mgd LFA

Note that in this example, the 8 mgd reduction to the UFA allocation may be lessened if the permittee has implemented applicable water supply or water resource development projects since December 2015. See Section 2.8.4 of the Supplemental Applicant’s Handbook for more information.

Example #4

A permittee has a total permitted allocation of 20 mgd, with 10 mgd from UFA and 10 mgd from the LFA. The permittee’s 2025 Demonstrated Demand is 8 mgd. Since the 2025 Demonstrated Demand is *less* than the current allocation from the UFA, the UFA allocation is reduced by the difference (2 mgd).

New UFA Allocation: 8 mgd (reduction of 2 mgd)

New Total Allocation: 18 mgd (reduction of 2 mgd, no change to AWS quantities)

Current Allocation	2025 Demonstrated Demand	New UFA Allocation	New Total Allocation
Total: 20 mgd	Total: 8 mgd	8 mgd (reduction of 2 mgd)	Total: 18 mgd (reduction of 2 mgd)
• 10 mgd UFA			• 8 mgd UFA
• 10 mgd LFA			• 10 mgd LFA

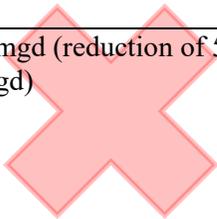
Note that in this example, the 2 mgd reduction to the UFA allocation may be lessened if the permittee has implemented applicable water supply or water resource development projects since December 2015. See Section 2.8.4 of the Supplemental Applicant’s Handbook for more information.

Example #5 (Incorrect Calculation)

Using the same scenario as Example #1 above, this example shows how the provisions of Section 2.8 would be applied incorrectly.

A permittee has a total permitted allocation of 20 mgd, with 10 mgd from UFA and 10 mgd from surface water. The permittee’s 2025 Demonstrated Demand is 15 mgd. Here the 2025 Demonstrated Demand is *less* than the total allocation, so a reduction of 5 mgd was made to the UFA allocation. This brings the New Total Allocation to 15 mgd, with 5 mgd from the UFA and 10 mgd from surface water.

However, this is incorrect because the rule does not require changes to total allocation; rather it restricts any UFA allocations to the 2025 Demonstrated Demand. The 2025 Demonstrated Demand means the quantity of water needed to meet demands in 2025. Therefore, as the 2025 Demonstrated Demands is *more* than the current allocation for the UFA, there should be no change to the UFA allocation, as correctly shown in Example #1.

Current Allocation	2025 Demonstrated Demand	New UFA Allocation	New Total Allocation
Total: 20 mgd	Total: 15 mgd	5 mgd (reduction of 5 mgd)	Total: 15 mgd (reduction of 5 mgd)
<ul style="list-style-type: none"> <li>• 10 mgd UFA</li> </ul>			<ul style="list-style-type: none"> <li>• 5 mgd UFA</li> </ul>
<ul style="list-style-type: none"> <li>• 10 mgd surface water</li> </ul>			<ul style="list-style-type: none"> <li>• 10 mgd surface water</li> </ul>

**DESIGN AID 5:  
Guidelines for Preparation of Reuse Feasibility Studies for Consumptive Use  
Permit applicants**

[https://floridadep.gov/sites/default/files/feasibility\\_1.pdf](https://floridadep.gov/sites/default/files/feasibility_1.pdf)

## **DESIGN AID 6: Calculation of the Maximum Safe Yield of Well for the Prevention of Upconing**

This Design Aid 6 is intended solely to provide applicants with useful tools that may assist in presenting reasonable assurance that the withdrawal will not cause harmful upconing during the applicant's preparation of consumptive use permit applications under Chapter 62-41, F.A.C. The equation presented here is from: Schmorak, S. and A. Mercado. 1969. "Upconing of Fresh Water-Sea Water Interface Below Pumping Wells, Field Study." Water Resources Research, Vol. 5, No. 6, pp 1290 – 1311, and is based on several assumptions about the aquifer. The absence of applicable conditions may render the equation less relevant to an applicant's well. Therefore, an applicant is cautioned on relying on the equation as the sole basis for demonstrating reasonable assurance that its water withdrawal will not cause harmful saline water intrusion due to upconing, especially in cases where the assumptions do not reflect the conditions at the well site. It is recommended the applicant consult the publication and assumptions to determine its applicability.

When those assumptions have been met, the maximum amount of pumpage from any well may be constrained as follows:

$$Q = \left(\frac{2\pi}{3}\right) (b - l)^2 \left(\frac{\Delta\rho}{\rho}\right) K$$

Where:

- $Q$  is the maximum safe yield of well
- $b$  is the thickness of freshwater
- $l$  is the distance between top of aquifer and well screen
- $\rho$  is the density of freshwater
- $\Delta\rho$  is the change in density of freshwater
- $K$  is the hydraulic conductivity of the aquifer