

**APPLICANT'S HANDBOOK:
CONSUMPTIVE USES OF WATER**

**(Only Part I and Appendices G and I are incorporated
by reference in 40C-2.101(1)(a), F.A.C.)**



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- Appendix C – Applications Forms:
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- Appendix D – Guidelines for Developing and Conducting an Aquifer Performance Testing Program
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 - Water Use/Pumpage Report Form (EN-50), Form Number 40C-2.900(4)
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 - Water Audit Form and Instructions, Form Number 40C-2.900(7)
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- Appendix F – Water Saving Practices for Water Conservation Plans
- Appendix G – Rule 62-40.416(7)-(8), F.A.C
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PART I
POLICY AND PROCEDURES

1.0 General Provisions

Chapter 373, Florida Statutes (F.S.), enables and directs the District to regulate the use of water within its jurisdictional boundaries. The purpose of the consumptive use regulatory program is to ensure that those water uses permitted by the District are reasonable-beneficial, will not interfere with any presently existing legal uses of water, and are consistent with the public interest pursuant to Section 373.223, F.S. The District has adopted rules for regulating the consumptive use of water, which are set forth in Chapter 40C-2, Florida Administrative Code (F.A.C.). The Applicant's Handbook is incorporated by reference into Chapter 40C-2, F.A.C., and these documents must be read in conjunction, as applicable. In the event of a conflict between Chapter 40C-2 and the Applicant's Handbook, Chapter 40C-2 will control.

1.1 Definitions

- (a) Aquifer – A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield useful quantities of groundwater to wells and springs.
- (b) Back-Up Allocation – An allocation of water authorized for use during periods when the primary source becomes unavailable.
- (c) Chemigation – The application of pesticides through an irrigation system.
- (d) Consumptive Use – Any use of water which reduces the supply from which it is withdrawn or diverted.
- (e) Facility – Equipment used for the withdrawal of water from a particular source. Facilities may be, but are not limited to, wells, pumps, pipelines, flumes, canals, ditches, swales, artificial ponds, etc.
- (f) Fertigation – The application of fertilizers through an irrigation system.
- (g) Flow Meter – An instrument used for the precise measurement of water flow through a closed pipe.
- (h) Impact Offset – The use of reclaimed water to reduce or eliminate a harmful impact that has occurred or would otherwise occur as a result of other surface water or groundwater withdrawals.

- (i) Irrigation – The process of artificially applying water to plant growth media or directly to living plant material.
- (j) Landscape Irrigation – The outside watering of shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens and other such flora that are situated in such diverse locations as residential and recreation areas, cemeteries, public, commercial and industrial establishments, and public medians and rights of way.
- (k) Micro-Irrigation – The frequent application of small quantities of water on or below the soil surface as drops or tiny streams of spray through emitters or applicators placed along a water delivery line. Micro-irrigation includes a number of methods or concepts such as bubbler, drip, trickle, mist or microspray, and subsurface irrigation.
- (l) Off-Site Land Uses – Uses on real property that is not owned by the applicant or permittee.
- (m) Public Supply Utility – Any municipality, county, regional water supply authority, special district, public or privately owned water utility, or multijurisdictional water supply authority, that provides water for use by the general public.
- (n) Reasonable-Beneficial Use – The use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.
- (o) Reclaimed Water – Water that has received at least secondary treatment and basic disinfection, and is reused after flowing out of a domestic wastewater treatment facility.
- (p) Presently Existing Legal Use of Water – Those legal uses which exist at the time of receipt of the application for the consumptive use permit.
- (q) Reuse – The deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose.
- (r) Reuse Utility – A utility that produces reclaimed water or distributes reclaimed water to end users and includes other reclaimed water facilities. *New 11/3/15*
- (s) Seawater – Water from the sea, gulf, or ocean (excluding estuaries, lagoons, rivers, streams, and intracoastal waters), which has chloride concentrations at or above 19,000 milligrams per liter (mg/L).
- (t) Secondary Use – A consumptive use of water by an entity, separate from water supplier (see definition in paragraph (aa) below), whose use of water is supplied in whole or in part by a water supplier where the use of such water was not reviewed for consistency with the criterion in 3.10 and the applicable requirements contained in

2.3(a), (b), (c), (e), (f)4. and (h) as part of the consumptive use permit application for the water supplier.

- (u) Service Connection – The point of transfer of potable water or reclaimed water from a water supply distribution pipe to an individual user or separate occupancy unit (i.e. house, mobile home, apartment, condominium, commercial or industrial park unit, shopping center store, etc).
- (v) Substitution Credit – The use of reclaimed water to replace all or a portion of an existing permitted use of resource-limited surface water or groundwater, allowing a different user to use to initiate a withdrawal or increase its withdrawal from the same resource-limited surface water or groundwater source provided that the withdrawal creates no net adverse impact on the limited water resource or creates a net positive impact if required by district rule as part of a strategy to protect or recover a water resource.
- (w) Two in Ten Year Drought – A drought, the severity of which statistically may be expected on the average of two years in a ten year period.
- (x) Water Audit – An accounting of all water into and out of a use facility as well as an in-depth record and field examination of the distribution system that carries the water, with the intent to determine the operational efficiency of the system and identify sources of water loss and revenue loss.
- (y) Water Conservation Plan – A formal document containing a combination of goals, objectives and methods, and an implementation schedule of actions specifically designed to maximize water conservation and water use efficiency.
- (z) Water Conservation Promoting Rate Structure - A water supply utility rate structure designed to encourage the utility’s water customers to reduce discretionary water use by providing financial incentives to the customers to conserve water.
- (aa) Water Supplier – An entity, such as a water utility, that has obtained a consumptive use permit to withdraw water, of which some portion is distributed to another entity for a secondary use.
- (bb) Water Supplier/Secondary Use Group – A collection of permitted water uses encompassing the withdrawal and use of water. The members include the water supplier and persons to whom a portion of this water is distributed for a secondary use.
- (cc) Water Table – That surface of a body of unconfined groundwater at which the pressure is equal to that of the atmosphere; defined by the level at which water within an unconfined aquifer stands in a well that penetrates the aquifer far enough to hold standing water.

(dd) Well – Any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for the location, acquisition, development or artificial recharge of groundwater, but such term does not include any well for the purpose of obtaining or prospecting for oil, natural gas, minerals, or products of mining or quarrying, for inserting media to dispose of oil brines or to repressure oil-bearing or natural gas-bearing formation, or for storing petroleum, natural gas, or other products, or for temporary dewatering of subsurface formations for mining, quarrying, or construction purposes.

1.2 Acronyms and Abbreviations

The following acronyms and abbreviations are used in the Applicant’s Handbook:

APT	aquifer performance test
ASR	aquifer storage and recovery
BEBR	University of Florida Bureau of Economics and Business Research
CUP	consumptive use permit
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
GPCD	gallons per capita day
GPD	gallons per day
IFAS	University of Florida, Institute of Food and Agricultural Sciences
MFL	minimum flow and level
mg/L	milligrams per liter
MG	million gallons
PSC	Public Service Commission
RPC	Regional Planning Council
SWM	surface water management

1.3 Consumptive Use Permit Program Overview, Objectives, Organization, and Authorizations

The objective of the Applicant’s Handbook is to identify the general procedures and information used by District staff for review of consumptive use permit applications. In addition, procedures for processing consumptive use permit applications are set forth in Chapters 40C-1 and 40C-2, F.A.C. Rule 40C-1.610, F.A.C., provides procedures for permit renewals and Rule 40C-1.612, F.A.C., sets forth procedures for permit transfers.

1.3.1 Policy

In implementing the consumptive use permitting program established by Chapter 40C-2, F.A.C., a policy of the District is to assist those affected in understanding the program and in completing applications.

1.3.2 Purpose

It is the purpose of this Handbook to provide the applicants, potential applicants, and others interested with information regarding the consumptive use permitting program. The criteria which are explained in Part I of this Handbook are those which have been approved by the Governing Board for use by District staff in evaluating consumptive use permit applications. The staff recommendation on permit approval or denial will be based upon the criteria for evaluation.

1.3.3 Organization

This Handbook is divided into two parts that provide information regarding the permitting process and criteria (Part I) and supplemental materials such as relevant rules and forms (Part II).

Additional information may be obtained by going to floridaswater.com or contacting:

Bureau of Water Use Regulation
4049 Reid Street
Palatka, Florida 32177-2529
(386) 329-4500

1.3.4 Applicable Statutes and Rules

The criteria for evaluation of consumptive use permits have been developed from guidelines established in Chapter 373, F.S., (Water Resource Act of 1972); Chapter 62-40, F.A.C., (Water Resource Implementation Rule); and Governing Board policy as stated in Chapter 40C-2, F.A.C., (Consumptive Uses of Water), in this Handbook, and in permitting decisions. The consumptive use permit application process is governed by Chapter 373 and Chapter 120, F.S., and Chapters 28-106, 28-107, 40C-1, and 40C-2, F.A.C. Links to Chapters 40C-1 and 40C-2 are available in Appendices A and B in Part II of this Handbook, and should be consulted for a comprehensive understanding of the application process.

1.3.5 Existing Use/Proposed Use Distinction

1.3.5.1 Existing Uses

In establishing the consumptive use permitting program, the Water Resources Act of 1972 (Chapter 373, F.S.) provided that uses which are existing on the effective date of implementation of Chapter 40C-2, F.A.C., are to be evaluated according to whether the use is:

- (a) Reasonable-beneficial; and

(b) Allowable under the common law of the State of Florida.

(See Section 1.3.6 of this Handbook.)

Such users must file an application within two years of the effective date of implementation in an area in order to preserve their status as an existing user. Otherwise, the use will not be considered as an existing legal use, and upon application for a permit will be considered a proposed new use.

1.3.5.2 Failure to apply for a permit when the use requires a permit under Rule 40C-2.041, F.A.C., within two years of the effective date of implementation (see Subsection 1.4.1.1 of this Handbook) will create a presumption that the use has been abandoned. If the user intends to make further use of the water, the user will be required to submit an application which will be evaluated using the criteria established for a proposed use (see Subsection 1.3.5.3 of this Handbook).

1.3.5.3 Proposed Uses

Chapter 373, F.S., also provides that, in order to receive a permit, an applicant must establish that a proposed use of water:

- (a) Is reasonable-beneficial;
- (b) Will not interfere with any presently existing legal use of water; and
- (c) Is consistent with the public interest.

(See Section 1.3.7 of this Handbook.)

1.3.6 Criteria for Evaluating Existing Uses

Section 373.226, F.S., provides a two-prong test for evaluating uses which are existing on the effective date of implementation: (1) it must be reasonable-beneficial; and (2) it must be allowable under the common law of the State.

1.3.6.1 Reasonable-Beneficial

The District will utilize the criteria established in Subsection 40C-2.301(2), F.A.C. and explained in Section 2.3 of this Handbook to determine whether a use is reasonable-beneficial.

1.3.6.2 Allowable Under the Common Law

1.3.6.2.1 Common law provided for situation-specific judicial resolution of conflict between water users. Utilizing the common law

doctrine of riparian rights or reasonable use, a court makes a determination between two competing water users, as to which one is to be preferred over another or whether one water use would be allowed to the preclusion of another. In making such a determination, a court utilizes a number of judicially created factors. The factors used by courts have evolved over the last two centuries and have been more or less universally accepted throughout the eastern United States in deciding water rights. The District will examine the common law in determining whether an existing use (see Subsection 1.3.5.1) is allowable under the common law of the State. Existing uses, to be continued following implementation, must be reasonable-beneficial and must be allowable under the common law of the State.

1.3.6.2.2 Florida's common law for water is primarily based upon the riparian doctrine. Essentially, this doctrine provides that all qualified users have equal right to the reasonable use of surface water and groundwater. Nine factors have been identified as being important in determining whether a use is "reasonable":

- (a) The purpose of the respective use;
- (b) The suitability of the use to the watercourse or lake;
- (c) The economic value of the use;
- (d) The social value of the use;
- (e) The extent and amount of harm caused by the use;
- (f) The practicability of adjusting the quantity of the water used by each use;
- (g) The protection of existing values of land, investments, and enterprises;
- (h) The burden of requiring the users causing harm to bear the loss; and
- (i) The practicality of avoiding harm.

1.3.6.2.3 Because the common law relies on situation-specific decisions, the District must use the common law criterion in permit evaluation and decisions for existing uses as it applies to each individual applicant's situation. In conducting such an evaluation,

the District will utilize the nine factors listed in Section 1.3.6.2.2 above, as they have evolved under the common law.

1.3.7 Criteria for Evaluating Proposed Uses

Section 373.223, F.S., provides a three-prong test for evaluating each proposed use: (1) it must be a reasonable-beneficial use (see Section 2.3); (2) it must not interfere with any presently existing legal use of water (see Subsection 1.3.7.2); and (3) it must be consistent with the public interest (see Section 3.10 and Subsection 1.3.7.3).

1.3.7.1 Reasonable-Beneficial

The District will utilize the criteria established in Section 2.3 of this Handbook to determine whether a use is reasonable-beneficial.

1.3.7.2 Interference with Presently Existing Legal Uses

1.3.7.2.1 The use of water must not cause an interference with a legal use of water which existed at the time of the application for the initial consumptive use permit.

1.3.7.2.2 Interference with a legal use of water is defined as a decrease in the withdrawal capability of any individual withdrawal facility of a legal use of water which was existing at the time of the application for the initial permit such that the existing user experiences economic, health, or other type of hardship. A proposed use must not cause the water table level or aquifer potentiometric surface to be lowered so as to cause interference with an existing legal use of water.

Interference is considered to occur when the withdrawal capability of any individual withdrawal facility of a presently existing legal use of water experiences a 10% or greater reduction in withdrawal capability or when the existing user experiences economic, health, or other type of hardship as a result of the new use.

The percentage reduction in withdrawal capability is calculated in the following way:

$$\% \text{ Reduction} = \frac{\text{(withdrawal capability prior to impact (gpm) - withdrawal capability after impact (gpm))}}{\text{withdrawal capability prior to impact}} \times 100$$

If presently existing legal uses rely on wells fitted with centrifugal pumps, then the evaluation of interference will be made assuming that the length of the drop pipe is equal to the lift capability of the centrifugal pump affixed to the well.

If presently existing legal uses rely on wells fitted with non-centrifugal pumps, or on centrifugal pumps other than described in the aforementioned cases, the District will evaluate adverse impacts on a case-by-case basis.

If the requested allocation will not cause an interference with legal uses of water which existed at the time of permit application, and it also meets all other conditions for issuance, then this will be the amount allocated. If the requested volume causes an interference, then staff will calculate the allocation that will not interfere with legal uses of water that existed at the time of permit application and recommend this amount as a maximum allocation unless the interference is eliminated by the applicant.

1.3.7.3 Public Interest

For purposes of this section and Section 3.10, "public interest" means those rights and claims on behalf of people in general. In determining the public interest in consumptive use permitting decisions, the District will consider whether an existing or proposed use is beneficial or detrimental to the overall collective well-being of the people or to the water resource in the area, the District and the State.

1.3.7.4 Sections 1.3.7.1 and 1.3.7.2 shall not be construed so as to affect the evaluation of the public interest under the provisions of Sections 373.223 and 373.233, F.S., and Rules 40C-2.301 and 40C-2.311, F.A.C.

1.4 Permitting Procedures

1.4.1 Implementation Date of the Consumptive Use Permitting Program

1.4.1.1 The effective dates of implementation are found in Rule 40C-2.031, F.A.C. (see Appendix B). There are three geographic regions in the District which are used in determining the effective date of implementation of the consumptive use permitting program (Figure 1.4.1-1). These are:

- (a) The Upper St. Johns River Basin (Area A of Figure 1.4.1-1) – effective date December 31, 1976.
- (b) The Green Swamp Subbasin (Area B of Figure 1.4.1-1) – effective date December 1, 1980.

(c) The remaining portions of the District (Area C of Figure 1.4.1-1) – January 1, 1983.

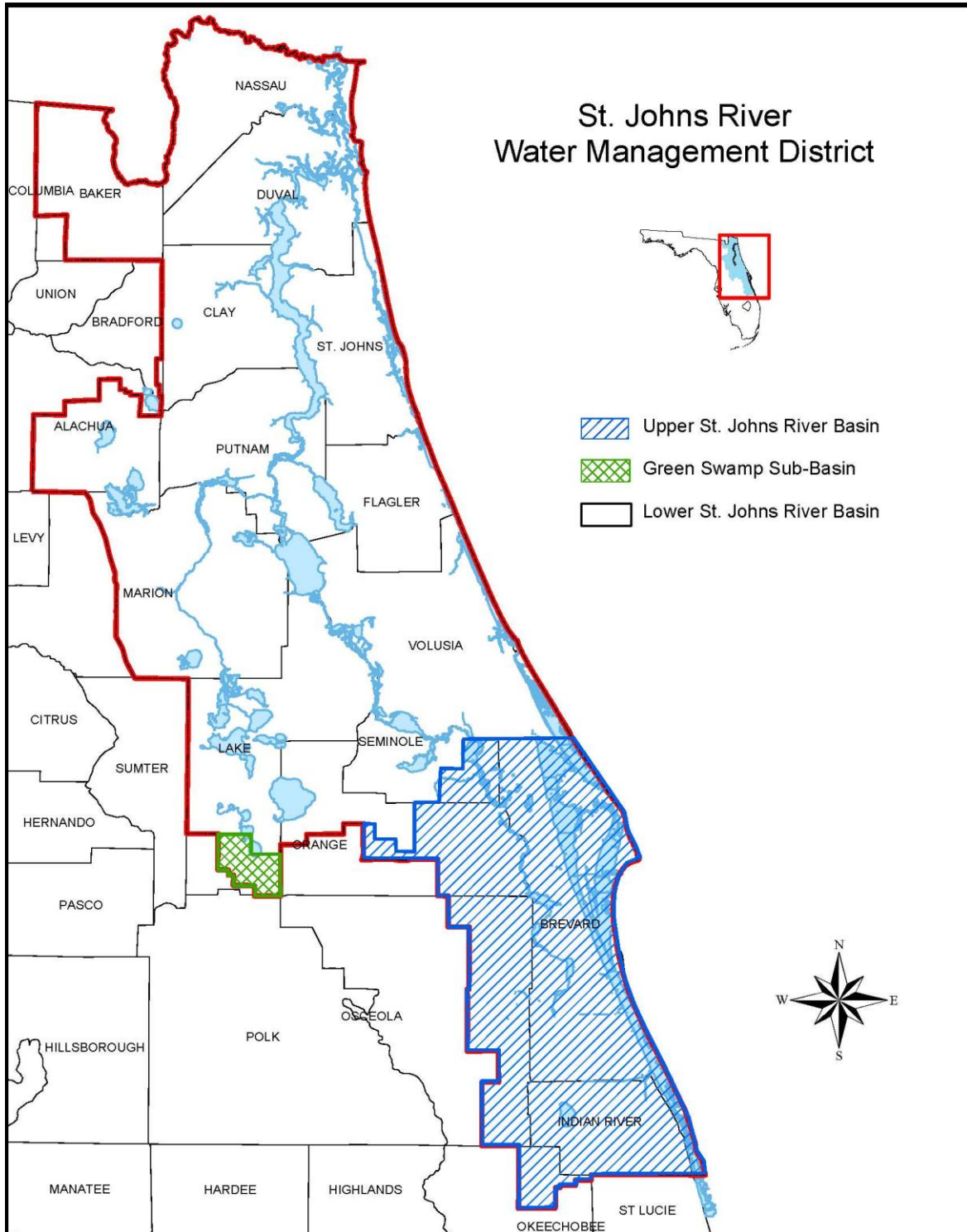


Figure 1.4.1-1 Areas within the District having differing effective dates for implementation of Consumptive Use Rules

- 1.4.1.2** The effective date of implementation for the District's general water use permitting program (Chapter 40C-20, F.A.C.) was July 23, 1991. This program was implemented for the entire District on that date. Effective August 14, 2014, existing standard general water use permits are converted to individual consumptive use permits. The permitting thresholds in Rule 40C-2.041(1), F.A.C., and fees in Rule 40C-1.603(1), F.A.C., will apply to these converted permits.
- 1.4.1.3** The effective date for the program implemented within the Delineated Area regulating the use of water from wells with casing diameters between three point five and six inches and regulating freeze protection uses not previously permitted was December 6, 1993. The Delineated Area was defined as beginning at the confluence of Deep Creek and the St. Johns River, thence Southerly along the St. Johns County - Flagler County line to State Road No. 11; thence Southerly along State Road No. 11 to State Road No. 15; thence Southerly along State Road 15 to the Southern boundary of Section 17, Township 17 South, Range 30 East; thence Westerly along the Section lines to the St. Johns River; thence Northerly along the St. Johns River to the Western boundary of Section 18, Township 13 South, Range 27 East; thence Northerly along the Section lines to State Road No. 309; thence Northerly along State Road No. 309 to US Highway No. 17; thence Northerly along US Highway No. 17 to the St. Johns River; thence Northerly along the St. Johns River to the confluence of Rice Creek and the St. Johns River; thence Westerly along Rice Creek to US Highway No. 17; thence Northerly along US Highway No. 17 to State Road No. 209; thence Easterly and Southerly along State Road No. 209 to the Southerly line of Section 26, Township 8 South, Range 27 East; thence Easterly along said prolongation and along the Section lines to the St. Johns River where it intersects the St. Johns County boundary line; thence Southerly to the Point of Beginning at the confluence of Deep Creek and the St. Johns River. With the adoption of revisions to Rule 40C-2.041(1), F.A.C., certain permits within the Delineated Area are no longer required. Permittees may request that the District rescind such permits.
- 1.4.1.4** The effective date of implementation of the District's secondary use permit (those uses requiring a permit pursuant to paragraph 40C-2.041(1)(f), F.A.C., and Section 1.4.2.2) is February 15, 1995.
- 1.4.1.5** The significance of the designated effective date is that it and the date of application are used to determine which criteria are to be used in evaluation of an initial permit application. Those uses existing on the effective date of implementation are to be evaluated using the criteria described in Section 1.3.6 of this Handbook, provided a substantially

completed application is received by the District within two years of the date of implementation (see Subsection 40C-2.301(1), F.A.C.). Those uses which are to commence after the effective date of implementation for each area or for which a substantially completed application was not filed in the two year time period are to be evaluated using the criteria described in Section 1.3.7 of this Handbook (see Subsection 40C-2.301(1), F.A.C.).

- 1.4.1.6** Those users who were not required to obtain a consumptive use permit under the provisions of previous District consumptive use rules but who are required to obtain a permit after January 1, 1983, are required to obtain a permit, even if the use is in an area which has an earlier implementation date.

1.4.2 Thresholds

1.4.2.1 The District issues consumptive use permits in two forms, individual permits and general permits by rule. Unless the consumptive use is expressly exempted in Rule 40C-2.051, F.A.C., or qualifies for a general permit by rule in Rule 40C-2.042, F.A.C., the Board hereby requires an individual consumptive use permit for any of the following:

- (a) Average annual daily withdrawal equal to or exceeding one hundred thousand (100,000) gallons average per day on an annual basis.
- (b) Withdrawal equipment or other facilities which have a capacity equal to or exceeding one million (1,000,000) gallons per day.
- (c) Withdrawals from a combination of wells or other facilities, having a combined capacity equal to or exceeding one million (1,000,000) gallons per day.
- (d) Withdrawals from a well in which the outside diameter of the largest permanent water bearing casing is six (6) inches or greater at ground surface. This paragraph shall not apply when the well owner or well contractor can demonstrate that the well was constructed with a smaller diameter water bearing casing below ground surface prior to August 14, 2014, and that smaller diameter casing is still in place.
- (e) Withdrawals from surface water facilities which have an intake diameter or cumulative intake diameter of six (6) inches or greater. For purposes of this paragraph, the intake diameter of the surface water facility is the diameter at the end of the intake pipe.

- 1.4.2.2** Any secondary use of water which exceeds 100,000 gallons per day (estimated on an average annual basis), and was not reviewed for consistency with the criterion in Section 3.10 and the applicable requirements contained in paragraphs 2.3(a), (b), (c), (e), (f)4. and (h) as part of the consumptive use permit application for the water supplier, must obtain a consumptive use permit. In determining whether the 100,000 gallons per day threshold is met, total withdrawals for all uses on contiguous properties that are owned, operated, or controlled by an individual, corporation, governmental agency, or other person shall be considered. Such secondary use need only satisfy the criterion in Section 3.10 and the applicable requirements contained in paragraphs 2.3(a), (b), (c), (e), (f)4. and (h). The requirement to obtain a permit under this paragraph will provide greater water savings and assurances that all uses of water are consistent with the public interest and are reasonable-beneficial. This will be achieved through the creation of a direct permitting relationship between the District and persons with secondary uses, alleviating the water supplier from the burden to satisfy all of the District's consumptive use permitting criteria for each of the secondary uses.
- 1.4.2.3** Except for secondary uses, the requirement for obtaining a permit is associated with the initial consumptive use.
- 1.4.2.4** Those thresholds in paragraphs 1.4.2.1(a) through (c) and Subsection 1.4.2.2 refer to the total capacity of the water withdrawal equipment, wells, or other facilities located on contiguous or physically proximate properties that either share the same irrigation infrastructure or are owned, operated or controlled as a common enterprise or system.
- 1.4.2.5** A water user shall obtain one permit for all withdrawals that are intended to serve contiguous property. Two or more properties represented to be separate properties shall be aggregated and treated as a single property for permitting purposes when the District determines that the properties are physically proximate and (a) either share the same irrigation infrastructure or (b) are operated as a common enterprise. However, when multiple use types, as defined in Rule 40C-2.501, F.A.C., are served by separate withdrawal facilities, the District is authorized to issue separate individual permits. For example, a farm on contiguous property which has four wells must apply for one permit; the application will include information about each of the wells, the intended use for the water from each well, or pump, and a general indication of when the water will be withdrawn. This requirement to aggregate two or more properties shall not apply when the separate properties have existing permits that require metering for all withdrawals or the water user requests a permit modification to the permits to require metering for all withdrawals.

1.4.2.6 Water users who will conduct withdrawals from points which are not intended to serve one contiguous property may submit a single permit application for all withdrawal points collectively.

1.4.2.7 If the permittee seeks to change the requirements and circumstances under which the existing permit was issued, the permittee must submit an application to modify the permit, except as provided in Subsection 1.4.3.3 below.

1.4.3 Permits Required

1.4.3.1 A permit is required for the following activities:

- (a) After two years from the date of implementation, to continue a use which was existing on the date of implementation, if that use meets or exceeds the thresholds established in Rule 40C-2.041, F.A.C. (see also Subsection 1.4.2.1 above).
- (b) After the date of implementation to commence a new use, if such use meets or exceeds the thresholds established in Rule 40C-2.041, F.A.C. (see also Subsection 1.4.2.1 above).
- (c) To continue a use after the expiration date specified on a permit granted by the District, if such use meets or exceeds the thresholds established in Rule 40C-2.041, F.A.C. (see also Subsection 1.4.2.1 above).

See Section 1.4.4 for application information or sections 1.3.4 – 1.3.7, 2.2, and 2.3 for information regarding criteria for evaluation.

1.4.3.2 Transfers *Revised 11/3/15*

The permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the project and/or related facilities from which the permitted consumptive use is made. Where permittee's control of the land subject to the permit was demonstrated through a lease, the permittee must either submit documentation showing that it continues to have legal control or transfer control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40C-1.612, F.A.C., including the information required by Subsection 40C-1.612(1). A permit transfer request may be made filling out District Form Number 40C-2.900(14) (Consumptive Use Permit Transfer Request). (See Appendix E). While filling out Form Number 40C-2.900(14) is optional, it will help facilitate review of the transfer request. Upon receipt of a completed

Consumptive Use Permit Transfer Request form, the District shall approve the permit transfer unless it determines the proposed permittee has failed to provide reasonable assurance that it qualifies to be a permittee or that it can meet the permit conditions. Alternatively, the permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

See Section 1.4.7.2 for information regarding evaluation criteria which will be applied to transfer of a permit.

See Section 1.4.3.3.5 for information regarding the procedure for voluntary rescission of a permit.

1.4.3.3 Modification of Permits *Revised 11/3/15*

(a) A request for modification of a valid permit may be made by submitting a letter or an application form, as set forth in Subsection 1.4.3.3. Many permit modifications may be requested by submittal of a letter; however, the following permit modifications are specifically excluded from the letter modification process:

1. Requests to increase the duration of the consumptive use authorization, except for:
 - a. Increases in duration that meet the criteria for a water conservation incentive permit extension under Subsection 1.4.3.3.1(c), or
 - b. Increases in duration due to a change in statutory law that authorizes a longer permit duration;
2. Requests to increase the consumptive use allocation(s), except for:
 - a. Increases in use of water from a man-made surface water management system that do not increase the allocation by 100,000 or more gallons per day on an annual average basis, or
 - b. The addition of landscape irrigation of less than one acre, or
 - c. Increases due to a change from an annualized incremented allocation to an end of permit (total quantity) annual allocation; or

- d. Increases in allocation due to combining multiple permits into one permit (e.g., combining a 1 MGD permit and a 2 MGD permit into a single 3 MGD permit), without increasing the duration or changing the distribution of the allocation of any of the permits except as allowed by other provisions of this paragraph;
3. Requests to change the permitted use type;
4. Requests to change the permitted use within a use type that has been allocated in the permit (e.g., change from potato irrigation to cabbage irrigation), unless it does not increase the consumptive use allocation(s);
5. Requests to add withdrawal points, unless the addition:
 - a. Is for backup-allocation purposes to increase the permittee's ability to meet peak demands, or
 - b. Is for the use of water from a man-made surface water management system;
6. Requests to change the source(s) of withdrawal(s), unless the change is to use water from a man-made surface water management system; or
7. Requests to change the location(s) of withdrawal point(s), unless the change:
 - a. Is for the relocation or addition of withdrawal point(s) from a man-made surface water management system, or
 - b. Is for the relocation of a proposed well or replacement of an existing well with a well producing from the same hydrostratigraphic unit as the proposed well or existing well so long as the relocated or replacement well does not cause impacts to the water resources of the area or existing offsite land uses beyond those evaluated under the consumptive use permit, and the total designed pumping capacity of the relocated or replacement well is less than or equal to the designed pumping capacity of the proposed or existing well that was authorized under the consumptive use permit.

- (b) When a request for modification submitted by letter is excluded from the letter modification process under paragraph 1.4.3.3(a) above, then the request shall be processed by the applicant submitting an application using Form Number 40C-2.900(1), 40C-2.900(2), or 40C-2.900(3), as applicable. (See Appendix C)

1.4.3.3.1 Letter Modification

- (a) A request for modification submitted by letter must reference the full permit number and must describe the proposed modification.
- (b) Within 30 days after a request for modification submitted by letter is complete, the District staff shall issue the new modification if District staff find that the request meets the applicable criteria in Rule 40C-2.301, F.A.C. If District staff find that these criteria are not met, the permit holder shall be notified within 30 days after completeness that the request shall be processed as an individual permit application recommended for denial; however, no additional fee shall be required.
- (c) In order to promote significant water savings beyond that required to achieve efficient water use in the permit, a public water supply permittee implementing a standard water conservation plan or a goal-based water conservation plan shall receive a permit extension for quantifiable water savings attributable to water conservation when the following conditions are met:
 1. The permittee must be in compliance with the conditions of its permit.
 2. The permittee must demonstrate quantifiable water savings exceeding those required in the permit. Acceptable methods for quantifying water savings include reduction in residential per capita, gross per capita, per service connection use, or the use of treated potable water for outdoor irrigation. The quantification method used must be consistent with the calculation of demand used to establish the currently permitted allocation.
 3. The permittee must demonstrate a need for the conserved water to meet the projected demand through the term of the extension.

4. The permittee demonstrates water savings sufficient to qualify for at least a one-year permit extension.
 5. The permit extension shall provide only for the modification of the duration of the permit and shall not be used to increase the quantity of the allocation.
 6. The permittee must demonstrate that water savings were achieved through water conservation and not as a result of population changes, economic or other factors unrelated to conservation. In the absence of factors unrelated to conservation, if the permittee demonstrates timely implementation of its District-approved conservation plan, then the water savings shall be attributed to implementation of the conservation plan.
 7. The specific duration of the extension will be calculated based on the quantity of water saved through conservation and the demonstration of water demand based on projected growth, as calculated at the time of the extension request.
 8. A permittee may request an extension no sooner than five years after issuance of the original permit, and be granted extensions no more frequently than every five years thereafter.
 9. For permits with a duration of five years or less, a permittee may request an extension no sooner than one year prior to the original permit expiration date.
 10. Multiple permit extensions may be requested to reflect additional water saved over the term of the permit. However, in no case shall the cumulative duration of all extensions exceed ten years from the original permit expiration date.
- (d) Modification by letter in accordance with Subsection 1.4.3.3(a) above must be approved and acknowledged in writing through correspondence to the applicant by a District staff member designated by the District Executive Director.

1.4.3.3.2 Procedure for Modification or Renewal of Permits

If the permit requested to be modified or renewed was processed as a staff-issued individual consumptive use permit application, then the request for modification or renewal shall be processed as a staff-issued individual consumptive use permit application, unless Section 1.4.5.5.3 is applicable. In such a case, the request shall be reviewed as an individual permit application with review by the Board. For any subsequent modification or renewal of a permit that was previously reviewed as an individual permit application solely due to Subsection 1.4.5.5.3(c), the request for modification or renewal shall be processed as a staff-issued individual consumptive use permit application, unless Section 1.4.5.5.3 is applicable.

1.4.3.3.3 A permittee may apply to the District for renewal of a permit no earlier than one year prior to the termination of the permit unless the permittee shows good cause for earlier consideration. An example of good cause is the implementation, in whole or in part, of a prevention or recovery strategy established pursuant to Section 373.0421, F.S.

1.4.3.3.4 A temporary consumptive use permit may be issued while the application for a consumptive use permit is pending. See Section 1.4.4.2 for application information and Section 1.4.7.3 for information regarding criteria for evaluation.

1.4.3.3.5 Procedure for Voluntary Rescission of Permit *New 11/3/15*

District staff is authorized to administratively cancel a permit when the permittee, or permittee's authorized agent, surrenders the consumptive use permit to the District, thereby relinquishing the right to use water under that permit. Permit rescission shall be requested using District Form Number 40C-2.900(13)(Voluntary Rescission of Consumptive Use Permit). (See Appendix E) A permittee surrendering a permit shall ensure that all ground water wells have been either properly capped or plugged and abandoned according to subsection 40C-3.521(2), F.A.C., and that all surface water withdrawal points have been dismantled.

1.4.4 Application Preparation

1.4.4.1 Pre-Application Conference

1.4.4.1.1 At the applicant's request, District staff will arrange for and participate in a pre-application conference. At a pre-application conference the staff will be prepared to discuss with the applicant such information as:

- (a) Application completion, processing and evaluation procedures;
- (b) Hydrologic information which will be required for evaluation of the application (see Section 3.1.1 of this Handbook);
- (c) Hydrologic information which is available at that time;
- (d) The criteria which will be utilized in evaluation of the application; and
- (e) Other hydrologic, environmental or water quality concerns known to the staff, based on published reports and available information.

1.4.4.1.2 To schedule a pre-application conference, potential applicants should contact the Bureau of Water Use Regulation at the closest District service center listed below:

St. Johns River Water Management District
Palatka Service Center
4049 Reid Street
Palatka, FL 32177-2529
(386) 329-4500

St. Johns River Water Management District
Maitland Service Center
601 South Lake Destiny Road, Ste. 200
Maitland, FL 32751
(407) 659-4800

St. Johns River Water Management District
Jacksonville Service Center
7775 Baymeadows Way, Suite 102
Jacksonville, FL 32256
(904) 730-6270

St. Johns River Water Management District
Palm Bay Service Center
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 984-4940

1.4.4.2 Forms and Instructions

The application forms for an individual consumptive use permit have been adopted as rules in Rule 40C-2.900, F.A.C., as Form Numbers 40C-2.900(1), 40C-2.900(2), and 40C-2.900(3). Links to these forms are available in Appendix C of this Handbook. The appropriate form must be used for the application for a permit as well as an application for a renewal, temporary use, or modification unless the modification request qualifies for a letter modification under Subsection 1.4.3.3(a). An application which includes a request for a temporary use permit must be accompanied by a letter stating why such a permit is needed.

1.4.4.3 Additional Information

1.4.4.3.1 Except in the review of applications for a secondary use, in order to properly evaluate the impacts of a withdrawal, the District may require the submission of detailed hydrologic information in addition to that which is requested on the application form.

1.4.4.3.2 If such information is required, then it will be requested at the time of the pre-application conference or usually within 30 days of the filing of a completed application form (see Section 1.4.5.3 of this Handbook). Failure to correct an error or omission or to supply additional information shall not be grounds for permit denial unless the District timely notifies the applicant within this 30-day time period.

1.4.4.3.3 Information which may be requested includes that which will be obtained from the hydrologic testing program described in Section 3.1.1 of this Handbook.

1.4.4.4 Permit Processing Fee

The non-refundable permit processing fee as specified in Rule 40C-1.603, F.A.C., must be submitted concurrently with the filing of the application. An application submitted without the fee will not be considered complete, and the applicant will be so notified (see Subsection 1.4.5.3.2).

1.4.4.5 Checklist for Application Completeness

The following items must be submitted at the time of an application:

- (a) An application form with all spaces filled in;
- (b) The application fee; and
- (c) A water conservation plan, if applicable under Section 2.2 of this Handbook.

1.4.5 Procedures for Processing

1.4.5.1 Procedures Required

1.4.5.1.1 For individual permit applications, the District is required to follow certain procedural guidelines set forth in Chapter 120, F.S., the Administrative Procedures Act, and Chapters 28-101 through 28-110, F.A.C., the Uniform Rules of Procedure. These guidelines provide rules of procedure and public visibility for all District activities which affect the public; this includes the scheduling of meetings, establishment of rules and criteria, and the procedures to be followed in reviewing and acting on permit applications. Additionally, the District has adopted Chapter 40C-1, F.A.C., Organization and Procedure, which describes the District's organization and clarifies the specific procedures of the St. Johns River Water Management District.

1.4.5.1.2 This section provides a brief overview of the procedures which the District will follow in receiving, processing, and acting on individual consumptive use permit applications. It is not a substitute for Chapter 120, F.S., or Chapters 28-106, 28-107, and 40C-1, F.A.C., but is rather to be considered a brief explanation of District procedures which conform to Chapters 120, 28-106, 28-107, and 40C-1.

1.4.5.1.3 A link to Chapter 40C-1, F.A.C., is available in Appendix A.

1.4.5.2 Initial Receipt

1.4.5.2.1 When the application form is completed and signed, it must be submitted electronically at floridaswater.com or delivered to the address indicated on the form. The application should include any supporting documentation, and the appropriate permit processing fee (see Section 1.4.4.5 for completion checklist).

1.4.5.2.2 The District then conducts a review of the application to determine that all information listed in Section 1.4.4.5 is included. If the application does not contain all of the required information, the necessary additional information will be requested from the applicant. If all of the required information is included, the application is assigned to a member of the technical staff for review and evaluation using the criteria discussed in Part I of this Handbook.

1.4.5.3 Request for Additional Information

1.4.5.3.1 The first step of this review process is to determine if all the technical data needed for a complete review of the application has been provided. In most cases the information requested on the application form is sufficient to evaluate the use against the criteria listed in Part I of this Handbook. In those cases where the information is not sufficient, the District staff will request that the additional information be supplied and will inform the applicant as to the reason that such information is required. The type and amount of information varies, depending upon the impact of the proposed use. Examples of data that may be required include:

- (a) Historical records (withdrawals and water quality),
- (b) Well construction data,
- (c) Well logs,
- (d) Aquifer pumping tests,
- (e) Well surveys,
- (f) Projections of future use,
- (g) Information supporting need for quantities requested, and
- (h) Information regarding any permits required under the provisions of Chapters 40C-4 or 62-330, F.A.C., which may impact upon, or be impacted by the use.

1.4.5.3.2 Whenever the District requests additional information, the request will be accompanied by citation of a specific rule pursuant to Section 373.232, F.S. If the application is determined to be incomplete, the District will request the necessary additional technical information within 30 days after the receipt of the application. Failure to correct an error or omission or to supply additional information shall not be grounds for denial of

the application unless the agency timely notifies the applicant within the 30-day time period.

1.4.5.3.3 The applicant has 120 days from the date of the request for additional information to supply that information to the District. If an applicant requires more than 120 days in which to complete an application, the applicant may notify the District in writing of the circumstances and for good cause shown the application shall be held in active status for additional periods commensurate with the good cause shown. As used herein, good cause means a demonstration that the applicant is diligently acquiring the requested information, and that the additional time period requested is both reasonable and necessary to supply the information.

1.4.5.3.4 If, within the given time frame, the applicant does not submit requested information (which was requested within 30 days after receipt of the application), the application will be prepared for denial based on Rule 40C-1.1008, F.A.C. (see Appendix A). In such instances, a notice of intent to deny will be provided to the applicant no less than 14 days prior to the meeting at which the Board will consider denial.

1.4.5.4 Individual Permits with Board Review

1.4.5.4.1 Staff Evaluation

1.4.5.4.1.1 When the individual permit application is complete, the staff will commence with the technical review of the application. Criteria used in the evaluation are defined and discussed in Part I of this Handbook.

1.4.5.4.1.2 When the technical staff has completed its review and determined if the recommendation will be for approval or denial, the application is then reviewed by the Director of the Division of Regulatory, Engineering & Environmental Services and the Chief of the Bureau of Water Use Planning and Regulation to determine that the recommendation is consistent with the criteria for evaluation (see Part I).

1.4.5.4.1.3 All reviews will be completed and the application will be approved or denied within 90 days after the application is determined to be complete.

1.4.5.4.1.4 The applicant should be given a minimum 14 days notice when the staff's review is complete and the application has been scheduled for District action on the application. A copy of the staff report, which recommends approval or denial, will also be made available. The applicant is advised to read the report carefully. If any part of the report is in error, or if the applicant does not agree with the staff's recommendation, the applicant should immediately contact the District staff.

If after contacting District staff regarding its report, the applicant is still dissatisfied with the staff's position, by waiving the 90-day time frame, the applicant has the option of requesting that the District staff take additional time to meet with the applicant to further discuss the application, the applicant's position, and the staff's position.

1.4.5.4.1.5 Notification to Public for Input

When the District receives an application, it will provide notice that an application has been received. Such notice will be given by regular mail to those persons who have previously filed a written request for notification of pending applications within the affected area. The District will also publish a notice of the pending application in a newspaper having general circulation in the affected area.

1.4.5.4.1.6 Objections

In order for the District staff to properly evaluate any information which interested persons may submit regarding an application, these persons should contact the District within 14 days of the date of publication of notice of receipt of application and provide their objections, comments or information regarding the proposed withdrawal in writing.

Notice of intended agency action will be provided to the applicant and to persons who have requested notice as required by Section 120.60, F.S. An applicant or a person whose substantial interests may be determined by the intended agency action may request an administrative hearing in accordance with Chapter 120, F.S., Chapter 28-106, F.A.C., and Rule 40C-1.1007, F.A.C. Making a

written objection or appearing at a Board meeting does not make a person a “party” for Chapter 120, F.S., purposes.

1.4.5.4.2 Regulatory Meeting

1.4.5.4.2.1 The Governing Board of the SJRWMD normally meets on the second Tuesday of each month to act on permit applications that have not been delegated to District staff to approve. (See the District’s Statement of Agency Organization and Operation at floridaswater.com for a listing of these regulatory delegations.) At each regulatory meeting the Board has copies of the staff reports, along with the staff’s recommendations, which were provided to them several days before the meeting to allow time for consideration. When applications are presented to the Board for action, the Board invites comments from the applicants, District staff, persons who may be impacted by the use, and members of the general public. However, if no requests to speak concerning an application are made at the meeting, the application may be presented to the Governing Board on a consent agenda and therefore may not receive individual consideration.

1.4.5.4.2.2 Upon presentation of an application, the Board will either approve the application, deny the application, or continue the application for consideration at a later day within applicable time frames established by the provisions of Chapter 120, F.S.

1.4.5.5 Staff-issued Individual Permits *Revised 11/3/15*

1.4.5.5.1 District staff may issue individual permits which meet the following requirements:

- (a) The proposed consumptive use must be equal to or less than 500,000 gallons per day on an average annual basis.
- (b) The criteria in Rule 40C-2.301, F.A.C., must be met.
- (c) The person who seeks a staff-issued individual permit must submit a complete permit application Form Number 40C-2.900(1), 40C-2.900(2), or 40C-2.900(3), as applicable, to the District at least 30 days prior to undertaking the consumptive use and must receive the permit prior to commencing the withdrawal.

1.4.5.5.2 Staff-issued individual permits which do not exceed any of the following requirements are considered minor individual permits and may utilize permit application Form Number 40C-2.900(2):

- (a) Cumulative average annual daily consumptive use is less than 100,000 gallons per day on an average annual basis.
- (b) Withdrawal equipment or other facilities which have a capacity of less than one million (1,000,000) gallons per day.
- (c) Withdrawals from a combination of wells or other facilities, having a combined capacity of less than one million (1,000,000) gallons per day.
- (d) Withdrawals from a well in which the outside diameter of the largest permanent water bearing casing is less than eight (8) inches at ground surface. When the well owner or well contractor can demonstrate that the well was constructed with a smaller diameter water bearing casing below ground surface prior to August 14, 2014 and that smaller diameter casing is still in place, the well diameter shall be considered to be its smaller diameter casing.
- (e) Withdrawals from surface water facilities which have an intake diameter or cumulative intake diameter of less than eight (8) inches. For purposes of this paragraph, the intake diameter of the surface water facility is the diameter at the end of the intake pipe.

Applicants who utilize permit application Form Number 40C-2.900(2), must also fill out select portions of permit application Form Number 40C-2.900(1), as explained in section III of that form. (See Appendix C for links to these forms)

1.4.5.5.3 If, upon District staff review, one of the following factors is present, an individual permit shall be reviewed by the Board:
Revised 11/3/15

- (a) The proposed consumptive use is greater than 500,000 gallons per day on an average annual basis; or
- (b) District staff finds that the application does not comply with all of the evaluation criteria of Section 2.3; or

- (c) A substantial objection has been filed with the District within 14 days of receipt of the notice of receipt as provided in Section 1.4.5.5.6. Receipt of the notice of receipt shall be deemed to be the fifth day after the date on which the written notice is deposited in the United States mail. Substantial objection means a written statement directed to the District regarding a permit application which identifies the objector, concerns hydrologic or environmental impacts of the proposed consumptive use, and relates to applicable rule criteria.

1.4.5.5.4 Upon determination that one of the factors listed in Subsection 1.4.5.5.3 is present, District staff will notify the applicant that review by the Board is required, and the provisions of Section 1.4.5.4 shall be followed. If review by the Board is required pursuant to paragraphs 1.4.5.5.3(b) or (c) above, no additional permit application fee shall be required.

1.4.5.5.5 Staff Evaluation

1.4.5.5.5.1 Upon completion of the permit application, the staff will technically review the application using the criteria defined and discussed in Part I of this Handbook.

1.4.5.5.5.2 The final staff evaluation includes a determination as to whether the proposed consumptive use meets the criteria for obtaining an individual permit. If District staff finds that the permit application does not meet those criteria, then the application will be processed as an application for an individual permit with review by the Board, the applicant will be so notified, and provided a written explanation of the need for review by the Board.

1.4.5.5.5.3 Within 30 days after the permit application is complete, the District staff will issue the permit or notify the applicant that the permit application is upgraded to individual status with review by the Board.

1.4.5.5.6 Notification to Public for Input

At the time that the District has received a permit application, it will provide public notice that the application has been filed. Such public notice will be sent by regular mail or email to those people who have previously filed a written request for notification of pending applications within the affected area.

1.4.6 Enforcement

Chapter 373, F.S., provides for the enforcement of District rules. In addition to the authority of the Governing Board to enforce, the District has the authority to obtain the assistance of county and city officials in the enforcement of the rules (see Sections 373.603 and 373.609, F.S.). Any person who violates any provision of Chapter 40C-2, F.A.C., is guilty of a misdemeanor of the second degree, and may be prosecuted by the District.

Further information regarding the District's monitoring and enforcement programs may be obtained by contacting:

Bureau of Water Use Regulation
St. Johns River Water Management District
4049 Reid Street
Palatka, Florida 32177-2529
(386) 329-4500

1.4.6.1 Secondary Use Enforcement and Compliance

In the event a person responsible for a secondary use of water fails to timely obtain a consumptive use permit as required under this rule, or fails to comply with a consumptive use permit authorizing the secondary use, the District shall address the alleged violation with the person responsible for the secondary use of water. In such cases, the District shall not assert that the water supplier for the secondary use is liable for alleged permitting violations by the person responsible for the secondary use of water.

1.4.7 Evaluation Criteria for Other Types of Applications

1.4.7.1 Modification to an Existing Permit

Each application for modification to an existing permit will be evaluated using the criteria listed in Section 1.3.7 (see also Rule 40C-2.301(1), F.A.C.). The proposed modification must be for a reasonable-beneficial use, it must not interfere with presently existing legal uses, and it must be consistent with the public interest.

1.4.7.2 Transfer of Permit

The District will transfer a permit under the same terms and conditions contained in the permit provided that the source and use remain the same. Any change in the terms or conditions of the permit, including the amount of withdrawal and type of use, require the submission of an application for modification of a permit (see Subsection 1.4.7.1 above), or submission of an application for a new use.

1.4.7.3 Temporary Use

Pursuant to Section 373.244, F.S., an applicant who has filed an application for a consumptive use permit will be granted a temporary use permit if it appears that the temporary permit is necessary for consumptive use of water prior to final action on an application for a permit pursuant to Subsection 40C-2.301(1), F.A.C., and the use is reasonable-beneficial, does not interfere with existing legal uses, and is consistent with the public interest (see Section 373.244, F.S.). A temporary permit is granted on a month to month basis and may be terminated or the District may refuse to extend one further upon a finding that the water use does not meet the criteria of reasonable-beneficial use, non-interference with existing legal uses, and public interest. A temporary permit may also be terminated or not allowed to continue if the District finds that the water use is no longer reasonable, is interfering with a presently existing legal use of water, or is inconsistent with the public interest, or adverse effects are occurring as a result of the water use, or that water authorized under such permit is no longer required by the applicant.

1.5 Permit Duration

1.5.1 20-Year Permits

When requested by an applicant, a consumptive use permit shall have a duration of 20 years provided the applicant provides reasonable assurance that the proposed use meets the conditions for issuance in Rule 40C-2.301, F.A.C., and the criteria in Part I, Applicant's Handbook: Consumptive Uses of Water, for the requested 20 year permit duration.

1.5.2 Durations other than 20 Years:

- (a) When an applicant fails to provide reasonable assurance to support a 20-year duration or when the applicant does not request a duration of 20 years, a consumptive use permit shall have a duration of 10 years unless the District determines that a different permit duration is warranted based on a consideration and balancing of the factors listed in Section 1.5.3. However, in no case shall the duration of an individual permit exceed the life of the activity for which the water is used.
- (b) When an applicant requests a permit duration greater than 20 years pursuant to Subsection 373.236(2), F.S., the District shall issue a consumptive use permit with the requested duration up to a maximum of 50 years, provided the applicant is a municipality or other governmental body or a public works or public service corporation, the applicant demonstrates that the requested duration is required to provide for the retirement of bonds for construction of

waterworks and waste disposal facilities, and the applicant provides reasonable assurances that the proposed use meets the conditions for issuance in Rule 40C-2.301, F.A.C., and the criteria in Part I, Applicant's Handbook: Consumptive Uses of Waters, for the requested permit duration.

- (c) When an applicant for an alternative water supply project requests a permit duration greater than twenty years pursuant to Subsection 373.236(5), F.S., the District shall issue a consumptive use permit with the requested duration, provided there is sufficient data to provide reasonable assurance that the conditions for issuance in Rule 40C-2.301, F.A.C., and the criteria in Part I, Applicant's Handbook: Consumptive Uses of Water, will be met for the duration of the permit. Extensions to the permit duration may be available under certain circumstances; however, in no event shall any extension to the permit duration exceed that amount prescribed by law for alternative water supply projects.

1.5.3 Special Durations Factors: *Revised 11/3/15*

The following factors shall be considered and balanced in determining whether the permit shall be given a duration other than as specified in Subsection 1.5.2(a):

- (a) Whether the permit is for a secondary use as defined in Section 1.4.2.2. The District shall seek to:
 - 1. Assign the initial consumptive use permit required under 1.4.2.1 (secondary use) the same expiration date as specified in the consumptive use permit issued for the water supplier. However, when there is a demonstration that there will not be harm to the water resources of the area or interference associated with the water supplier's permit, then the District shall issue a longer duration permit with a condition that is substantially similar to the special condition in section 5.2(h).
 - 2. Simultaneously review subsequent renewal applications for the water supplier and all related permitted secondary uses, and upon renewal, set the new expiration date for secondary use consumptive use permits the same as is assigned to the permit for the water supplier. When one or more applicants within the water supplier/secondary users group fails to timely complete its consumptive use permit renewal application, final action will be taken on the applications which have been completed.
 - 3. Assign an applicant within a water supplier/secondary use group who completes a renewal application for a consumptive use permit at a later time, the same expiration date as was assigned to the previously issued consumptive use permit renewals within the same water supplier/secondary use(s) group. However, when there is a demonstration that there will not be harm to the water resources of the area or interference

associated with the water supplier's permit, then the District shall issue a longer duration permit with a condition that is substantially similar to the special condition in section 5.2(h).

- (b) Whether a longer duration is necessary for a municipality or other governmental body or for a public works or public service corporation to retire bonds for the construction of water works and water disposal facilities. If an applicant feels that an extended duration is required for such purposes, then the applicant must furnish letters from the bonding authority, stating that the extended duration is required and the reason that it is required.
- (c) Whether a lower quality water source can reasonably be expected to become available for the permitted consumptive use during the time period of the applicable permit duration of Subsection 1.5.2(a), and the applicant is not proposing to use this water source when it becomes available. Consideration of this factor will result in a shorter duration than the applicable duration specified in Subsection 1.5.2(a) to enable the District and the permittee to reevaluate the ability of the permittee to use the lower quality source at the time that it becomes available. However, the applicant can eliminate this factor from consideration by electing to reduce the requested allocation by the amount which would reasonably be delivered from the lower quality source.
- (d) Whether the consumptive use permit will require the permittee to perform mitigative or remedial action for an impact caused or projected to be caused by the consumptive use, and, for a renewal, whether the permittee must implement action to correct non-compliance with the previous consumptive use permit. Consideration of this factor will lead toward a duration shorter than the applicable duration of Subsection 1.5.2(a) in order to evaluate, at an earlier date, the effectiveness of the mitigative or remedial actions or corrections.
- (e) Whether greater than 50% of the total allocation is derived from reclaimed water or stormwater sources. Consideration of this factor will lead toward a duration longer than the applicable duration of Subsection 1.5.2(a). Where 95% or greater of the allocation is derived from reclaimed water or stormwater sources, consideration of this factor will lead toward a duration of 20 years.
- (f) Whether 50% or greater of the annual wastewater volume generated from the allocated use is distributed to other water users (not including secondary users for which the applicant is the water supplier) for reasonable-beneficial reuse. Consideration of this factor will lead to a duration longer than the applicable duration of Subsection 1.5.2(a) to encourage the investment in reuse of reclaimed water.
- (g) Whether a shorter duration is necessary to ensure that the source is capable of producing the requested amount of water without causing unmitigated adverse impacts. The applicant can eliminate this factor from consideration by electing

to reduce the requested amount to that which can be produced by the source without causing unmitigated adverse impacts.

- (h) Whether, and the extent to which, the permit duration will significantly harm the economic feasibility of the proposed use. Consideration of this factor will lead to a longer duration than the applicable duration of Subsection 1.5.2(a) where the application duration of those sections will significantly harm the economic feasibility of the proposed use.
- (i) Whether the applicant is able to implement all available water conservation measures which are generally feasible for that size and type of use. Where the applicant is unable to implement all available water conservation measures which are generally feasible for that size and type of use, consideration of this factor will lead to a shorter duration than the applicable duration of Subsection 1.5.2(a) to enable the District and the applicant to reevaluate, at an earlier date, the ability of the applicant to implement these water conservation measures.
- (j) Whether the applicant is implementing or proposes to implement innovative and extraordinary water conserving measures which are beyond those generally feasible for that type of use, consideration of these factors will lead to a longer duration than the applicable duration of Subsection 1.5.2(a) as an incentive for the investment in innovative and extraordinary water conservation.
- (k) The cost of developing proposed alternative water supplies (for example: new lower quality sources, surface water sources, interconnecting wellfields, artificial recharge, aquifer storage and recovery, reclaimed water). Where the applicant is proposing to develop and use alternative water supplies, consideration of this factor will lead to a duration longer than the applicable duration of Subsection 1.5.2(a) to encourage investment in, and development of, alternative water supplies.

1.5.4 Compliance Reports

Except for permits issued pursuant to Subsection 373.236(6), F.S., permits issued for a duration of 20 years or longer shall require submittal of a compliance report under Subsection 373.236(4), F.S., once every ten years, when necessary to maintain reasonable assurances that the conditions for issuance can continue to be met. Permits issued for greater than 20 years pursuant to Subsection 373.236(6), F.S. shall require submittal of a compliance report once every five years.

The report shall include sufficient information to maintain reasonable assurance that the permittee's use can continue, for the remaining duration of the permit, to meet the conditions for issuance set forth in the rules existing when the District issued the permit. After reviewing this report, the District will modify the permit, if required, to ensure that the use of water authorized by the permit can continue to meet the conditions for issuance set forth in the rules existing when the District

issued the permit. As required by Sections 120.569 and 120.60, F.S., the District shall provide notice of intent to modify the permit to the applicant, the applicant's attorney of record, and to each person who has made a written request for notice of agency action.

For all water use types (see Section 2.1.1.3), when economic conditions or population growth rates result in the actual water use being lower than permitted water use, a modification to reduce the permitted allocation shall only be made by the District when there is no reasonable likelihood that the allocation will be needed during the permit term. For agricultural consumptive use permits for irrigation, reductions in actual use compared to permitted consumptive use that are due to weather events, crop diseases, nursery stock availability, or changes in crop type shall not result in a permit modification by the District to reduce the permitted allocation during the term of the permit.

Additionally, in order to incentivize conservation of water, if actual water use is less than permitted water use due to documented implementation of water conservation measures, the permitted allocation shall not be modified by the District due to these circumstances during the term of the permit.

Nothing in this subsection shall be construed to alter the District's authority to reduce permitted consumptive use under circumstances not addressed by this section, nor be construed to alter the water conservation requirements of the permit for the duration of the permit.

2.0 Demonstration of Water Need, Source(s), and Demand

2.1 Source Identification

2.1.1 Use/Source Classifications

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

2.1.1.1 The purpose of the classification system is to assist the District in its data collection and analysis programs and to provide a framework for use in water shortage planning and response efforts.

2.1.1.2 Source Types

Each permit shall be identified with one or more of the following source types:

- (a) River, creek, or other watercourse
- (b) Lake, pond, or other impoundment
- (c) Aquifer
- (d) Water supplier

2.1.1.3 Use Types

Each permit shall be identified with one or more of the following use types:

- (a) Agricultural – The use of water associated with the production and freeze protection of crops, nursery products, sod, and pasture, as well as the cultivation of animals and plants associated with farming and aquacultural activities.
- (b) Commercial/Industrial/Institutional – The use of water associated with the production of goods or provision of services by a commercial, industrial, or institutional establishment.
- (c) Environmental – The use of water to avoid or mitigate environmental harm. Examples include enhancing, restoring, or creating wetlands or other surface waters, or the use of water for groundwater remediation.
- (d) Landscape/Recreation/Aesthetic – The use of water for landscape irrigation; the use of water associated with the creation, maintenance, and operation of recreational facilities such as golf courses, water-based recreational areas, and athletic fields; or the

use of water for ornamental or decorative purposes, such as fountains and waterfalls.

- (e) Mining/Dewatering – The use of water associated with the extraction of subsurface materials or to control surface water or groundwater when performing activities such as construction or excavation.
- (f) Public Supply – The use of water provided by any municipality, county, regional water supply authority, special district, public or privately owned water utility, or multijurisdictional water supply authority for human consumption and other purposes.
- (g) Other – The use of water for a purpose other than as described in Subsections 2.1.1.3(a)-(f).

2.1.1.4 Location of Withdrawal: Each permit shall be classified as to the location from which the withdrawal is made. Such location shall include the legal description (township, range and section) and the county of the withdrawal.

2.1.1.5 Additionally, the Board may establish additional classifications if it determines that they are necessary.

2.1.2 Water Shortage Procedures

Under certain conditions the Governing Board may declare that a water shortage exists within all or parts of the District. Furthermore, the Board may impose water use restrictions on one or more permit classifications in response to the water shortage situation. A detailed description of water shortage planning and implementation efforts is contained in the District Water Shortage Plan, Chapter 40C-21, F.A.C. When the restrictions imposed under a water shortage declaration are applicable to a permitted use, the specified water shortage restrictions shall supersede any inconsistent terms or conditions of the permit. In this event, notice shall be provided to the permittee as required by Subsection 373.246(6), F.S.

2.1.3 Identification Tags

2.1.3.1 Except for secondary use withdrawal facilities, a permanent identification tag will be issued for each withdrawal facility which is included in a consumptive use permit. The tag must be attached to the withdrawal facility.

2.1.3.2 The purpose of having these tags is to assist the District in its monitoring and enforcement efforts, particularly during periods of water shortage.

2.2 Demonstration of Demand

2.2.1 Allocation

(a) Annual Allocation

The quantity of water permitted to be withdrawn during a 12-month calendar year. The District staff will calculate a recommended allocation using methodologies based upon use type (see Sections 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6, and 2.2.7 of this Handbook).

(b) Annualized Incremental Allocation

When necessary to prevent water resource impacts, an annual quantity of water is allocated for each year of the permit's duration based upon the projected need for that year that will not cause unmitigated adverse water resource impacts. For example, a stepped up annual allocation may be provided in conjunction with implementation of an alternative water supply project that will make more water available for use. In such a case, as more water becomes available for use (and is needed) the annual allocation will increase.

(c) Maximum Daily Use

The maximum daily use, as recommended by District staff, is the maximum amount of water that can be used on any given day, provided that the withdrawal or drawdown will not cause unmitigated adverse water resource impacts and the water use will remain efficient. The maximum daily use may be used to provide, among other things, reserve capacity for operational flexibility, freeze protection, and the ability to meet water demands during routine maintenance or in the event of loss of a well due to events such as a pump breakdown or lightning strike.

2.2.2 Public Supply Use Type

An amount of water required for reasonable-beneficial uses must be demonstrated by the applicant. For public supply systems, this amount is calculated based upon the projected requirements of the population as to its industrial, commercial and other users supplied by the applicant. Population requirements are calculated by multiplying the 10-year projected population for an authorized service area by the calculated or estimated per capita daily water use. Projected population shall be determined using the methods and data sources specified in Subsection 2.2.2.1; use shall be calculated or estimated as prescribed in Subsection 2.2.2.2. Other methods of determining water requirement may be used as approved by staff.

If the applicant's requested quantity exceeds the amount of water required for reasonable-beneficial uses as calculated pursuant to this section, the staff will

recommend a projected requirement based on its analysis of population projections for the service area and historical or design per capita use of water.

2.2.2.1 Population Projections

A ten-year population growth should be projected by using accepted projection techniques. The following sources of growth projections are based on accepted techniques and may be used:

- (a) The appropriate local government adopted comprehensive plan
- (b) University of Florida, Bureau of Economic and Business Research Population Data
- (c) Regional Planning Council Data
- (d) Special population studies (special population studies should only be used if the sources listed above are unavailable)

The District will also consider evidence submitted in the application which indicates appropriate adjustments to the population base due to changes in the number of residents in the service area actually served by the utility. Evidence on the location of large unique users not related to population, such as golf courses and industrial plants, will also be considered.

2.2.2.2 Per Capita Daily Water Use

Historical average per capita daily water use will generally be acceptable as evidence of total daily water use. Historical average per capita daily water use is calculated either by dividing average day water withdrawals for the current pumpage period by the permanent population for the same period of time or by determining the per capita daily water use for the five most recent years. The greatest or most accurate per capita use derived from either of the two methods may then be used in projecting future water use. In some cases the historical demand patterns will not be appropriate for projection purposes. This may occur, for instance, when there are current large users whose growth is not related to population or when future development may take on characteristics very different from those of present development. In such cases alternative per capita estimates may be appropriate and should be used, accompanied by appropriate documentation.

If the historical usage is greater than 150 gallons per capita day (GPCD) the District will request specific information from the applicant which explains the high per capita use.

If no data or historical use of water exist, a reasonable design per capita use may be used. For any proposed development the design per capita use must be explained.

2.2.2.3 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. If the projected future service area is larger than the area certificated at the time of application, staff will solicit the opinion of the PSC as to the ability of the applicant to serve the area. If the PSC determines that the applicant is capable of serving the area and there are no known objections to the service area expansion, staff may recommend an allocation for the projected service area. If this is done, a special condition will be attached requiring that the applicant 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 may be subject to modification.

If the PSC indicates that the applicant may not be capable of serving the expanded area or if there are objections to the expanded service area, staff may recommend an allocation based on projected water use within the existing certificated service territory until objections or other difficulties are resolved; after objections and other difficulties are resolved, staff may then recommend an allocation for the proposed area.

(b) Local Government Franchise

If the applicant is regulated by local government, the service territory should be that area for which the applicant has obtained a franchise.

If the projected future service area is larger than the area franchised at the time of application, staff will solicit the opinion of local government as to the ability of the applicant to serve the area.

If local government determines that the applicant is capable of serving the area and there are no known objections to the service territory expansion, staff may recommend an allocation for the projected service territory with a special condition that the applicant receive a franchise from local government for expansion within two years. If local government indicates that the utility may not be capable of serving the expanded service territory, staff may recommend an allocation based

on projected water use within the existing service territory; after objections and other difficulties are resolved, staff may then recommend an allocation for the proposed area.

(c) Unregulated Service Territory

If the applicant is not regulated by either local government or the PSC, the projected service area must conform to the area that the utility can reasonably serve within the permit duration. If the applicant is a municipality, service areas outside of municipal boundaries must be explained by attachment of agreements or contracts to the application. Staff will solicit the assistance of the PSC in determining whether the PSC has certificated the area outside of municipal boundaries to any other utility.

(d) Conflicting Service Territories

If conflicting service area claims arise between applicants or between an applicant and another water supplier whose service areas are not regulated, the users must resolve the dispute between themselves or staff will recommend an allocation based on the non-disputed portions of the projected service areas. If service claims arise between users whose service areas are regulated by local government, local government must resolve the service area dispute; otherwise, staff will recommend an allocation based on the non-disputed portions of the projected service area.

2.2.2.4 Maximum Daily Use

The methodology used to determine the maximum daily use will vary depending upon the available data. In general, the maximum daily use is the historical maximum daily withdrawal or drawdown for a given period of record, which did not cause unmitigated adverse water resource impacts and the water use remained efficient. Listed below are methodologies used to calculate the maximum daily use depending on the available data.

In cases where several years of pumpage records are available, the maximum daily use is reviewed for each year. The most suitable maximum daily use (that will not cause unmitigated adverse impacts and the water use will remain efficient) will then be chosen from the period of record. In cases of a new use when either no data are available or there are less than one year of data, a ratio of two times the proposed average daily use will be used, provided that the withdrawal or drawdown will not cause unmitigated adverse water resource impacts and the water use will remain efficient. However, an applicant may submit documents to support a higher ratio.

When a utility operates more than one treatment plant and the plants operate independently (no interconnections), a maximum daily withdrawal is determined for each treatment plant and its associated wellfield(s).

2.2.2.5 Public Supply Water Conservation Plan

2.2.2.5.1 Public Supply Water Conservation Requirements

In addition to any required conservation measures pursuant to an applicable adopted minimum flow and level recovery or prevention strategy, all public water supply applicants shall implement a standard water conservation plan, as described in Section 2.2.2.5.1.A or a goal-based water conservation plan, as described in Section 2.2.2.5.1.B. The proposed water conservation plan shall allow no reduction in, and increase where environmentally, technically, and economically feasible, overall utility-specific water conservation effectiveness. The applicant may use publications and materials from Conserve Florida, the Alliance for Water Efficiency, and other similar industry guidance to assist in developing and supporting the selection of measures in its conservation plan and in demonstrating that increases in water use efficiency were achieved through water conservation.

The elements and implementation schedule for the water conservation plan shall be developed by the applicant. The District shall review and approve the plan submitted by the applicant as part of the public water supply permit. In reviewing the applicant's proposed plan for sufficiency, the District will consider whether the elements and sub-elements proposed to be implemented in the plan, taken as a whole, will promote effective conservation. The water conservation plan shall be subject to the schedule and reporting requirements specified in the permit. If implementation of the plan fails to demonstrate progress toward achieving permit requirements for water use efficiency, the permittee shall request a permit modification, if necessary, to revise the plan to address the deficiency.

2.2.2.5.1.A Standard Water Conservation Plan

The applicant shall implement each of the following five elements as necessary to achieve efficient water use to the extent economically, environmentally, and technically feasible. The applicant will explain how its proposed plan will effectively promote water conservation.

1. A water conservation public education program. A program shall consist of one or more sub-elements. The applicant will consider education sub-elements such as those listed below. Implementation of sub-elements may be achieved through collaboration with other entities, including the District. For each educational sub-element included in the applicant's program, the applicant's program shall identify the frequency, duration, and implementation schedule for the sub-element.
 - (a) Water conservation public service announcements;
 - (b) Water conservation speakers, posters, literature, videos, and/or other information provided to schools and community organizations;
 - (c) Public water conservation exhibits;
 - (d) Water conservation articles and/or reports provided to local news media;
 - (e) A water audit customer assistance program to address indoor and outdoor water use;
 - (f) Water conservation information provided to customers regarding year-round landscape irrigation conservation measures;
 - (g) Water conservation information posted on the applicant's website;
 - (h) The construction, maintenance, and publication of water efficient landscape demonstration projects;
 - (i) Water conservation information provided in customer bills or separate mailings; or,
 - (j) Other means of communication proposed by the applicant.
2. An outdoor water use reduction program. The applicant shall consider the following sub-elements.
 - (a) The adoption of an ordinance or condition of service limiting lawn and landscape irrigation that is provided to the District, and is either no less stringent than or

consistent with any irrigation restrictions adopted by the District.

- (b) The adoption of an ordinance or condition of service requiring the use of Florida-Friendly landscaping principles, Florida Water Star, or other generally accepted water conservation programs, guidelines, or criteria that address outdoor water conservation.
 - (c) The adoption of an ordinance or condition of service consistent with Section 373.62, F.S. relating to automatic landscape irrigation systems.
 - (d) The provision of a landscape irrigation audit program for businesses and residents, including the provision of information to assist customers in implementing the recommendations of the audit. The applicant shall provide a description of the program including implementation details and the content of the audits to be provided.
 - (e) An education element focusing on outdoor conservation as part of the water conservation public education program required by paragraph 2.2.2.5.1.A.1.
 - (f) Any other conservation measures or programs proposed by the applicant designed to reduce outdoor water use.
3. The selection of a rate structure designed to promote the efficient use of water by providing economic incentives. A rate structure may include, but not be limited to, increasing block rates, seasonal rates, quantity based surcharges, and/or time of day pricing as a means of reducing demands. The District shall afford a utility wide latitude in adopting a rate structure in accordance with Section 373.227(3), F.S. Upon request, the District will assist the applicant by providing available demographic data, computer models, and literature. In evaluating whether a proposed rate structure promotes water conservation, the District will consider customer demographics, the potential for effectiveness, the appropriateness to the applicant's particular circumstances, and other relevant factors specific to the service area.
4. A water loss reduction program, if water losses exceed 10%. The water loss reduction program must include the following sub-elements.

- (a) An audit of the amount of water used in the applicant's production and treatment facilities, transmission lines, and distribution system using the District's Water Audit Form No. 40C-2.900(7) (see Appendix E) must be submitted. The audit shall include all existing production, treatment and distribution systems accessible to the applicant. The audit period must include at least 12 consecutive months within the three year period preceding the application submittal.

- (b) An applicant is required to perform a meter survey, and to correct the water audit to account for meter error, if the initial unaccounted for water is 10% or greater based on the results of the initial water audit. The purpose of this survey is to determine a potential correction factor for metered water use by testing a representative sample of meters of various ages. The survey also helps to determine the appropriateness of a meter change-out program. As part of the survey, the applicant must randomly test 5% or 100 meters, whichever is less. The sampling must be of meters representing an even distribution of type and age, or cumulative lifetime flow. A documented meter change-out program that can provide an estimate of the overall meter accuracy may be substituted for this requirement.

- (c) An applicant whose water audit, as required under paragraph 2.2.2.5.1.A.4.(a), shows greater than 10% unaccounted for water use, must complete the leak detection evaluation portion of Form 40C-2.900(7). Based upon this evaluation, an applicant may choose to implement a leak detection program immediately or develop an alternative plan of corrective action to address water use accountability and submit a new water audit to the District within two years. If the subsequent audit shows greater than 10% unaccounted for water, the applicant must implement a leak detection and repair program within one year unless the applicant demonstrates that implementation is not economically feasible. In all cases, this evaluation and the repair program may be designed by the applicant to first address the areas which are most suspect for major leaks. The evaluation and repair program may be terminated when the permittee demonstrates that its unaccounted for water loss no longer exceeds 10%.

- (d) Implementation within the first year after permit issuance of a meter replacement program will be required for those applicants whose small and medium meter survey indicates that a group or type of meters is not 95% accurate. Permittees will be required to replace meters which have been in operation for 15 years or longer or have a cumulative lifetime flow exceeding the maximum lifetime operational flow specified by the manufacturer, unless a comparison of meter survey information to meter manufacturer specifications indicates a decreased accuracy of the meters. An alternative meter replacement schedule shall be approved by the District upon a showing by the applicant that the meter manufacturer specifications predict a different lifetime or gallonage capacity or based upon the results of a meter survey performed by the applicant.
 - (e) When an audit and/or other available information indicates that there is a need for additional water conservation measures in order to reduce a project's water use to a level consistent with projects of a similar type, or when an audit and/or other information indicates that additional significant water conservation savings can be achieved by implementing additional measures, other specific measures will be required by the District, to the extent feasible, as a condition of the permit.
5. An indoor water use conservation program. The applicant will consider indoor conservation sub-elements such as those listed below. Implementation of these sub-elements may be achieved through collaboration with other entities, including the District. For each indoor conservation sub-element included in the applicant's program, the applicant's program shall provide the frequency, duration, and implementation schedule for the element.
- (a) Plumbing retrofit rebates;
 - (b) Faucet aerator and showerhead giveaways;
 - (c) An education element focusing on indoor conservation as part of the water conservation public education program required by paragraph 2.2.2.5.1.A.1.; or,
 - (d) Other indoor conservation measures proposed by the applicant.

2.2.2.5.1.B Goal-Based Water Conservation Plan *Revised 11/3/15*

A public water supply applicant may propose a goal-based water conservation plan in lieu of a standard water conservation plan. A goal-based plan allows the applicant to demonstrate effective water conservation by selecting plan elements that are different from those in the standard water conservation plan, but which are appropriate to the applicant's service area. A permittee operating under a standard conservation plan pursuant to this rule, or conservation plan required by a permit issued prior to August 14, 2014, may request to convert its current conservation plan to a goal-based plan through a letter modification under Subsection 1.4.3.3.1.

A goal-based water conservation plan prepared pursuant to Subsection 373.227(4), F.S., shall contain the following:

1. A description of water conservation measures selected for implementation based on the service area analysis, and an implementation schedule for each measure;
2. An explanation of why the alternative elements included in the goal-based plan are appropriate to achieve effective water conservation in the applicant's service area if any of the five elements of the standard water conservation plan are not selected for inclusion in the goal-based plan.

If a public water supply utility provides reasonable assurance that the goal-based plan will achieve efficient water use by meeting the above criteria, the District shall consider the goal-based plan to achieve effective water conservation at least as well as a standard water conservation plan.

2.2.3 Commercial/Industrial/Institutional Use Type

2.2.3.1 Commercial/Industrial/Institutional Allocation

The reasonable need for a requested allocation must be based upon the amount of water needed to perform a commercial/industrial/institutional process in an efficient, non-wasteful and economic manner. If the criteria listed in Section 1.3.6 or 1.3.7 are satisfied, the allocation will be equal to the reasonable need for water. A reasonable need for water is the greatest allocation which staff will recommend.

2.2.3.2 Commercial/Industrial/Institutional Water Conservation Plan

2.2.3.2.1 All applicants for commercial/industrial/institutional type water uses must submit a water conservation plan for their facility to the District at the time of permit application. The plan must contain specific activities designed to conserve water.

- (a) An audit of the amount of water used in the applicant's various operational processes, landscaping practices, and household facilities. Subsequent implementation of a leak detection and repair program will be required within the first year of permit issuance if analysis of the audit results indicates such measures would be cost effective. New permittees must conduct such an audit within two years after permit issuance. If water losses exceed 10%, the permittee must implement a water loss reduction program.
- (b) A program for making technological, procedural, and/or programmatic improvements to the applicant's facilities and processes to decrease water consumption. Appendix F provides an outline of water conservation measures which the applicant may undertake to meet this requirement. Individual provisions in Appendix F are not requirements per se, and do not exclude alternative conservation measures the applicant may wish to propose to the District.
- (c) Develop and implement an employee awareness and consumer education program concerning water conservation.
- (d) Procedures and time frames for implementation, and for periodic assessment and revision of the water conservation plan.

Applicants may be able to fulfill some or all of the water conservation plan elements (b) and (c) by demonstrating present water conserving activities which meet the intent of each element. In evaluating whether existing water conserving activities are sufficient to meet the applicable criteria in Rule 40C-2.301, F.A.C., the District will take into consideration the use type and efficiency of the specific use relative to other similar uses.

2.2.3.2.2 All permittees must implement the conservation plan approved by the District in accordance with the schedule contained therein. The water conservation plan requirements contained herein are

applicable to subsequent applications for permit renewals. However, subsequent plans will be viewed as refinements to existing plans, incorporating technological and procedural innovations as these are developed.

2.2.4 Mining/Dewatering Use Type

The reasonable need for a requested allocation must be based on the amount of water needed to economically and effectively extract subsurface materials or control surface water or groundwater when performing activities such as excavation or construction. For example, in some cases, dewatering may involve lowering the water table several feet in order to lower the level below “caprock” which is used as an operating floor and drying surface. In other cases, it may involve completely dewatering a pit in order to remove minable rock and sand using pans and scrapers. The reasonable allocation may vary for a particular dewatering operation depending upon the excavation method. Thus, if staff cannot recommend total dewatering of a mining pit because of adverse impacts, then staff shall recommend an alternative, such as drag-lining (which has a smaller water use and a smaller discharge), if that extraction method satisfies all other criteria listed in Section 1.3.6 or 1.3.7.

If all criteria listed in Section 1.3.6 or 1.3.7 are satisfied, the allocation is equal to the reasonable need for water. The reasonable need for water is the greatest volume which staff can recommend.

2.2.5 Agricultural Use Type

2.2.5.1 Supplemental Irrigation Requirement

The reasonable need for an agricultural use is based on the amount of water needed to supply the supplemental irrigation requirements of the type of crop grown. In determining reasonable need, the supplemental irrigation requirements used are those which would be needed in a two in ten year drought. Supplemental irrigation requirements are determined through use of supplemental irrigation models. Applicants may request that the District prepare a supplemental irrigation model to determine the applicant’s supplemental irrigation water use needs or the applicant can prepare its own model. When an applicant submits a supplemental irrigation model, the applicant must provide reasonable assurance that the model accurately determines supplemental irrigation water use needs based on 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, and associated atmospheric conditions. In making this demonstration, an applicant may rely on the best available information from the University of Florida Institute of Food and Agricultural Sciences, the National Resource Conservation Service, the

Department of Agriculture and Consumer Services, or other reliable scientific agricultural information sources.

2.2.5.2 System Efficiency Ratio

Efficiency of the irrigation system is accounted for in the allocation by multiplying the total supplemental irrigation requirement by the system efficiency ratio. The system efficiency ratio is obtained by use of the following formula:

$$\frac{100}{\text{System Efficiency}} = \text{System Efficiency Ratio}$$

Thus, for an irrigation system which has an efficiency standard of 75%, the ratio is:

$$\frac{100}{75} = 1.33$$

The system efficiency ratio is therefore 1.33, and a user must pump 1.33 gallons to put 1 gallon on a crop.

The recommended reasonable use is derived by multiplying the supplemental irrigation requirement by the system efficiency ratio.

The system efficiency factors listed below are considered significant in determining supplemental irrigation requirements:

(a) Low Pressure - Low Volume Systems

1. Trickle Irrigation – 98%
2. Drip Irrigation – 90%
3. Jet Irrigation – 80%

(b) Sprinkle Systems

1. Center Pivot – 80%
2. Overhead Sprinkler – 70%
3. Traveling Gun – 70%
4. Texas Sidewalker – 70%

(c) Flood and Seepage Systems

1. Pipeline Seepage – 60%
2. Ditch Seepage – 50%
3. Crown Flood – 50%

It is important to note that the allocation for a particular use is figured after evaluation of other criteria relevant to permitting. Thus, in some areas of the District, the amount of water required for an inefficient system may not be recommended by the staff, and a smaller system efficiency ratio would be utilized.

System efficiency will be used as a factor of consideration in determining which restrictions will be imposed at the time of a water shortage declaration.

2.2.5.3 Livestock

The reasonable need for livestock use will be derived by multiplying the estimated total number of animals by gallons needed per day per animal as estimated by the Institute of Food and Agricultural Sciences (IFAS).

The livestock per capita water use will be determined utilizing the factors listed below unless the applicant can demonstrate that a different factor is appropriate for the applicant's particular needs:

	<u>Use per Animal (gpd)</u>
Beef Cattle	12
Chickens	0.10
Dairy Cattle	150
Dogs	0.10
Goats	2
Hogs	2
Horses	12
Rabbits	0.05
Sheep	2
Turkeys	1

Evidence which is appropriate for demonstrating that a different factor should be utilized includes published IFAS data or historical use data for the particular operation.

2.2.5.4 The maximum monthly withdrawal as recommended by District staff is generally specified on agricultural type permits. This amount is determined by the dry month needs of the supplemental irrigation (calculated for a 2 in 10 year drought) or that amount needed for freeze protection.

2.2.5.5 Agricultural Water Conservation Plan

2.2.5.5.1 All permit applicants for agricultural use types must submit a water conservation plan for their operation to the District at the time of permit application. The plan must contain specific activities designed to conserve water. The water conservation plan must include provision for the following:

- (a) A program for increasing the water use efficiency of the applicant's operation. As part of this program, each grower must conduct an analysis of the operation's current water use practices and the water saving potential of proposed practices. Based on the results of that analysis, the applicant must implement water saving measures. Appendix F provides an outline of water conservation measures which the applicant may undertake to meet this requirement. Individual provisions in Appendix F are not requirements per se, and do not exclude alternative conservation measures the applicant may wish to propose to the District.
- (b) Procedures and time frames for implementation, and for periodic assessment and revision of the water conservation plan.

Applicants may be able to fulfill the water conservation plan element (a) by demonstrating present water conserving activities which meet the intent of the element. In evaluating whether existing water conserving activities are sufficient to meet the applicable criteria in Rule 40C-2.301, F.A.C., the District will take into consideration the use type and efficiency of the specific use relative to other similar uses.

2.2.5.5.2 All permittees must implement the conservation plan approved by the District in accordance with the schedule contained therein. The water conservation plan requirements contained herein are applicable to subsequent applications for permit renewals. However, subsequent plans will be viewed as refinements to existing plans, incorporating technological and procedural innovation as these are developed.

2.2.5.5.3 A single conservation plan can be submitted to fulfill the requirements of this rule.

2.2.5.5.4 When water will be used for crop irrigation and the type of crop or acreage can vary from year to year, the permittee must annually submit, by January 31, a complete District Form

Number 40C-2.900(9) (Annual Crop Summary Report Form), providing information consisting of specific crop type, acreage, irrigation system used, and months in production. (See Appendix E) Information regarding specific crops irrigated shall not be used by the District to reduce allocations or limit allocation flexibility.

2.2.5.5.5 When water has been used for crop protection, the permittee must complete District Form Number 40C-2.900(10) (Crop Protection Report Form) for each month in which a crop protection event occurred, providing withdrawals per day by well/pump/station. (See Appendix E) The permittee must keep the completed form(s) for the life of the permit and make them available for inspection by District staff upon request.

2.2.6 Landscape/Recreation/Aesthetic Use Type

2.2.6.1 Landscape/Recreation/Aesthetic Water Conservation Plan

2.2.6.1.1 Each applicant for a consumptive use permit for landscape/recreation/aesthetic use types must submit a water conservation plan for their facility to the District at the time of permit application. The plan must contain specific activities designed to conserve water. At a minimum, the water conservation plan must include:

- (a) A program for increasing the water use efficiency of the applicant's operation. Appendix F provides an outline of water conservation measures which the applicant may undertake to meet this requirement. Individual provisions in Appendix F are not requirements per se, and do not exclude alternative conservation measures the applicant may wish to propose to the District.
- (b) Development and implementation of an employee awareness and player education program concerning water conservation.
- (c) Procedures and time frames for implementation, and for periodic assessment and revision of the water conservation plan.

Applicants may be able to fulfill the water conservation plan element (a) by demonstrating current water conserving activities which meet the intent of the element. In evaluating whether existing water conserving activities are sufficient to

meet the applicable criteria in Rule 40C-2.301, F.A.C., the District will take into consideration the use type and efficiency of the specific use relative to other similar uses.

2.2.6.1.2 All permittees must implement the conservation plan approved by the District in accordance with the schedule contained therein. The water conservation plan requirements contained herein are applicable to subsequent applications for permit renewals. However, subsequent plans will be viewed as refinements to existing plans, incorporating technological and procedural innovations as they are developed.

2.2.7 Other Use Types

All permit applicants for use types not specified above must submit a water conservation plan for their proposed use. The plan must contain specific measures designed to conserve water to demonstrate that the proposed use will meet the criterion in Section 2.3(a).

2.2.8 Augmentation of Surface Waters

The proposed use of water to augment a surface water body requires the District to consider a number of factors of special interest when evaluating this use type. As a result, this section is designed to provide additional guidance in determining whether such a proposed use of water is reasonable-beneficial under Section 2.3. This section is supplemental to the criteria in Sections 1.3.7 and 2.3 and shall not be solely relied upon to evaluate whether a proposed use of water to augment a surface water body meets the conditions for issuance of a permit.

2.2.8.1 Augmentation for Aesthetic Purposes

Typically, the use of groundwater for augmentation of a surface water body solely for an aesthetic purpose is not a reasonable-beneficial use of water. However, where such augmentation would result in economic benefits to offsite property, a proposed use of groundwater to augment a surface water body for an aesthetic purpose will be considered under the criteria in Sections 1.3.7, 2.3, and 2.2.8.2.

2.2.8.2 Augmentation for All Purposes

As part of the determination of whether a proposed use of water to augment a surface water body meets the reasonable-beneficial use criteria in Section 2.3, the District will consider the following factors:

- (a) Whether there are other economically, environmentally, and technically feasible means to avoid the impacts, including the use of alternative water sources, that would reduce or eliminate the impact,
- (b) The current condition of the natural system, and whether the system would be enhanced over the current condition through augmentation,
- (c) The geographical extent of the system to be augmented,
- (d) The amount of water made available for water supply compared to the amount required for augmentation,
- (e) The economic and environmental benefits of the use,
- (f) The degree to which water withdrawn for augmentation will be recharged to the source,
- (g) The impact of the augmentation on existing stormwater management systems,
- (h) Whether the surface water body is being used as a source of water for other uses,
- (i) Whether the use is proposed to maintain or restore minimum levels adopted pursuant to Section 373.042, F.S., or to implement all or part of a prevention or recovery strategy under Section 373.0421, F.S.,
- (j) Whether the use is proposed to maintain or restore water that is reserved from use under Subsection 373.223(4), F.S.,
- (k) The total amount of water being used, and
- (l) Whether this amount is the minimum needed, considering seasonal fluctuations.

2.2.9 Supplementation for Reclaimed Water Systems

Rule 62-40.416(9), F.A.C., states “supplementation of reclaimed water systems is a strategy that can benefit Florida’s water resources by reducing reliance on traditional water supplies and maximizing the use of reclaimed water.” The following criteria, which are from Rule 62-40.416(9), shall apply to a request to supplement a reclaimed water system.

- (a) When use of water for supplementation is requested, as part of the permit application review, the District shall require that an applicant provide reasonable assurance that:
1. The use of water for supplementation will increase the amount of reuse, thereby resulting in a reduction in the overall use of higher quality sources for non-potable purposes, and, if applicable, reduce the amount of reclaimed water disposal to the extent practicable; and
 2. The quantity of water requested for supplementation to achieve the requirements in Subsection 2.2.9(a)1. has been minimized to the extent environmentally, technically, and economically feasible. When using stormwater for supplementation, environmental feasibility may include a consideration of water quality benefits achieved by reducing stormwater discharges.
- (b) To meet the requirements of Subsection 2.2.9(a)2., the District shall require a plan from the applicant for the use of supplemental water in the reclaimed water system. The plan shall demonstrate why the requested quantity of water is needed to reasonably meet demands, how it will be used efficiently in the system, and, if applicable, how it will be used to expand the system. The plan shall consider the following elements to the extent applicable to the utility's requested use of supplemental water in the reclaimed water system:
1. Use of lower quality water sources;
 2. The appropriate level of certainty to be provided to end users during drought conditions;
 3. Reclaimed water interconnects with other reuse utilities;
 4. Providing customers with information explaining the need to conservatively use reclaimed water;
 5. Regulatory constraints or requirements on discharges;
 6. Demand management when using the supplemental water, which can include financial incentives for voluntary use reductions;
 7. Creation of additional storage; and
 8. Any other measures identified by the applicant to demonstrate the efficient use of supplemental water.

2.3 Reasonable-Beneficial Use Criteria *Revised 11/3/15*

The following criteria must be met, on an individual and cumulative basis, for a consumptive use to be considered reasonable-beneficial:

- (a) The use must be in such quantity as is necessary for economic and efficient use. The quantity applied for must be within acceptable standards for the designated use (see Section 2.2 for standards used in evaluation of need/allocation). All available water conservation measures must be implemented unless the applicant demonstrates that implementation is not technically, economically, or environmentally feasible. Satisfaction of the water conservation requirement may be demonstrated by implementing an approved water conservation plan as required by Section 2.2.
- (b) The use must be for a purpose and occur in a manner that is both reasonable and consistent with the public interest as defined in Section 3.10.
- (c) The water source must be suitable for the consumptive use.
- (d) The source of the water must be capable of producing the requested amounts of water. This capability will be based upon records available to the District at the time of evaluation. An eight of 10 year capability will be considered acceptable.
- (e) Except when the use is for human food preparation or direct human consumption, the lowest acceptable quality water source must be utilized that is suitable for the purpose and is technically, economically, and environmentally feasible. To use a higher quality water source an applicant must demonstrate that the use of all lower quality water sources will either (1) not be suitable for the purpose, or (2) not be technically, economically, or environmentally feasible. If the applicant demonstrates that use of a lower quality water source would result in adverse environmental impacts that outweigh water savings, a higher quality source may be utilized. This criterion shall not be used to require the use of lower quality sources for direct human consumption or human food preparation. Entities using water for these purposes and also for other purposes, such as irrigation, must evaluate the feasibility of using lower quality sources for such other purposes. However, it is possible that the unavailability of higher quality sources may necessitate the development of lower quality sources in order to meet projected demands, including the demands resulting from direct human consumption and human food preparation needs.

When an applicant proposes to use surface water or groundwater and reclaimed water is readily available, reclaimed water must be used in place of higher quality water sources unless the applicant demonstrates that its use is economically, environmentally, or technologically infeasible.

In determining whether reclaimed water is readily available, the District will consider the following factors:

- (1) Whether a suitable source of reclaimed water exists;
- (2) Whether the source is offered to or controlled by the applicant;
- (3) Whether the applicant is capable of accessing the source; and
- (4) Any other relevant information, including the documentation required in paragraph 5 immediately below.
- (5) Applicants for withdrawals to be located within an area that is or may be served with reclaimed water by a reuse utility within five years from the date of application shall provide written documentation from the applicable reuse utility, addressing the availability of reclaimed water. The applicant shall request the reuse utility to provide a letter stating that reclaimed service is not available, or providing the following information:
 - 1) Whether a reclaimed water distribution line is at the applicant's property boundary. If not, provide the following:
 - (a) An estimate of the distance in feet from the applicant's property to the nearest potential connection point to a reuse line.
 - (b) 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:
 - (a) 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.
 - (b) The reliability of the potential reclaimed water supply (i.e., on-demand 24/7, or bulk-interruptible diurnal or seasonal, length of supply agreement, or other basis).
 - (c) The typical operating pressures at which the reuse utility will provide reclaimed water at the nearest connection point to the applicant's property, including any typical seasonal or other fluctuations in the operating pressure.
 - 3) All costs associated with the applicant's use of reclaimed water:
 - (a) The reclaimed water rate or rates 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.

- (b) Any other one-time charges for the connection to the reuse.
 - (c) Whether the reuse utility helps fund potential reclaimed customers' costs to connect to the reclaimed line or convert its operation to use reclaimed water.
 - 4) The water quality parameters of the reclaimed water for the constituents that the applicant identifies as pertinent to the intended use.
 - 5) Any additional information the reuse utility thinks the applicant should consider in evaluating the economic, environmental, or technical feasibility of its using reclaimed water, including any reclaimed water availability charges the reuse utility would impose if the applicant chose not to connect to the reclaimed water system.
If the reuse utility fails to respond or does not provide the information within 30 days after receipt of the applicant's request, the applicant shall provide the District a copy of the applicant's written request and a statement that the utility failed to provide the requested information. If the reuse utility provides a partial response, the applicant shall also provide that to the District.
- (f) The use must not cause harm to existing off-site land uses resulting from hydrologic alterations. A proposed use will be denied as not reasonable-beneficial if the use would cause adverse flooding or lower the water table or surface water level and cause an unmitigated adverse impact on an existing off-site land use.

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

1. Significant reduction in water levels in a surface water body;
2. Significant potential for land collapse or subsidence caused by a reduction in water levels;
3. Damage to crops, wetlands, or other types of vegetation; and
4. Adverse flooding.

Methods for avoiding harm include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, mitigating the damages caused, or not increasing the potential for flooding. An applicant may accept adverse flooding impacts on land owned by the applicant or land for which the applicant has demonstrated sufficient legal authority to accept such flooding impacts. In all cases, it is the applicant's responsibility to mitigate adverse impacts caused by the use, including wetland impacts and impacts on off-site land uses which existed at the time of permit application. Under Section 2.3(g)4. below, an applicant must also avoid or mitigate impacts to wetlands or other surface waters wherever they are located.

(g) The use must not cause harm to the water resources of the area in any of the following ways:

1. The use must not cause harmful water quality impacts to the water source resulting from the withdrawal or diversion.
2. The use must not cause harmful water quality impacts from dewatering discharge to receiving waters. Applicants who have obtained and are in compliance with a National Pollutant Discharge Elimination System (NPDES) or Environmental Resource Permit for dewatering shall be considered to not cause harmful water quality impacts from dewatering discharge to receiving waters.
3. The use must not cause harmful saline water intrusion or harmful upconing. Harmful saline water intrusion or harmful upconing is defined as saline water encroachment which detrimentally affects the applicant or other existing legal users of water, or is otherwise detrimental to the public interest as defined in Section 3.10. The District shall consider the following factors for determining whether saline water intrusion or upconing is harmful:
 - a. Movement of a particular saline water interface to a greater distance inland or towards a wellfield than has historically occurred as a consequence of seasonal fluctuations or drought. A saline water interface is defined as a zone of dispersion between two geochemical types of groundwater or a zone of change between areas of groundwater with significantly different chloride concentrations.
 - b. The amount and rate of increase from background levels in chloride concentrations at the base of the aquifer or producing zone within the area of influence of the well field. Background levels are the chloride concentrations that existed before withdrawals commenced.
 - c. Whether there has been a detrimental change in the geochemistry of the groundwater at the base of the aquifer or producing zone within the area of influence of the wellfield towards a saline water composition. An example of such a change in geochemistry is where a newly constructed well may yield a bicarbonate type water initially, but after withdrawals begin the well (or nearby wells) yield a sodium chloride type water. This change is an indication that intrusion of saline water or upconing has taken place during the withdrawal of water.

In each situation, the determination of harmful saline water intrusion or harmful upconing will be made on a case-by-case basis.

4. The use must not cause harmful hydrologic alterations to natural systems, including wetlands or other surface waters (on site or off-site). A proposed use

will be denied as not reasonable-beneficial if the use would alter the existing hydrology and cause an unmitigated adverse impact to natural systems, including wetlands or other surface waters. Methods for avoiding harm include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, mitigating the damages caused, or not increasing the potential for flooding. An applicant must avoid or mitigate impacts to wetlands or other surface waters wherever they are located.

5. The use must not otherwise cause harmful hydrologic alterations to the water resources of the area.
 - (h) The consumptive use shall not cause or contribute to a violation of state water quality standards in receiving waters of the state, as set forth in chapters 62-3, 62-4, 62-302, 62-520, and 62-550, F.A.C., including any anti-degradation provisions of sections 62-4.242(1)(a) and (b), 62-4.242(2) and (3), and 62-302.300, F.A.C., and any special standards for Outstanding National Resource Waters set forth in sections 62-4.242(2) and (3), F.A.C. The criterion is considered to have been met for any use of water that is required to obtain a permit or certification under Chapter 403, Florida Statutes, or a permit under Part IV of Chapter 373, Florida Statutes. For those applications relying on the issuance of a permit under Part IV of Chapter 373 to meet this criterion, a special permit condition will be attached that prohibits the consumptive use until such other permit is issued and the system is constructed.
 - (i) The use must be in accordance with any minimum flow or level and implementation strategy established pursuant to Sections 373.042 and 373.0421, F.S.
 - (j) The use must not use water reserved pursuant to Subsection 373.223(4), F.S.

3.0 Water Resource Impact Evaluation

3.1 Data Collection, Evaluation, and Modeling

3.1.1 Hydrologic Testing Program

Hydrologic data collection and evaluations by the applicant are a requirement for a consumptive use permit except when the District possesses sufficient hydrologic information to enable it to evaluate the application. A hydrologic testing program will be required in the following circumstances:

- (a) If evidence exists that there may be insufficient available water for permitting;
or
- (b) If evidence indicates that existing legal uses may be interfered with by an applicant's anticipated well drawdown; or
- (c) If evidence indicates that groundwater contamination or pollution exists or may be caused by a proposed withdrawal.

The need for hydrogeologic data collection and evaluations will be discussed during a pre-application meeting. The results of the data collection and evaluation should be submitted at the time of permit application. If such information is not included at the time of application, it will be requested pursuant to the provision of Section 1.4.5.3 of this Handbook.

Data collection must be performed when the amount of data is inadequate for staff to evaluate impacts associated with proposed withdrawals or if an allocation is desired which is larger than that which the staff has recommended to be reasonable. Data collection may involve the compilation of existing data and/or the collection of new data. The following are the types of data that may be required: rainfall, historical pumpage records, specific capacity data on individual wells, transmissivity, storage coefficient, leakance of the aquifer, water level elevations and record for wells or other water bodies, and the location of the saline water interface. A proposal for data collection should have staff approval prior to expenditure of funds.

Staff can reevaluate an application upon receipt of additional data. It should be emphasized that additional data collection will result in a higher allocation only if all criteria are satisfied by an allocation calculated from additional data.

If the applicant disagrees with the allocation recommended by staff because of the interpretation and evaluation of the data (assuming the quantity and quality of data are adequate), it will be in the best interest of the applicant to conduct a hydrogeologic evaluation if a larger allocation is desired. An evaluation may involve the interpretation of field data, computer modeling of the groundwater system, and analysis of impacts, including the movement of the saline water interface, migration

of any contamination, and introduction of any pollutant, where applicable. Hydrogeologic evaluations should only be performed by a qualified groundwater expert.

The Guidelines for Developing and Conducting an Aquifer Performance Testing Program (Appendix D) represents the methodology considered most useful by the District in data collection and hydrogeologic evaluations.

3.2 Source Specific Criteria [RESERVED]

3.3 Evaluation of Impacts to Water Resources

3.3.1 Available Water/Competing Applications

Available water is water available for the permitting program. It is equal to the difference between the amount of safely usable water in an aquifer or basin minus the amount of water previously permitted. Usable water is that quantity of water defined by the District as both treatable using a feasible method of treatment and constituting a safe sustained yield from the aquifer or basin.

A site-specific determination of available water will involve evaluation of the following:

- (a) Water shortages in the applicant's area: If a water shortage has historically occurred in the applicant's area, staff will evaluate whether the amount of water meets the statutory criteria on a case-by-case basis.
- (b) Insufficiency of available water: An insufficiency of available water exists when the amount of usable water may be less than the amount of water which is both proposed and presently available for use. Safe sustained yield will be used in consideration of allocable water for an island or peninsular location and for areas in which rainfall recharge is the only source of water.
- (c) Proximity of saline water interface and potential for inland movement of the saline water interface (Section 2.3(g)3.).
- (d) Proximity of pollution or contamination sources and potential for significant pollutant or contaminant transport towards wellfields (Section 2.3(g)1.).

Pollution or contamination of wellfields is inconsistent with the public interest as well as not reasonable-beneficial. Additionally, staff will recommend denial of an application for any one of the following reasons: first, the occurrence of water resource shortages in the applicant's area does not allow the permitting of additional quantities of water beyond those allocated in existing permits; second, no available water is available on a site-specific basis; or third, the Governing Board had

indicated that no additional water is presently available on a regional basis for use within the aquifer or basin.

3.3.1.1 Insufficiency of Available Water

If an applicant applies for a quantity of water in an area where there is not enough water to satisfy both the permitted demand and the proposed demand, staff will recommend a quantity that represents the amount of available water remaining after all permitted allocations have been accounted for.

3.3.1.2 Competing Applications in an Area of Limited Allocable Available Water

Applications are competing when staff evaluation indicates that the amount of available water is inadequate for both or all the applicants, or that for any other reason are in conflict, and the District has deemed the applications complete.

In case of competing applications which otherwise meet the requirements for issuance of a permit staff will recommend the application which best serves the public interest. If both applications equally serve the public interest, staff will recommend preference to a renewal application over an initial application.

In case of proposed uses, if competing applications are all renewals or all initial applications and all applications equally serve the public interest, staff will calculate an equitable amount for permitting for all applicants in the following manner:

- (a) For public supply uses, per capita consumption will be set equal to the smallest value of either of the following: 1) the District-wide average, or 2) the least value proposed by any applicant in competition.
- (b) For public supply uses, projected water use based on population growth for all applicants will be reduced on a percentage basis until the sum total of all withdrawals is equal to the sum total of allocable water.
- (c) For agricultural uses, the system efficiency ratio will be set at the value which is obtained by the most efficient system in use in the area.
- (d) For industrial uses, need will be analyzed based upon consideration of available water conservation methods.

3.3.2 Impact Offsets and Substitution Credits

3.3.2.1 Impact Offsets

An applicant may propose an impact offset derived from the use of reclaimed water as part of a permit application, consistent with Rule 62-40.416(7), F.A.C. (see Appendix G). Applicants proposing such an impact offset must demonstrate that the conditions for issuance in Rule 40C-2.301, F.A.C., are met.

3.3.2.2 Substitution Credits

An applicant may propose the use of a substitution credit derived from the use of reclaimed water as part of a permit application, consistent with Rule 62-40.416(8), F.A.C. (see Appendix G). Applicants proposing such a substitution credit must demonstrate that the conditions for issuance in Rule 40C-2.301, F.A.C., are met.

3.4 Saline Water Intrusion

Harmful saline water intrusion or harmful upconing is defined as saline water encroachment which detrimentally affects the applicant or other existing legal users of water, or is otherwise detrimental to the public interest as defined in Section 3.10. The District shall consider the following factors for determining whether saline water intrusion or upconing is harmful:

- (a) Movement of a particular saline water interface to a greater distance inland or towards a wellfield than has historically occurred as a consequence of seasonal fluctuations or drought. A saline water interface is defined as a zone of dispersion between two geochemical types of groundwater or a zone of change between areas of groundwater with significantly different chloride concentrations.
- (b) The amount and rate of increase from background levels in chloride concentrations at the base of the aquifer or producing zone within the area of influence of the well field. Background levels are the chloride concentrations that existed before withdrawals commenced.
- (c) Whether there has been a detrimental change in the geochemistry of the groundwater at the base of the aquifer or producing zone within the area of influence of the wellfield towards a saline water composition. An example of such a change in geochemistry is where a newly constructed well may yield a bicarbonate type water initially, but after withdrawals begin the well (or nearby wells) yield a sodium chloride type water. This change is an indication that intrusion of saline water or upconing has taken place during the withdrawal of water.

In each situation, the determination of harmful saline water intrusion or harmful upconing will be made on a case-by-case basis.

3.5 Existing Off-Site Land Uses

A proposed use will be denied as not reasonable-beneficial if the use would cause adverse flooding or lower the water table or surface water level and cause an unmitigated adverse impact on an existing off-site land use.

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

1. Significant reduction in water levels in a surface water body;
2. Significant potential for land collapse or subsidence caused by a reduction in water levels;
3. Damage to crops, wetlands, or other types of vegetation; and
4. Adverse flooding.

Methods for avoiding harm include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, mitigating the damages caused, or not increasing the potential for flooding. An applicant may accept adverse flooding impacts on land owned by the applicant or land for which the applicant has demonstrated sufficient legal authority to accept such flooding impacts. In all cases, it is the applicant's responsibility to mitigate adverse impacts caused by the use, including wetland impacts and impacts on off-site land uses which existed at the time of permit application. Under Section 2.3(g)4., an applicant must also avoid or mitigate impacts to wetlands or other surface waters wherever they are located.

3.6 Interference with Existing Legal Uses

The use of water must not cause an interference with a legal use of water which existed at the time of the application for the initial consumptive use permit.

Interference with a legal use of water is defined as a decrease in the withdrawal capability of any individual withdrawal facility of a legal use of water which was existing at the time of the application for the initial permit such that the existing user experiences economic, health, or other type of hardship. A proposed use must not cause the water table level or aquifer potentiometric surface level to be lowered so as to cause interference to an existing legal use of water.

An interference occurs when the withdrawal capability of any individual withdrawal facility of a presently existing legal use of water experiences a 10% or greater reduction in withdrawal capability or when the existing user experiences economic, health, or other type of hardship as a result of the new use.

The percentage reduction in withdrawal capability is calculated in the following way:

$$\% \text{ Reduction} = \frac{(\text{withdrawal capability prior to impact (gpm)} - \text{withdrawal capability after impact (gpm)})}{\text{withdrawal capability prior to impact}} \times 100$$

If presently existing legal uses rely on wells fitted with centrifugal pumps, then the evaluation of interference will be made assuming that the length of the drop pipe is equal to the lift capability of the centrifugal pump affixed to the well.

If presently existing legal uses rely on wells fitted with non-centrifugal pumps, or on centrifugal pumps other than described in the aforementioned cases, the District will evaluate adverse impacts on a case-by-case basis.

If the requested allocation will not cause an interference with legal uses of water which existed at the time of permit application, and it also meets all other conditions for issuance, then this will be the amount allocated. If the requested volume causes an interference, then staff will calculate the allocation that will not interfere with legal uses of water that existed at the time of permit application and recommend this amount as a maximum allocation unless the interference is eliminated by the applicant.

3.7 Otherwise Harmful

A consumptive use must not cause harm to the water resources of the area in any of the following ways:

- (a) The use must not cause harmful water quality impacts to the water source resulting from the withdrawal or diversion.
- (b) The use must not cause harmful water quality impacts from dewatering discharge to receiving waters. Applicants who have obtained and are in compliance with a National Pollutant Discharge Elimination System (NPDES) or Environmental Resource Permit for dewatering shall be considered to not cause harmful water quality impacts from dewatering discharge to receiving waters.
- (c) The use must not cause harmful saline water intrusion or harmful upconing. Harmful saline water intrusion or harmful upconing is defined as saline water encroachment which detrimentally affects the applicant or other existing legal users of water, or is otherwise detrimental to the public interest as defined in Section 3.10. The District shall consider the following factors for determining whether saline water intrusion or upconing is harmful:
 1. Movement of a particular saline water interface to a greater distance inland or towards a wellfield than has historically occurred as a consequence of seasonal

fluctuations or drought. A saline water interface is defined as a zone of dispersion between two geochemical types of groundwater or a zone of change between areas of groundwater with significantly different chloride concentrations.

2. The amount and rate of increase from background levels in chloride concentrations at the base of the aquifer or producing zone within the area of influence of the well field. Background levels are the chloride concentrations that existed before withdrawals commenced.
3. Whether there has been a detrimental change in the geochemistry of the groundwater at the base of the aquifer or producing zone within the area of influence of the wellfield towards a saline water composition. An example of such a change in geochemistry is where a newly constructed well may yield a bicarbonate type water initially, but after withdrawals begin the well (or nearby wells) yield a sodium chloride type water. This change is an indication that intrusion of saline water or upconing has taken place during the withdrawal of water.

In each situation, the determination of harmful saline water intrusion or harmful upconing will be made on a case-by-case basis.

- (d) The use must not cause harmful hydrologic alterations to natural systems, including wetlands or other surface waters (on site or off-site). A proposed use will be denied as not reasonable-beneficial if the use would alter the existing hydrology and cause an unmitigated adverse impact to natural systems, including wetlands or other surface waters. Methods for avoiding harm include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, mitigating the damages caused, or not increasing the potential for flooding. An applicant must avoid or mitigate impacts to wetlands or other surface waters wherever they are located.
- (e) The use must not otherwise cause harmful hydrologic alterations to the water resources of the area.

3.8 Minimum Flows and Levels

A consumptive use must be in accordance with any minimum flow or level and implementation strategy established pursuant to Sections 373.042 and 373.0421, F.S.

3.9 Water Reservations

A consumptive use must not use water reserved pursuant to Subsection 373.223(4), F.S.

3.10 Public Interest

For purposes of this section, "public interest" means those rights and claims on behalf of people in general. In determining the public interest in consumptive use permitting decisions, the District will consider whether an existing or proposed use is beneficial or detrimental to

the overall collective well-being of the people or to the water resource in the area, the District and the State.

4.0 Monitoring Requirements

Issuance of a Consumptive Use Permit requires that the withdrawals will not result in significant unmitigated adverse impacts on the water resources and existing legal uses of water, and that the use continues to be consistent with the public interest. To ensure that these criteria continue to be met after a permit is issued, monitoring and reporting activities are required by permit conditions. Where appropriate, the District's monitoring requirements may be satisfied by providing reports required by other agencies.

4.1 Withdrawal Quantity

All consumptive use permittees issued permits under subsection 40C-2.041(1), F.A.C., must measure the quantity of water used, diverted or withdrawn from any source in accordance with the requirements of this section. Measuring of actual pumpage provides a means to develop historical records in order to accurately project future reasonable demand, to assess impacts to the resource and existing water and land uses, to enable the District to assess the effectiveness of conservation measures, and to ensure that quantities withdrawn do not exceed permitted allocations. Each source must be measured, and monitoring plans must be developed. However, such monitoring plans need not provide duplicative monitoring of water that is withdrawn from a source for storage and then withdrawn from storage for use.

Whenever flow meters are used, they must maintain at least 95% accuracy (within +/- 5% of actual flow), be verifiable, and be installed according to manufacturer's specifications. Whenever an alternative method to flow meters is used to measure withdrawals, it must be verifiable and at least 90% accurate (within +/- 10% of actual flow).

4.1.1 Uses Initially Permitted On or After July 23, 1991

Applicants for proposed uses of water that will be issued their initial consumptive use permit under Subsection 40C-2.041(1), F.A.C., on or after July 23, 1991, with total combined allocations exceeding 100,000 gallons per day on an average annual basis must install in-line totalizing flow meters on all withdrawal points prior to beginning the permitted use. If an applicant demonstrates that it is not economically or technologically feasible to use a flow meter to measure water withdrawals, the District shall approve the use of an alternative method for measuring flow upon a demonstration that the method is verifiable and at least 90% accurate at measuring the withdrawals.

Applicants for proposed uses of water with total allocations less than or equal to 100,000 gallons per day on an average annual basis must install either in-line totalizing flow meters or alternatives to flow meters on all withdrawal points prior to beginning the permitted use. If an alternative to flow meters is used to calculate the withdrawal quantity, such method must be fully described and any calculations necessary included with the initial submittal of data, for District staff approval. The District shall accept such alternative method upon a demonstration

that the method is verifiable and at least 90% accurate at measuring the withdrawals.

4.1.2 Uses Initially Permitted Prior to July 23, 1991

All consumptive use permittees issued initial permits under Subsection 40C-2.041(1), F.A.C., prior to July 23, 1991, must measure the quantity of water used by either installing in-line totalizing flow meters or implementing an alternative for measuring flow.

If an alternative to flow meters is used to calculate the withdrawal quantity, such method must be fully described and any calculations necessary included with the initial submittal of data, for District staff approval. The District shall accept such alternative methods upon a demonstration that the method is verifiable and at least 90% accurate at measuring the withdrawals. If after a period of one year, the selected alternative fails to accurately measure the withdrawal quantities, in-line flow meters or another alternative must be used.

In addition, in specific cases where the District determines that flow meters are necessary to ensure that the consumptive use complies with the reasonable-beneficial use criteria in Subsection 40C-2.301(2), F.A.C., flow meters shall be required by permit condition.

4.1.3 Changes to Uses Initially Permitted Prior to July 23, 1991

If any permit issued under Subsection 40C-2.041(1), F.A.C., prior to July 23, 1991 with total combined allocations exceeding 100,000 gallons per day on an average annual basis is modified or renewed after July 23, 1991, to add new withdrawal points, then in-line totalizing flow meters must be installed to measure any water used from the new withdrawal points prior to beginning the use. In the case of permitted users seeking only an increase in allocation from an existing withdrawal point permitted initially prior to July 23, 1991, the District shall authorize the continued use of an alternative method to measure flow provided the applicant demonstrates that the alternative being used is verifiable and at least 90% accurate. If an applicant demonstrates that it is not economically or technologically feasible to use a flow meter to measure water from the new withdrawals points, the District shall approve the use of an alternative method for measuring flow upon a demonstration that the alternative method is verifiable and at least 90% accurate at measuring the withdrawals.

4.1.4 District authorized staff, upon proper identification, shall be provided with an opportunity to perform independent measurements of flow using District monitoring equipment and to inspect system operation to determine compliance with the permit. The District will ensure that the measurements are made in a manner that does not interfere with the permittee's water use activities.

4.2 Compliance Monitoring

4.2.1 Recording and Reporting Water Use

Total monthly withdrawal quantities shall be recorded continuously by the permittee and totaled monthly. For any permittee with total combined allocations exceeding 100,000 gallons per day on an average annual basis, the monthly totals of water withdrawal must be reported to the District at least every six months (semi-annually) on District Form Number 40C-2.900(4) (Water Use/Pumpage Report Form (EN-50)). (See Appendix E) For any permittee whose total combined allocation is equal to or less than 100,000 gallons per day on an average annual basis and whose permit was issued after December 1, 2011, the permittee must annually submit, by January 31, a completed District Form Number 40C-2.900(6) (Annual Statement of Continuing Use). (See Appendix E) Such a permittee shall maintain records of water quantity used on a monthly basis for the life of the permit and shall provide those records to the District when requested by the District. For any permittee with a permit issued before December 1, 2011 whose total combined allocation is equal to or less than 100,000 gallons per day on an average annual basis, the permittee may submit a completed District Form Number 40C-2.900(6), as an alternative to submitting EN-50 forms as required by their permit. In such case, the permittee shall maintain records of water quantity used on a monthly basis for the life of the permit and shall provide those records to the District when requested by District staff. However, a permittee may be required by permit condition to record pumpage on a daily basis from each withdrawal point and report the daily withdrawal totals on a monthly basis to the District when the District determines that special circumstances warrant.

Any required flow meter(s) must be tested for accuracy every 10 years from installation or the last accuracy test, and recalibrated if the meter does not measure within +/-5% of actual flow. District Form Number 40C-2.900(5) (Flow Meter Accuracy Report Form (EN-51)) must be submitted to the District within 10 days of each inspection/calibration. (See Appendix E)

Any alternative method(s) must be validated every 10 years from its first use or the last accuracy test. District Form Number 40C-2.900(8) (Alternative Method Flow Verification Report Form) must be submitted to the District within 10 days of each validation. (See Appendix E)

- 4.2.2** The water quantity monitoring requirements contained in Section 4.1 are not applicable to permits for water uses that do not exceed the thresholds set forth in Section 1.4.2.1(a) and (b) and that only authorize the use of water for landscape irrigation other than provided for in paragraph 40C-2.042(2)(a), F.A.C.

5.0 Permit Limiting Conditions

Consumptive use permits shall be conditioned, as necessary, to ensure that the permitted consumptive use continues to meet the conditions for issuance in Rule 40C-2.301, F.A.C. There are two categories of permit conditions that will be applied to consumptive use permits. Standard conditions contain general information and operational constraints that generally apply to all water uses unless waived or modified by the District upon a determination that the conditions are inapplicable to the use authorized by the permit. Special conditions may vary among use classes, source classes, and geographic locations, and may be project-specific.

5.1 Standard Limiting Conditions *Revised 11/3/15*

The Board hereby determines and finds that the inclusion of the following standard limiting conditions on permits issued under Chapter 40C-2, F.A.C., are necessary in order to meet the requirements set forth in Subsection 40C-2.381(1), F.A.C., and will be imposed at the time a consumptive use permit is issued or granted by rule

- (a) With advance notice to the permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The permittee shall either accompany District staff onto the property or make provision for access onto the property.
- (b) Nothing in this permit should be construed to limit the authority of the St. Johns River Water Management District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the permittee must adhere to the water shortage restrictions, as specified by the District. The permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order.
- (c) Prior to the construction, modification or abandonment of a well, the permittee must obtain a water well permit from the St. Johns River Water Management District or the appropriate local government pursuant to Chapter 40C-3, F.A.C. Construction, modification or abandonment of a well will require modification of the consumptive use permit when such construction, modification or abandonment is other than that specified and described on the consumptive use permit application form.
- (d) Leaking or inoperative well casings, valves, or controls must be repaired or replaced as required to eliminate the leak or make the system fully operational.
- (e) The permittee's consumptive use of water as authorized by this permit shall not interfere with legal uses of water existing at the time of permit application. If interference occurs, the District shall revoke the permit, in whole or in part, to curtail or abate the interference, unless the interference associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.

- (f) The permittee's consumptive use of water as authorized by this permit shall not have significant adverse hydrologic impacts to off-site land uses existing at the time of permit application. If significant adverse hydrologic impacts occur, the District shall revoke the permit, in whole or in part, to curtail or abate the adverse impacts, unless the impacts associated with the permittee's consumptive use of water are mitigated by the permittee pursuant to a District-approved plan.
- (g) The permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where permittee's control of the land subject to the permit was demonstrated through a lease, the permittee must either submit documentation showing that it continues to have legal control or transfer control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40C-1.612, F.A.C. Alternatively, the permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.
- (h) A District-issued identification tag shall be prominently displayed at each withdrawal site by permanently affixing such tag to the pump, headgate, valve, or other withdrawal facility as provided by Rule 40C-2.401, F.A.C. The permittee shall notify the District in the event that a replacement tag is needed.
- (i) The permittee's consumptive use of water as authorized by this permit shall not significantly and adversely impact wetlands, lakes, rivers, or springs. If significant adverse impacts occur, the District shall revoke the permit, in whole or in part, to curtail or abate the significant adverse impacts, unless the impacts associated with the permittee's consumptive use of water are mitigated by the permittee pursuant to a District-approved plan.
- (j) The permittee's consumptive use of water as authorized by this permit shall not reduce a flow or level below any minimum flow or level established by the District or the Department of Environmental Protection pursuant to Section 373.042 and 373.0421, F.S. If the permittee's use of water causes or contributes to such a reduction, then the District shall revoke the permit, in whole or in part, unless the permittee implements all provisions applicable to the permittee's use in a District-approved recovery or prevention strategy.
- (k) The permittee's consumptive use of water as authorized by the permit shall not cause or contribute to significant saline water intrusion. If significant saline water intrusion occurs, the District shall revoke the permit, in whole or in part, to curtail or abate the saline water intrusion, unless the saline water intrusion associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.

- (l) The permittee's consumptive use of water as authorized by the permit shall not cause or contribute to flood damage. If the permittee's consumptive use causes or contributes to flood damage, the District shall revoke the permit, in whole or in part, to curtail or abate the flood damage, unless the flood damage associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.
- (m) All consumptive uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The district may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.
- (n) This permit does not convey to the permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.
- (o) A permittee may seek modification of any term of an unexpired permit. The permittee is advised that Section 373.239, F.S., and Rule 40C-2.331, F.A.C., are applicable to permit modifications.

5.2 Special Conditions *Revised 11/3/15*

In addition to the Standard Limiting Conditions (Section 5.1) listed above, the District may find that special conditions should be applied on a site-specific basis. The following are special conditions which the District may apply:

- (a) This permit will expire on _____.
- (b) Maximum daily withdrawals from _____ for _____ must not exceed _____ million gallons.
- (c) Maximum monthly withdrawals from _____ for _____ must not exceed _____ million gallons.
- (d) Maximum annual withdrawals from _____ for _____ must not exceed _____ million gallons.
- (e) The permittee must submit a completed District Form Number 40C-2.900(11) (Water Quality Report Form) to the District every ____ (period of time) for the following parameters: _____.

- (f) For those applications that do not rely on the issuance of a permit or certification under Chapter 403, F.S., or a permit under Part IV of Chapter 373, F.S., to meet Rule 40C-2.301(2)(h), F.A.C., the following special permit condition shall be included:

The permittee's consumptive use of water as authorized by the permit shall not cause or contribute to a violation of state water quality standards in receiving waters of the state as set forth in Rule 40C-2.301(2)(h), F.A.C. If violations occur, the District shall revoke the permit, in whole or in part, to curtail or abate the violations, unless the violations associated with the permittee's consumptive use of water are mitigated by the permittee pursuant to a District-approved plan.

- (g) For those applications that relied on the issuance of a permit under Part IV of Chapter 373, F.S., to meet Rule 40C-2.301(2)(h), F.A.C., the following special permit condition shall be included:

The permittee's consumptive use as authorized by the permit shall be prohibited until after a permit under Part IV of Chapter 373, F.S., is issued and the portion of the system necessary to provide water quality treatment is constructed.

- (h) For those applications for a secondary use that receive a longer duration permit than the remaining duration of the water supplier's permit, the following special permit condition shall be included:

This permit will expire on _____, unless the consumptive use permit of permittee's water supplier expires without renewal. In that event, this permit will expire on the same day as the consumptive use permit of permittee's water supplier.

5.3 Other Conditions

In addition to the special conditions listed in Subsection 5.2, the District may apply such other reasonable special conditions to meet localized problems as it deems necessary to ensure that the use meets the criteria established in Rule 40C-2.301, F.A.C.

Appendix A

Appendix A

The current version of Chapter 40C-1, F.A.C., is available at the following link:

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=40c-1>

Appendix B

Appendix B

The current version of Chapter 40C-2, F.A.C., is available at the following link:

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=40c-2>

Appendix C

Appendix C

Applications Forms

(1) Consumptive Use Permit Application, Form Number 40C-2.900(1), effective August 14, 2014 is available at:

{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04416>}.

The following supplemental application forms referenced in the Consumptive Use Permit Application, Form Number 40C-2.900(1), are available at the following links:

- (a) Agricultural – Form A, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04417>};
- (b) Commercial/Industrial – Form B, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04418>};
- (c) Landscape/Recreation – Form C, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04419>};
- (d) Mining/Dewatering – Form D, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04420>};
- (e) Public Supply – Form E, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04421>};
- (f) Environmental/Other – Form F, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04422>};
- (g) Institutional – Form G, at:
{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04423>}.

(2) Consumptive Use Permit Minor Individual Supplemental Form, Form Number 40C-2.900(2), effective August 14, 2014 is available at:

{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04424>}.

(3) Consumptive Use Permit Application for Landscape Irrigation for One Additional Day Per Week, Form Number 40C-2.900(3), effective August 14, 2014 is available at:

{<http://www.flrules.org/Gateway/reference.asp?No=Ref-04425>}.

Appendix D

Appendix D

GUIDELINES FOR DEVELOPING AND CONDUCTING AN AQUIFER PERFORMANCE TESTING PROGRAM

INTRODUCTION

When the impacts resulting from an existing or proposed groundwater withdrawal cannot be adequately evaluated due to a lack of reliable hydrogeologic data, staff may request the applicant or permittee proposing the groundwater withdrawal to develop and conduct an aquifer performance testing (APT) program.

As an aid to the applicant or the permittee, staff have compiled a set of guidelines for developing and conducting a program. The guidelines are not meant to portray an inflexible attitude about the manner in which the program should be conducted, but are only designed to outline the general and basic aspects of an acceptable procedure for hydrogeologic data collection, presentation and interpretation. Depending on the specific circumstances of the proposed withdrawals, alternative methodologies may be necessary. Prior to the commencement of any well construction, it is recommended that the applicant or permittee obtain approval of the District for any alternative methodologies or deviation from these guidelines.

The guidelines are subdivided into separate sections dealing with: 1) the initial site investigation, 2) the construction of on-site wells, 3) the step drawdown test, 4) the constant rate discharge test, 5) the analysis of constant rate discharge test data, and 6) the contents of the Hydrogeologic Report. It is recommended that the applicant or permittee submit a plan for the APT program to the District for review.

The successful completion of an APT program does not necessarily result in a staff recommendation for the allocation of the quantity of water requested by the applicant or permittee. The data collected during the program, however, often supports a request for the withdrawal of groundwater.

1. Initial Site Evaluation

The initial site evaluation should be performed as the first step in an APT program. During the initial site evaluation, the following items should be addressed:

- (a) The most probable drilling depth and yield for a proposed test production well(s). These should be determined by reviewing existing data such as geologic well logs and hydrogeologic reports. A preliminary cross section indicating the thickness and water quality (if appropriate) associated with the various production and confining zones should be constructed prior to selecting a drilling depth.
- (b) The location of any possible sources of groundwater contamination.

- (c) The location of adjacent surface water bodies that may interact with the groundwater system.
- (d) The best means of routing the test production well discharge water off-site to an area that will not interfere with or affect the outcome of the test.
- (e) The location, total depth, cased depth, withdrawal rate, pumping schedule, pre-pumping water level, and specific capacity of adjacent pumping wells. If possible, the water levels should be referenced to the National American Vertical Datum of 1988 (NAVD 88).
- (f) The location, total depth, cased depth, and static water level of existing wells that may serve as observation wells during the constant rate discharge and recovery tests. If possible, the water levels should be referenced to NAVD 88.
- (g) The estimated analytical or numerical groundwater drawdown modeling parameters and contour maps used to determine optimum monitor well locations, total depths and cased depths for the proposed test production and observation wells necessary for the constant rate discharge test (see the subsection on Construction of On-Site Wells for recommended number of wells, radial distances and depths). The potential adverse impacts that proposed withdrawals may have on existing legal uses should be considered when locating the test production well.

After completing the initial site investigation, the applicant or permittee should submit the proposed testing program to District staff for discussion. The proposed program should include the mapped location (GPS coordinates), total depth and cased depth of the proposed test production well and observation wells, the pump discharge rate, the routing of pump discharge water, and the method and frequency of collecting water quality data. It is recommended that the proposed program follow the criteria specified in the following sections unless otherwise agreed to by District staff. It is recommended that all proposed APT programs be discussed with District staff prior to accepting bids on the construction of test wells, test production wells, or any services associated with the project.

2. Construction of On-Site Wells

In most cases, up to three production-zone observation wells and one shallow or adjacent aquifer observation well may be necessary to conduct a constant rate discharge test. It is recommended that the construction of observation wells be initiated after the proposed APT program has been agreed upon. The number of observation wells and radial distances from the test production well to observation wells may vary for a constant rate discharge test conducted within the Floridan Aquifer. The most distant observation well from the test production well may be designed to satisfy possible limiting conditions accompanying certain Consumptive Use Permits. The production-zone observation wells should have screened or open hole segments that correspond to those of the test production well. The shallow or adjacent aquifer observation well should be located well within the calculated cone of depression of the test production well or as determined by the step drawdown analysis. These wells should be constructed such that the anisotropic characteristics of the

production zone or the extent of the hydraulic connection across the semi-confining layers overlying or underlying the production zones can be determined. All wells should be developed in a manner such that a good hydraulic connection exists between the wells and the zones being monitored. The cased portion of all production zone observation wells penetrating a confining strata of low permeability material should be cemented or sealed to the base of the confining strata.

During installation of the test production well, sampling for water quality should commence as soon as possible below the bottom of the casing (if applicable) upon critical penetration of the water-producing hydrologic zone in the aquifer. Additional samples should be collected at pre-determined intervals specified during the initial site evaluation, or as necessary to characterize changes associated with discrete hydrologic zones, typically detected by changes in geologic formation lithology or groundwater flow rates. Typical pre-determined water quality sampling intervals should be included at the addition of each drill rod or at regular depths (for example, every 20 feet) depending upon factors such as total well depth and/or proximity to areas of known saline water intrusion.

Water quality samples collected during construction of the test production well should be analyzed in the field and/or the laboratory for the following parameters:

- Water temperature (°C)
- pH (SU)
- Specific Conductance (µmhos/cm or µS/cm)
- Chloride total (mg/L)

The sampling of additional parameters (for example, sulfates or the major ion suite) may be needed based upon specific field conditions. It is recommended that the applicant or permittee discuss with District staff the parameters to be sampled during the initial site evaluation and prior to the installation of the test production well.

A geologic log should be constructed for each well and a hydrostratigraphic cross section for the site of investigation should be developed using the lithologic logs from each well. Geophysical logging (caliper, gamma, video, fluid resistivity, temperature, specific conductivity, electric (normal or induction)) of each well should be accomplished to determine final construction details and verify hydrologic data.

3. Step Drawdown Test

A step drawdown test should be performed on the completed and developed test production well(s) as the third step in the APT program. The data collected during the step drawdown test can be used to predict the drawdown that will occur within the test production well at various discharge rates.

To perform the step drawdown test, it is necessary to have a means of obtaining access to the inner casing of the test production well so that water levels within the casing can be collected. The pump used during the step drawdown test must be capable of operating at

various discharge rates. A calibrated orifice weir or some other calibrated flow meter should be installed on the discharge side of the pump so that discharge rates can be monitored during the test. If the pumped water cannot be routed to a storage tank or off-site through an existing water distribution system, a closed conduit or plastic lined trench should be used to transport the pumped water so as not to cause ponding of water. As an alternative, it may be possible to route the pumped water to an existing surface water body.

The step drawdown test should be performed at four constant discharge rates which represent approximately 100%, 85%, 65%, and 50% of the design capacity of the test production well. The pumping period for each step should be a minimum of 30 minutes and the aquifer should be allowed to recover a minimum of 20 minutes after each pumping period or until the water level within the test production well has recovered to within 0.05 feet of the initial static water level. After the drawdown for 30 minutes of pumping has been determined, the discharge valve should be adjusted to obtain the constant discharge rate for the next step and the pump should be turned off to allow groundwater levels to recover. The drawdown is the difference between the initial static water level within the test production well casing and water level within the test production well casing after 30 minutes of constant discharge pumping. Water levels should be determined to the nearest 0.1 foot. A digital copy (Microsoft Excel) of the raw data collected during the step drawdown test should be provided to District staff.

The additional head loss that occurs as groundwater flows into the test production well can be calculated using the coefficients determined by plotting the constant discharge (Q) for each step versus the specific drawdown (s/Q) for each step. Drawdowns observed within the test production well should be adjusted for well entrance losses and for partial penetration. Corrected drawdowns can then be used in a distance versus drawdown plot to determine the transmissivity of the aquifer or can be calculated by acceptable numerical procedures.

4. Constant Rate Discharge Test

Prior to initiating the constant rate discharge test, the prepumping static water level (NAVD 88) should be determined in all observation wells, the test production well(s) and any adjacent surface water bodies. These water levels should be determined to the nearest 0.1 foot. If the constant rate discharge test is to be performed within 2,000 feet of tidal water or an adjacent pumping well, a continuous water level recorder should be placed on the well nearest the tidal water or adjacent pumping well for a minimum of 24 hours. The magnitude of the water level fluctuations indicated by the hydrograph will indicate if the raw drawdown and recovery data collected during the constant rate discharge test should be adjusted.

The time distribution and volume of adjacent pumpage and rainfall occurring two hours prior to initiating the constant rate discharge test should be recorded. If possible, adjacent pumpage should be curtailed and rainfall should not occur two hours prior to initiating the constant rate discharge test.

When a constant rate discharge test is conducted within the Floridan aquifer, a minimum 48-hour discharge period is recommended or until a steady state is achieved.

Not less than two hours prior to initiating the constant rate discharge test, the valve located on the discharge site of the test production well pump should be adjusted so that the initial discharge of the pump will be close to the constant discharge rate selected for the test. If possible, the discharge rate should approach the design capacity of the well. The actual pump discharge should be recorded throughout the test. If the pumped water cannot be routed to a storage tank or off-site through an existing water distribution system, a closed conduit or plastic lined trench should be used to transport the pumped water to an area of sufficient distance down gradient from the test production well, such that aquifer recharge does not interfere with the drawdown results. As an alternative, it may be possible to route the pumped water to an existing adjacent surface water body.

Drawdown and recovery water level measurements should be made to the nearest 0.01foot. A predetermined schedule for measuring drawdowns should be initiated as soon as the test production well pump starts to discharge. It is suggested that drawdown measurements be made according to the following schedule:

<u>Frequency of Measurement</u>	<u>Time after Pumping Started</u>
Approx. every 15 seconds	0 to 2 minutes
Approx. every 30 seconds	2 to 5 minutes
Approx. every 1 minute	5 to 15 minutes
Approx. every 5 minutes	15 to 60 minutes
Approx. every 10 minutes	60 to 100 minutes
Approx. every 0.5 hour	2 to 5 hours
Approx. every 1 hour	5 to 72 hours

The time distribution and volume of adjacent pumpage and on-site rainfall that occurred during the constant rate discharge test should be recorded. The constant rate discharge test should be terminated if water levels in observation wells start to rise due to the effects of recharge from rainfall.

A copy of all raw data collected during the constant rate discharge test should be provided to the staff in the Hydrogeologic Report.

Water Quality Analysis

Water quality sampling is a critical part of a constant rate discharge test. The sampling schedule should be determined based upon the response of the aquifer to stress; however, a typical sampling schedule for a 72-hour (3-day) constant rate discharge test of a confined aquifer is as follows:

1. After 3 to 5 casing volumes purged
2. 6 hours

3. 12 hours
4. 18 hours
5. 24 hours
6. 36 hours
7. 48 hours
8. 60 hours
9. 72 hours

Water quality samples should be collected from the test production well in accordance with the Florida Department of Environmental Protection's (DEP) standard operating procedures (SOP), DEP-SOP-001/01, DEP Quality Assurance Rule, 62-160, Florida Administrative Code (F.A.C), and any applicable revisions to those documents.

Water quality should be analyzed in the field for the following parameters with results of the field measurements documented using the Groundwater Sampling Log form referenced in the DEP SOP or equivalent:

- Water temperature (°C)
- pH (SU)
- Specific Conductance ($\mu\text{S}/\text{cm}$ or $\mu\text{mhos}/\text{cm}$)
- Turbidity (NTU)

Upon completion of the APT program, a water quality sample should be collected and analyzed in the laboratory for the following parameters:

- Calcium, total (mg/L)
- Magnesium, total (mg/L)
- Potassium, total (mg/L)
- Sodium, total (mg/L)
- Iron, total (mg/L)
- Strontium, total (mg/L)
- Chlorides, total (mg/L)
- Sulfates, total (mg/L)
- Total Alkalinity (mg/L as CaCO_3)
- Total Dissolved Solids (mg/L)
- Specific Conductance ($\mu\text{S}/\text{cm}$ or $\mu\text{mhos}/\text{cm}$)

Increased frequency of sampling or the sampling of additional parameters may be needed based upon specific site conditions. It is recommended, during the initial site evaluation and prior to the constant rate discharge test, the applicant or permittee discuss with District staff the sampling frequency and parameters to be sampled.

Water samples should be stored on ice immediately after collection, and remain on ice until received by the laboratory under chain-of-custody protocol. It is recommended that sample duplicates be taken to allow for unanticipated events such as laboratory errors or data loss,

and these samples be stored by the laboratory for a minimum of 60 days to ensure backup sample availability should reanalysis be required.

All water quality chemical analyses should be performed by a laboratory certified by the Florida Department of Health (FDOH) and the National Environmental Laboratory Accreditation Program (NELAP). All laboratory chemical analyses should be by methods for which the laboratory has FDOH certification, and should be completed within applicable Environmental Protection Agency (EPA) holding times.

The analytical results should be checked for anion-cation balance (equivalent concentration in milliequivalents per liter (meq/L)), and should not exceed 5% difference. If the ion balance exceeds 5% difference, the data should be evaluated for potential causes of the imbalance. It may be necessary to reanalyze the sample if it is still within acceptable holding times.

5. Analysis of Constant Rate Discharge Test Data

The constant rate discharge test raw data should be analyzed by means of analytical or graphical techniques which are based on theory which reasonably depicts on-site conditions. The analysis should determine the transmissivity (ft²/day) and storage coefficient of the production zone as well as the leakance (ft³/day/ft³) of any overlying or underlying confining zones. Recharge from surface water sources should be considered in the analysis. An attempt should be made to explain inconsistencies in the observed data. When necessary, the raw drawdown and recovery data should be adjusted to account for the effects of regional background trends, tidal fluctuations, adjacent pumpage and the effects of partial penetration.

The appropriate aquifer test analysis methodology will be dictated by the conceptual understanding gained through evaluation of the groundwater system(s) encountered at the test site, with consideration of the regional setting. As an aid in analyzing aquifer test data, the procedural standards provided in "*ASTM Standards on Determining Subsurface Hydraulic Properties and Ground Water Modeling, 3rd Edition*" serves as a comprehensive reference.

The techniques used to evaluate the aquifer test data can be facilitated by the use of commercial and public domain software. Commercial packages include but are not limited to: *Aquifer^{win32}* (Environmental Simulations, Inc.), *Aqtesolv* (Hydrosolv, Inc.), *AquiferTest Pro* (Schlumberger Water Services, Inc.).

6. Hydrogeologic Report

As the final step in an APT program, the applicant or permittee should assemble an organized hydrogeologic report. The report should include the following items:

- (a) A section describing the geologic and hydrogeologic conditions that exist at the site of investigation. The description should incorporate a hydrostratigraphic cross section developed from the geologic and geophysical well logs compiled for the test production

well and the production zone observation wells. The cross section should indicate the thickness and relative location of each production and confining zone. Also, water quality with depth and the relative head for each zone should be illustrated on the cross section.

- (b) A section describing the construction of the test production well, the four observation wells recommended for the constant rate discharge test and any other adjacent wells. The cased and uncased depth of each well should be indicated on a hydrogeologic cross section. The locations of pertinent wells and surface water bodies should be indicated on a map with accompanying GPS coordinates. The report should indicate the distance from each well or surface water body to the test production well.
- (c) A section describing the procedures used for running the step drawdown test and the constant rate discharge test, as well as the technique used in determining the discharge of the test production well, the method used for routing the pumped water away from the test production well, and the methodology used in determining the changes in water levels.
- (d) A section describing how the data collected during the step drawdown test and the constant rate discharge test were analyzed to determine the hydraulic characteristics of the hydrogeologic system. The analysis of the data collected during the step drawdown test should include a plot of Q vs. s/Q . The analysis of the data collected during the constant rate discharge test should include a figure showing the drawdown data collected from each well on a single plot of $\log t/r$ vs. $\log s$ (log-log scale plots should be used when plotting constant rate discharge test data so that published type curves can be used to check indicated match points), a figure showing the drawdown data collected from each well on a single plot of $\log t/r$ vs. s on a semi-log scale plot, and a figure showing the drawdown data collected from each well of $\log r$ vs. s on a semi-log scale plot.

Any of the above figures not discussed in the text of the hydrogeologic report should be included in the Hydrogeologic Report appendix. If a graphical solution involving type curves is used in the determination of the aquifer characteristics, the pertinent curves and match points should be indicated. The report should indicate the basis for selecting the value of transmissivity, storage coefficient and leakance most representative of the hydrogeologic system.

- (e) A section describing the impacts that proposed withdrawals will have on water levels and water quality within the selected production zone and adjacent confining units or production zones. If the proposed withdrawals are from a water table aquifer system, the applicant or permittee should calculate the theoretical time variant cone of depression that would develop in the absence of rainfall after 30, 60 and 100 days of pumpage at the proposed withdrawal rate. The calculations for a water table aquifer system should utilize the most representative values derived from the APT program.

If the proposed withdrawals are from a leaky artesian aquifer system, the applicant or permittee should calculate the theoretical time variant cone of depression that would develop after 30, 60 and 100 days of pumpage at the proposed withdrawal rate and the steady state cone of depression that would develop at the proposed withdrawal rate. The calculations for

a leaky artesian system should utilize the most representative transmissivity storage coefficient and leakance values derived from the APT program.

In all cases, the applicant or permittee should calculate the cumulative cone of depression when withdrawals from multiple wells are proposed. The resultant cone of depression should be plotted on a map of appropriate scale that includes wetlands, springs, surface water bodies and existing legal uses.

The applicant should address the impacts that lowered water levels will have on the surrounding environment and adjacent existing legal uses.

The results for water quality sampling and analyses should include, at a minimum, a discussion of the potential for degradation due to the proposed withdrawal as indicated by significant changes in parameter concentration and hydrogeochemistry detected in water quality samples collected from the test production well upon completion and during the constant rate discharge test. Copies of the laboratory chemical analytical reports and graphical tools such as Piper/trilinear plots should also be included in this section or in the report appendices.

- (f) A section tabulating all water level, rainfall, pump discharge and adjacent pumping data collected throughout the testing program. Copies of hydrographs should also be included in this section. All water levels should be referenced to NAVD 88.

Appendix E

Appendix E

Compliance Form Numbers 40C-2.900(4)-(14)

(1) Water Use/Pumpage Report Form (EN-50), Form Number 40C-2.900(4), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04426>}.

(2) Flow Meter Accuracy Report Form (EN-51), Form Number 40C-2.900(5), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04427>}.

(3) Annual Statement of Continuing Use, Form Number 40C-2.900(6), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04428>}.

(4) Water Audit Form and Instructions, Form Number 40C-2.900(7), Form Number 40C-2.900(7), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04429>}.

(5) Alternative Method Flow Verification Report Form, Form Number 40C-2.900(8), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04430>}.

(6) Annual Crop Summary Report Form, Form Number 40C-2.900(9), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04431>}.

(7) Crop Protection Report Form, Form Number 40C-2.900(10), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04432>}.

(8) Water Quality Report Form, Form Number 40C-2.900(11), effective August 14, 2014, is available at:

<http://www.flrules.org/Gateway/reference.asp?No=Ref-04434>}.

(9) Notice to District of Dewatering Activity (RDS-50), Form Number 40C-2.900(12), effective November 3, 2015, is available at:

<https://www.flrules.org/Gateway/reference.asp?No=Ref-05969>}.

(10) Voluntary Rescission of Consumptive Use Permit, Form Number 40C-2.900(13), effective November 3, 2015, is available at:

<https://www.flrules.org/Gateway/reference.asp?No=Ref-05970>}.

(11) Consumptive Use Permit Transfer Request, Form Number 40C-2.900(14), effective November 3, 2015, is available at:

<https://www.flrules.org/Gateway/reference.asp?No=Ref-05971>}.}

Appendix F

Appendix F

Water Saving Practices for Water Conservation Plans

The following practices can be used towards meeting the conservation plan elements in 2.2.3.2 (Commercial / Industrial / Institutional), 2.2.5.5 (Agricultural), and 2.2.6.1 (Landscape / Recreation / Aesthetic), Applicant's Handbook.

Individual provisions listed herein are not requirements per se, and do not exclude alternative water conservation practices the applicant may propose to the District.

To fulfill the water conservation plan requirements, applicants must implement direct and indirect practices designed to conserve water. In making such determination, the District will consider the type of use, the potential water use efficiency that could be obtained using best available technologies, and the efficiency of other similar water uses.

A. COMMERCIAL/INDUSTRIAL/INSTITUTIONAL USE TYPE

As part of each applicant's water conservation plan, an analysis of the operation's current water use practices and the water saving potential of proposed practices must be performed.

Additionally, the following practices can be used toward meeting the conservation plan requirements in Section 2.2.3.2, Applicant's Handbook.

Direct Water Saving Practices:

1. Use of recycled water on site.
2. Conduct a site-specific water audit and implement improvements identified.
3. Reduce or eliminate once-through cooling processes where technologically, economically and environmentally feasible.
4. Maximize the number of times cooling water is recycled prior to discharge, for example implement system upgrades or use of additives.
5. Replace water-cooling with air-cooling processes where technologically, economically and environmentally feasible.
6. Utilize Florida Friendly landscaping around facility buildings.

7. Implement other practices designed to reduce the water demand relative to similar type operations.

NOTE: Leak detection and repair do not qualify to meet the water conservation plan requirements because these practices are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Practices:

1. Develop a written company policy that establishes a commitment to water conservation efforts.
2. Establish an employee suggestion/incentive program which recognizes employees who submit water saving ideas.
3. Form a company water conservation committee.
4. Participate in a research project investigating water use efficiency.
5. Submit a water use efficiency research concept to the District that results in an experimental study.
6. Develop and propose other strategies to reduce water consumption.

B. LANDSCAPE/RECREATION/AESTHETIC USE TYPE

As part of each applicant's water conservation plan, an analysis of the operation's current water use practices and the water saving potential of proposed practices must be performed.

Additionally, the following practices can be used toward meeting the conservation plan requirements in Section 2.2.6.1, Applicant's Handbook.

Direct Water Saving Practices:

1. Reduce the amount of acreage currently irrigated. For example, cease irrigation of roughs or non-play areas, replace irrigated turf with landscape features that do not require watering, such as sand traps, dikes, or wooded areas, or install synthetic turf.
2. Improve irrigation system efficiency.
3. Install lining in ponds used for irrigation.
4. Install a computerized irrigation system with a weather sensing station.

5. Conduct a water audit and implement recommended improvements.
6. Implement other practices designed to reduce the irrigation demand relative to similar type operations.

NOTE: Leak detection and repair do not qualify to meet the water conservation plan because these practices are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Practices:

1. Install a network of soil moisture monitoring and rain sensor devices to determine the actual irrigation demands.
2. Install an on-site weather station to assist in determining actual irrigation demands.
3. Evaluate and reassess overseeding practices.
4. Serve as a Florida Friendly landscape demonstration site.
5. Participate in a research project investigating water use efficiency.
6. Submit a water use efficiency research concept to the District that results in an experimental study.
7. Develop and propose other strategies to reduce water consumption.

C. AGRICULTURAL USE TYPE

As part of each applicant's water conservation plan, an analysis of the operation's current water use practices and the water saving potential of proposed practices must be performed.

Additionally, the following practices can be used toward meeting the conservation plan requirements in Section 2.2.5.5, Applicant's Handbook.

Direct Water Saving Practices:

1. Use of recycled water on site.
2. Improved irrigation system efficiency.
3. Conduct a water audit and implement improvements recommended by a Mobile Irrigation Lab.

4. Implement improvements that result in water savings, for example, land leveling or installation of water control structures.
5. Implement other practices designed to reduce the irrigation demand relative to similar type operations.

NOTE: Leak detection and repair do not qualify to meet the water conservation plan requirements because these practices are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Practices:

1. Install a network of soil moisture monitoring and rain sensor devices to determine the actual irrigation demands.
2. Install an on-site weather station to assist in determining actual irrigation demands.
3. Participate in a research project investigating water use efficiency.
4. Submit a water use efficiency research concept to the District that results in an experimental study.
5. Develop and propose other strategies to reduce water consumption.

Appendix G

Appendix G

Rule 62-40.416(7)-(8), F.A.C.

62-40.416 Water Reuse and Recycling.

(7) An applicant may propose an impact offset derived from the use of reclaimed water as part of a permit application.

(a) The portion of a surface water or groundwater allocation made available by an impact offset will be based on the beneficial water resource impact provided by the impact offset project. In evaluating the impact offset proposed and supported by analyses provided by the applicant, the District shall consider the degree to which the reclaimed water offsets harmful impacts otherwise caused by the withdrawal, including:

1. Saltwater intrusion;
2. Wetland or other surface water impacts;
3. Groundwater impacts;
4. Impacts to existing legal uses;
5. Harm to existing offsite land uses;
6. Other water resource impacts.

(b) If an applicant meets the conditions for permit issuance after consideration of the impact offset, the District shall incorporate the impact offset into the permit. The duration of an impact offset shall be limited to the duration of the consumptive use permit in which it is incorporated.

(c) For permits containing an impact offset, if a permittee proposes to decrease the amount of reclaimed water provided, change the location of the reclaimed water use, or change the location or amount of the surface water or groundwater withdrawal, the permittee shall apply for a permit modification for review by the District to determine the resource impacts associated with the change and determine if the conditions for permit issuance are met.

(d) When reviewing an application for renewal of a consumptive use permit containing an impact offset, the District shall renew the allocation based on the continuation of the impact offset, provided the conditions for permit issuance are met.

(e) Impact offsets shall not be granted for past actions or actions taken under existing permits unless the offsets are already authorized in a permit. This limitation shall not restrict the district's consideration of the effect of past actions when considering the potential impacts of a permit application, or consideration of a permittee's request to modify an existing permit to quantify the portion of the surface or groundwater allocation made and remaining available by an impact offset.

(8) In areas where withdrawals are unable to meet the conditions for permit issuance due to resource limitations, an applicant may propose the use of a substitution credit derived from the use of reclaimed water as part of a permit application. Such resource-limited areas include, but are not limited to, areas where a District has adopted rules limiting withdrawals from a specified water resource within a geographic area, and areas where withdrawals are limited by an adopted minimum flow or level or the associated recovery or prevention strategy.

(a) The proposed withdrawal, after application of the substitution credit, must result in no net adverse impact on the limited water resource or create a net positive impact if required by District rule as part of a strategy to protect or recover a water resource.

(b) The amount of the substitution credit may be the same as, more than, or less than the permitted withdrawal to be terminated, and is dependent on the following factors:

1. The specific timing, location, and amount of the existing permitted withdrawal to be terminated;
2. The specific timing and location of the desired withdrawal by the applicant;
3. The particular hydrogeology of the area; and
4. Whether the District's rule establishes a requirement for no net adverse impact or a net positive impact on the water resource.

(c) If an applicant meets the conditions for permit issuance after consideration of the substitution credit, the District shall incorporate the substitution credit into the permit. The duration of a substitution credit shall be limited to the duration of the consumptive use permit in which it is incorporated.

(d) The benefit of a substitution credit, or a portion thereof, shall accrue to the reuse utility providing the reclaimed water, or one or more entities designated by the reuse utility, provided the reuse utility or designated entity demonstrates a demand for the water and meets the conditions for permit issuance. If the reuse utility or designated entity cannot demonstrate a demand for all of the water made available by the reduction in the permitted withdrawal, any remaining water shall be available for use in accordance with District rules.

(e) For permits containing a substitution credit, if a permittee proposes to decrease the amount of reclaimed water provided, change the location of the reclaimed water use, or change the location or amount of the surface water or groundwater withdrawal, the permittee shall apply for a permit modification for review by the District to determine the resource impacts associated with the change and determine if the conditions for permit issuance are met.

(f) When reviewing an application for renewal of a consumptive use permit containing a substitution credit, the District shall renew the allocation based on the continuation of the substitution credit provided the conditions for permit issuance are met.

(g) Substitution credits shall not be granted for past actions or actions taken under existing permits, unless the credits are already authorized in a permit. This limitation shall not restrict the District's consideration of the effect of past actions when considering the potential impacts of a permit application, or consideration of a permittee's request to modify an existing permit to quantify the amount of any substitution credit remaining available.

(h) Substitution credits recognized in a consumptive use permit cannot be transferred to other users, except in the same manner as the permit itself and in compliance with applicable water management district rules.

Rulemaking Authority 373.016, 373.019, 373.026(7), 373.036, 373.043, 373.171, 373.223, 373.236 FS. Law Implemented 373.016, 373.019, 373.023, 373.026, 373.036, 373.039, 373.042, 373.0421, 373.103, 373.171, 373.175, 373.223, 373.233, 373.236, 373.246, 373.250, 373.413, 373.414, 373.416, 373.418, 373.703, 403.0615(3), 403.064, 403.0891 FS. History—New 7-20-95, Amended 1-7-97, 5-7-05, 5-6-13.

Appendix H

Appendix H

The current version of Chapter 40C-8, F.A.C., is available at the following link:

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=40c-8>

Appendix I

Appendix I *Revised 11/3/15*

Limiting Conditions for Rule 40C-2.042(9) Dewatering General Permit by Rule

The general permit by rule for short-term construction dewatering under Rule 40C-2.042(9), F.A.C., shall be subject to the following limiting conditions:

1. This permit shall expire 190 days from the date a complete form 40C-2.900(12) is submitted to the District. No dewatering may begin until 10 days after submittal of the complete form 40C-2.900(12). However, submittal of form 40C-2.900(12) 10 days before dewatering is not required when the dewatering is in response to an emergency situation involving a threat to public safety. In such an emergency situation, notification on form 40C-2.900(12) shall be provided the next business day. Additionally, when the construction dewatering is authorized by the issuance of a permit or certification under Chapter 403, F.S., or a permit under Part IV of Chapter 373, F.S., and the dewatering withdrawals will not exceed any of the limitations in form 40C-2.900(12), then the user does not have to submit that form, condition 2 below will not apply, and this permit will instead expire 180 days from the date dewatering begins.
2. The permittee shall take turbidity readings once per week at all points of direct discharge into rivers, streams, or natural lakes. A direct discharge means a discharge which enters a river, stream or natural lake without an adequate opportunity for prior mixing and dilution to prevent significant degradation. Samples must be collected from the backside of the appropriate turbidity barrier, and the results shall be submitted monthly to the nearest St. Johns River Water Management District office. The results must contain the following information that must be submitted at project completion:
 - a. Name of person sampling.
 - b. Date and time sample was taken.
 - c. Location of sample point.
 - d. Time at which turbidity was measured.
 - e. Turbidity reading in NTU's.
 - f. The permit tracking number.
3. Dewatering discharge must not cause or contribute to flooding of off-site properties.
4. The permittee shall implement the following turbidity control measures, as appropriate, for any discharges off-site:
 - a. If the discharge is to be to a drainage system either pipe water directly into the drainage structure; or if the discharge will be through a swale, or overland, to a structure or water body, then the path of discharge shall be lined with plastic sheeting, sod, or hay bales appropriately to prevent a turbid discharge to the structure or water body.
 - b. If water will discharge to an open water body, appropriate fabric silt screen or hay bales shall be used to prevent turbid discharges. When possible, establish a detention area to allow suspended solids to settle prior to entering the water body.
 - c. If the above turbidity control measures are inadequate to retain sediment on-site and prevent turbid discharge, the permittee shall select, implement, and operate such

- additional or modified erosion and sediment control measures necessary to prevent harmful water quality impacts from dewatering discharges to receiving waters.
5. District authorized staff, upon advance notice and proper identification, shall have permission to inspect and observe dewatering operations in order to determine compliance with this permit.
 6. The permittee must mitigate any adverse impact caused by withdrawals permitted herein on adjacent land uses or legal uses of water existing at the time of permit application. Adverse impacts include but are not limited to:
 - a. Reductions of well water levels resulting in a reduction of 10% in the ability of an adjacent well to produce water;
 - b. Reductions of water levels in an adjacent surface water body resulting in a significant impairment of the use of water in that water body;
 - c. Saline water intrusion;
 - d. Change in water quality resulting in either impairment or loss of use of a well or water body;
 - e. Land collapse or subsidence caused by a reduction in water levels;
 - f. Damage to crops and other types of vegetation; and
 - g. Harmful hydrologic alterations to natural systems, including wetlands and other surface waters, that cause an unmitigated adverse impact to such systems.