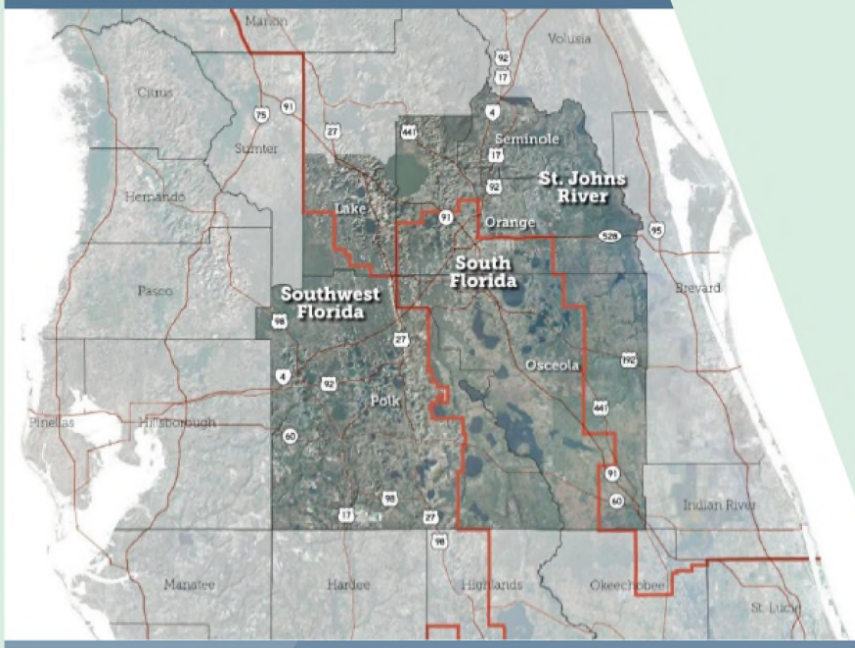
Statement of Estimated Regulatory Costs associated with the proposed Central Florida Water Initiative (CFWI) Area Uniform Rule

NOVEMBER 17, 2020



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CFWI Proposed Rule:

62-41.300: Scope of Rule

62-41.301: Uniform Conditions for Issuance of Permits

62-41.302: Supplemental Applicant's Handbook

62-41.303: Variances to the Uniform Rules

62-41.304: Uniform Process for Setting MFLs and Water Reservations

62-41.305: Applicability of the Dover/Plant City and SWUCA Recovery Strategies

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List of Acronyms and Definitions

Abbreviation	Definition
Adjusted gpcd	Gallons per capita (per person) per day equal to ([average day] withdrawals + imported water - exported water - treatment loss - significant uses - golf course uses - environmental mitigation) / residential population served
AWS	Alternative Water Supply
Alternative Gross gpcd	Gallons per capita per day equal to Adjusted gpcd where qualifying stormwater and reclaimed water quantities are deducted from the numerator prior to dividing by residential population served
CUP	Consumptive use permit or Water use permit (WUP)
Demand-Not-Met	The amount of water demand that would not be supplied with water from the UFA due to the proposed CFWI rule. Also called Unmet Demand.
District(s)	One of the three water management districts - Southwest Florida, St. Johns River and/or South Florida Water Management District
F.A.C.	Florida Administrative Code
F.S.	Florida Statute
FDEP	Florida Department of Environmental Protection
functional population	The served permanent population as adjusted by the seasonal resident, tourist, group quarters, and net commuter population within a utility's service area
gocd	gallons per capita (person) per day
gpd	gallons per day
gross gpcd	Gallons per capita per day equal to (average day withdrawals + average day imports - average day exports) divided by residential population served
ICI	Industrial / Commercial / Institutional
Large Public Supply Permittees	Public Supply Permittees that have total permitted water quantities equal to or greater than 100,000 gpd
LFA	Lower Floridan aquifer
mgd	million gallons per day
O&M	operations and maintenance
RWSP	Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020: "A comprehensive plan for Orange, Osceola, Polk, Seminole, and southern Lake counties". No date. Distributed in the summer of 2020. The report is located at https://cfwiwater.com/planning.html.
SAS	Surficial Aquifer System
SERC	Statement of Estimated Regulatory Costs
SFWMD	South Florida Water Management District
SJRWMD	St. Johns River Water Management District
Small Public Supply Permittees	Public Supply Permittees with less than 100,000 gpd in total permitted quantity
SWFWMD	Southwest Florida Water Management District
SWUCA	Southern Water Use Caution Area - encompasses approximately 5,100 square miles, including all or part of eight counties in the southern portion of the SWFWMD
UFA	Upper Floridan aquifer
Unit Cost	The estimated capital and annual operations and maintenance (O&M) cost per 1,000 gallons of water supply provided (unless defined otherwise). "Capital cost" means planning, design, engineering, and project construction costs.
Unmet Demand	The amount of water demand that would not be supplied with water from the UFA due to the proposed CFWI rule. Also called Demand-Not-Met.

Executive Summary

The Central Florida Water Initiative (CFWI) is a collaborative water supply planning effort among the state's three largest water management districts, the Florida Department of Environmental Protection (FDEP), the Florida Department of Agriculture and Consumer Services (FDACS) and private stakeholders. These stakeholders include water utilities, environmental groups, business organizations, agricultural communities, and others.

The FDEP intends to create rules 62-41.300 through 62-41.305, F.A.C., and the CFWI Area Supplemental Applicant's Handbook to implement section 373.0465(2)(d), F.S. regarding water supply management in the CFWI. These proposed rules and handbook are herein referred to as the proposed CFWI rules. These proposed rules create uniform rules for consumptive use permitting within the CFWI area and supersede portions of chapters 40C-2, 40D-2 and 40E-2, F.A.C. regulating the consumptive uses of water in the SJRWMD, SWFWMD and the SFWMD, respectively, and each District's Applicant's Handbook for Water Use Permitting. These rules supersede the F.A.C. rules and the Applicant's Handbook of the SJRWMD, the SWFWMD or the SFWMD only when explicitly provided in the proposed CFWI rules or the proposed CFWI Supplemental Applicant's Handbook.

This Executive Summary provides the completed SERC Template. Detail regarding the methods, data and results of this SERC are provided in this report.

A. Is the rule likely to, **directly or indirectly**, have an adverse impact on economic growth, private-sector job creation or employment, or private-sector investment in excess of $1 million in the aggregate within 5 years after the implementation of the rule?

Question	Yes	No
1. Is the rule likely to reduce personal income?		**X**
2. Is the rule likely to reduce total non-farm employment?		**X**
3. Is the rule likely to reduce private housing starts?		**X**
4. Is the rule likely to reduce visitors to Florida?		**X**
5. Is the rule likely to reduce wages or salaries?		**X**
6. Is the rule likely to reduce property income?		**X**

Explanation: The estimated transactional cost of the proposed CFWI rule is not expected to be large enough to cause more than $1 million in net negative economic impact over the five-year period after the rule is implemented. To be consistent with the questions listed above, economic impact is the change in total income to residents and businesses in the CFWI. The transactional cost of the proposed rule over the period 2021 to 2025 is estimated to be $18.8 million and all of this amount is comprised of permittee, applicant and consultant time spent in water supply and conservation planning and investments by public supply utilities to reduce per capita water use. Given the significant size of the CFWI economy it is likely that most if not all of the $18.8 million cost would be spent on labor and materials sourced within the CFWI to the extent that less than $1,000,000 in negative economic impact would be expected during the five years from 2021 to 2025.

If all of the $18.8 million in transactional costs are paid by households and businesses within the CFWI and if all of these costs are paid to persons and businesses operating within the CFWI, then no negative or positive economic impacts to income in the CFWI would be expected. To the extent that some of the money would be spent on goods and services provided by businesses and households outside of the CFWI, then negative economic impacts within the CFWI are expected. However, money used to pay these costs that comes from outside the CFWI, perhaps through State appropriations, would offset some of the negative economic impact. Given the size of the transactional costs relative to the overall size of the CFWI economy and the caveats described above, negative impacts to employment, income, wages and salaries, property values, and tax revenue in the CFWI area are not expected to be significant and are not expected to be greater than $1 million over the next five years.

Under the proposed CFWI rule, temporary allocations from the UFA would be available to permittees developing AWS projects to supply unmet demands after 2025. Therefore, there would be little prospect of water shortages; little prospect of impacts to expanded business operations; no impact to the number of Florida visitors; and no losses to consumer value from the water shortage. There may be some impact to some new businesses that need a CUP.

To the extent that the cost of the AWS projects and the other transactional costs are incorporated into water rates, the affordability of water bills to some customers could be jeopardized. This SERC does not provide estimates of the impact of these costs on future water bills and affordability.

The proposed CFWI rule's greatest negative transactional cost impact is due to the prohibition of additional permitted water withdrawals from the Upper Floridan Aquifer (UFA) after 2025 for public supply and industrial / commercial / institutional water use permittees and applicants. Therefore, applicants and permittees would need to supply additional water demands with water from more expensive alternative water sources. The transactional cost of the proposed rule by the year 2040 is estimated to be $190 million per year as itemized in Table ES-2. The $1 million aggregate threshold is a low bar and could be triggered after 2025 potentially causing at least some of the questions raised above to be answered Yes if the questions were directed to impacts after 2025. If the proposed rule is adopted in 2021, the bulk of this transactional cost would not be incurred within five years after rule adoption.

B. Is the rule likely to, **directly or indirectly**, have an adverse impact on business competitiveness, including the ability of persons doing business in the state to compete with persons doing business in other states or domestic markets, productivity, or innovation in excess of $1 million in the aggregate within 5 years after the implementation of the rule?

Question	Yes	No
1. Is the rule likely to raise the price of goods or services provided by Florida business?		**X**
2. Is the rule likely to add regulation that is not present in other states or markets?		**X**
3. Is the rule likely to reduce the quantity of goods or services Florida businesses are able to produce, i.e. will goods or services become too expensive to produce?		**X**
4. Is the rule likely to cause Florida businesses to reduce workforces?		**X**
5. Is the rule likely to increase regulatory costs to the extent that Florida businesses will be unable to invest in product development or other innovation?		**X**
6. Is the rule likely to make illegal any product or service that is currently legal?		**X**

Explanation: When the questions are directed at the next five years, the distribution of transactional costs throughout the CFWI economy is not expected to have negative impacts on the issues included in the questions listed above. The $18.8 million estimated transactional cost, when distributed among the nine million households and 60,000 businesses in the CFWI likely to pay these costs, would not raise business costs sufficiently to incentivize price increases or cause a reduction in the quantity of goods and services produced. It is not expected to facilitate a reduction in work force or product development.

The proposed CFWI rule, being one that allocates water supply while protecting the resource and other legal users, is consistent with water resource regulation in other states. There is no feature of the proposed rule restricting water quantities that is unique to Florida. No product or service will become illegal because of the proposed rule.

C. Is the rule likely, **directly or indirectly**, to increase regulatory costs, including any transactional costs in excess of $1 million in the aggregate within 5 years after the implementation of this rule?

Answer: Yes. The estimated transactional cost of the proposed CFWI rule over the next five years is estimated to be $18.8 million. See Table ES-1 below for the cost itemization. The estimated annual cost by the year 2040 is estimated to be $190 million as itemized in Table ES-2. Further details are provided in Section 4.0 of the SERC report.

Table ES-1: Summary of Estimated Transactional Cost Associated with the Proposed CFWI Rule from 2021 to 2025

Permittee or Applicant Type	One-Time Cost over 20 Years (2020 to 2040)	One-Time Cost Averaged over 20 Years (2020 to 2040)	Annual Recurring Cost From 2021 to 2025	Total Cost from 2021 to 2025
(1)	(2)	(3) = (2) / 20	(4)	(5) = [(3) + (4)] x 5 years
Public Supply:				
Permittee	$56,100,000	$2,805,000	$617,000	$17,110,000
Applicant (a)	$4,313,000	$215,650	$12,000	$1,138,250
Industrial, Commercial, Institutional, Mining, Dewatering, and Power Generation:				
Permittee	$255,400	$12,770	$0	$63,850
Applicant	$854,400	$42,720	$0	$213,600
Agricultural, Recreational, Landscape Irrigation:				
Permittee	$690,000	$34,500	$0	$172,500
Applicant	$228,000	$11,400	$0	$57,000
Total				**$18,755,200**

(a) Annual Recurring Cost from 2021 to 2025 is the average annual cost to new applicants to complete the "Compliance with Per Capita Daily Water Use Rate Annual Report". The annual cost increases as the number of total applicants increases each year.

Table ES-2: Summary of Estimated Transactional Cost Associated with the Proposed CFWI Rule from 2026 to 2040

Permittee or Applicant Type	One-Time Cost over 20 Years (2020 to 2040)	One-Time Cost Averaged over 20 Years (2020 to 2040)	Annual Recurring Cost by 2040 (a)	Total Annual Cost by 2040
(1)	(2)	(3) = (2) / 20	(4)	(5) = [(3) + (4)]
Public Supply:				
Permittee	$56,100,000	$2,805,000	$124,245,000	$127,050,000
Applicant	$4,313,000	$215,650	$31,995,400	$32,211,050
Industrial, Commercial, Institutional, Mining, Dewatering, and Power Generation:				
Permittee	$255,400	$12,770	$6,905,000	$6,917,770
Applicant	$854,400	$42,720	$23,706,000	$23,748,720
Agricultural, Recreational, Landscape Irrigation:				
Permittee	$690,000	$34,500	$0	$34,500
Applicant	$228,000	$11,400	$0	$11,400
Total				**$189,973,640**

(a) Under existing rule, each water use permit would be evaluated for impacts to the UFA as it comes in for renewal and it is possible that the resulting permitted quantities from the UFA would be the same as or similar to those quantities under the proposed CFWI rule.

D. Good faith estimates (numbers/types):

1. The number of individuals and entities likely to be required to comply with the rule.
2. A general description of the types of individuals likely to be affected by the rule.

Table ES-3 provides the total number of water use permittees by use type. There are an estimated 3,072 water use permittees in the CFWI, of which 56 percent use their permitted water for agricultural irrigation, 22 percent use their water for landscape / recreation and 10 percent use the water to supply the potable water needs of households and businesses. Commercial / Industrial / Institutional permittees and Miscellaneous Agriculture permittees each comprise six percent and five percent, respectively, of all permittees in the CFWI. Mining / Dewatering and Other, including Environmental use types, comprise less than one percent of all permittees.

Table ES-3: Estimated Number of Water Use Permittees by Use Type in the CFWI as of 2020

Use Type	Number of Permittees	Percent of Permittees
Agricultural Irrigation	1,738	56.58%
Landscape / Recreation	675	21.97%
Public Supply	300	9.77%
Commercial / Industrial / Institutional / Power Generation	184	5.99%
Misc. Agriculture – Non-Irrigation Uses	161	5.24%
Mining / Dewatering	8	0.26%
Other, including Environmental	6	0.20%
Total	**3,072**	**100.00%**

The estimated annual number of new applicants for permitted water quantities is provided in Table ES-4. Based on the average number of new applicants for permitted quantities over the past 10 years, about 18.6 applicants are expected each year in the future. About 11.4 will be applicants requesting permitted water for agricultural irrigation and 2.0 will be for landscape / recreation. About 0.7 applicants will request permitted quantities for public supply

Table ES-4: Estimated Annual Number of New Water Use Applicants by Use Type in the CFWI

Use Type	Annual Average Number of New Applicants (Past 10 Years)	Percent of New Applicants
Agricultural Irrigation	11.4	61.29%
Landscape / Recreation	2.0	10.75%
Public Supply	0.7	3.76%
Commercial / Industrial / Institutional / Power Generation	1.6	8.60%
Mining / Dewatering	1.5	8.06%
Misc. Agriculture	0.7	3.76%
Other, including Environmental	0.7	3.76%
Total	**18.6**	**100.00%**

The distributions of water use among the use types in 2015 and forecasted in 2040 are provided in Table ES-5. While agricultural irrigation comprises the largest percentage of permittees, public supply comprises the largest percentage of water demand in the CFWI.

Table ES-5: 2015 and Forecasted 2040 Water Demand Under Average Rainfall Conditions in the CFWI by Use Type

Use Type	Water Demand (mgd)		% of Water Demand	
	2015	2040	2015	2040
Agriculture	159.38	163.49	24%	18%
Commercial / Industrial / Institutional	53.5	69	8%	8%
Domestic Self-Supply	21.56	24.59	3%	3%
Landscape / Recreational	38.24	46.96	6%	5%
Power Generation	8.47	11.27	1%	1%
Public Supply	385.97	592.28	58%	65%
Total	**667.12**	**907.59**	**100%**	**100%**

Source: Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020: "A comprehensive plan for Orange, Osceola, Polk, Seminole, and southern Lake counties". No date. Distributed in the summer of 2020. The report is located at https://cfwiwater.com/planning.html.

Additional details regarding the data and methods used to estimate these numbers are provided in Section 3.0 of the SERC report.

E. Good faith estimates (costs):

1. Cost to the department of implementing the proposed rule:

The total estimated Agency cost for implementing the proposed CFWI rule is the estimated one-time cost to modify existing water use permits in the CFWI area. Table ES-5 shows the total one-time CFWI implementation cost to the FDEP and the three water management districts is estimated to be $637,000. Details regarding the data and methods used to estimate these values are provided in Section 5.0 of the SERC report.

Table ES-4: Estimated Total One-time Implementation cost of the Proposed CFWI Rule

Agency	One-time Cost
SJRWMD	$70,000
SWFWMD	$392,000
SFWMD	$175,000
FDEP	$0
Total One-time Cost	**$637,000**

2. Cost to any other state and local government entities of implementing the proposed rule:

No other state or local government entities will be implementing the proposed rule.

3. Cost to the department of enforcing the proposed rule:

The annual cost to monitor the proposed rule's conservation goal is estimated to be $64,000 as summarized in Table ES-5 for the four agencies. Details regarding the data and methods used to estimate these values are provided in Section 5.0 of the SERC report.

Table ES-5: Estimated Annual Cost to Monitor the Proposed CFWI Rule Conservation Goals

Agency	Annual Cost
SJRWMD	$3,000
SWFWMD	$36,000
SFWMD	$25,000
FDEP	$0
Total Annual Cost	**$64,000**

4. Cost to any other state and local government of enforcing the proposed rule:

No other state or local government entities will be enforcing the proposed rule.

F. Good faith estimates (transactional costs) likely to be incurred by individuals and entities, including local government entities, required to comply with the requirements of the proposed rule.

Table ES-1 provides the estimated transactional costs over the next five years (after implementation of the rule). Table ES-2 provides the estimated annual transactional costs by 2040. Section 4.0 presents the data and methods used to estimate all transactional costs.

G. An analysis of the impact on small business as defined by s. 288.703, F.S., and an analysis of the impact on small counties and small cities as defined by s. 120.52, F.S.

The proposed rule does not directly impact small businesses unless the business is a commercial, industrial, mining/dewatering, or power generation self-supplied water use permittee or applicant in the CFWI who will have water demand that cannot be supplied with water from the UFA after 2025. Section 4.0 and Section 6.0 of the SERC report describe the estimated impacts to these types of permittees and applicants.

The estimated number of small businesses that would be subject to the rule: There are about 2,225 water use permittees in the CFWI that could be small businesses but the actual number of these permittees that are small as defined by section 288.703, F.S is not known.

H. An analysis of the impact on small counties and small cities as defined by s. 120.52, F.S.

No small counties will be affected by the proposed CFWI rule. Of the 23 small cities and towns in the CFWI, 13 are large public supply permittees and one is a small public supply permittee as summarized in Table ES-6.

Table ES-6: Number of Small Cities in the CFWI Required to Comply with the Proposed Rule

Category	Number of Small Cities
Public Supply Permittees:	
Large	13
Small	1
Total Public Supply Permittees:	**14**

The proposed changes to permitted quantities in the UFA would impact the 13 large public supply permittees that are also small cities or towns. They would also be required to prepare a Demand-Not-Met Plan, attempt to reduce per capita water use to 115 or 100 gpcd as applicable, prepare an annual "Per Capita Compliance Report", and evaluate the lowest quality water source at permit renewal. The largest transactional cost to small cities that are large public supply permittees is associated with supplying their forecasted UFA demand-not-met with water from AWS projects. Table ES-7 provides the UFA forecasted demand-not met in 2030, 2035 and 2040 for each of the 13 permittees. By 2040, unmet demand of each permittee ranges from 0.01 mgd to 0.33 mgd.

Table ES-7: Forecast of UFA Demand-Not-Met of Small Cities that are Large Public Supply Permittees

Individual Permittee	County	Forecasted Demand-Not-Met, mgd		
		2030	2035	2040
1	Lake	0.08	0.17	0.26
2	Lake	0.01	0.02	0.03
3	Orange	0.17	0.19	0.19
4	Orange	0.01	0.01	0.01
5	Polk	0.02	0.05	0.08
6	Polk	0.02	0.05	0.07
7	Polk	0.10	0.22	0.33
8	Polk	0.02	0.04	0.07
9	Polk	0.08	0.16	0.25
10	Polk	0.03	0.06	0.09
11	Polk	0.11	0.21	0.31
12	Polk	0.07	0.16	0.25
13	Polk	0.04	0.07	0.11
Total		**0.76**	**1.41**	**2.05**

Table ES-8 provides the estimated transaction cost to each of these permittees.

Table ES-8: Estimated Annual Transactional Cost of Proposed CFWI Rule to Small Cities that are Large Public Supply Permittees

Individual Permittee	Net Unit Cost (AWS Project minus $0.30 UFA Cost)	Annual Transactional Cost to Supply UFA Demand-Not-Met, mgd			One-Time Cost to Prepare Unmet Demand Plan	Total Cost – Attempt to Achieve 115 Gross gpcd Goal Over 20 Years
		2030	2035	2040		
1	$1.39	$42,800	$86,410	$129,557	$50,000	$0
2	$1.39	$4,731	$8,694	$12,913	$50,000	$0
3	$3.59	$222,466	$248,386	$248,386	$50,000	$54,208
4	$3.59	$7,325	$7,495	$7,495	$50,000	$20,265
5	$2.69	$23,769	$51,677	$81,187	$50,000	$0
6	$2.69	$20,226	$45,306	$71,803	$50,000	$31,780
7	$2.69	$99,209	$212,117	$326,737	$50,000	$0
8	$2.69	$20,197	$43,147	$66,849	$50,000	$0
9	$2.69	$74,817	$159,551	$246,543	$50,000	$0
10	$2.69	$29,766	$61,717	$93,148	$50,000	$0
11	$2.69	$103,159	$206,203	$302,355	$50,000	$13,637
12	$2.69	$71,895	$158,185	$249,087	$50,000	$0
13	$2.69	$34,472	$71,251	$106,646	$50,000	$0
Total		**$754,830**	**$1,360,139**	**$1,942,706**	**$650,000**	**$119,890**

In addition to the costs provided in Table ES-8, the proposed rule requires these permittees to prepare and submit an annual "per capita compliance" report. Under existing rule, this report is required of large public supply permittees in the SWFWMD. Therefore, this change in the water use permitting rules would not affect the nine large public supply permittees located in Polk County. For the other

four permittees, two have gross per capita use below the 115 gpcd goal so the process of filling out the report is not expected to require any significant amount of staff or consultant time or data. For the other two permittees, the estimated annual reporting cost to each is estimated to be $5,600 per year as described in Section 4.0 of this SERC. Also, for these four permittees outside of the SWFWMD, the new requirement that additional detail be provided in forecasting water demand is not expected to be significant due to the relatively small number of customers served by these permittees.

Finally, the proposed CFWI rule requires that water use permit applicants, regardless of size, provide reasonable assurance that the proposed use (or portion of the proposed use) will be met with the lowest quality water source that is suitable for the purpose and is technically, economically, and environmentally feasible. Because these 13 permittees obtain less than 1.50 mgd from the UFA by 2025, the feasibility evaluation is not expected to require a significant amount of staff and consultant time and data.

There is only one small city that is a small public supply permittee. The estimated transactional cost to this permittee is provided in Table ES-9.

Table ES-9: Forecast of UFA Demand-Not-Met and Estimated Cost of Proposed CFWI Rule to a Small City in Polk County that is a Small Public Supply Permittee

Item	2030	2035	2040
Demand-Not-Met, mgd	0.0005	0.0012	0.0019
Annual Transactional Cost to Supply Unmet Demand at Net Unit Cost of $2.69 per 1,000 gallons	$471	$1,131	$1,885
One-Time Transactional Cost to Prepare AWS Project Plan	$20,000		

The proposed rule does not directly impact small businesses unless the business is a water use permittee or applicant in the CFWI. The numbers of small business water use permittees by use type in the CFWI, as estimated by the SJRWMD and the SWFWMD based on their knowledge of permittees in the CFWI area, are provided in Table ES-10. These small businesses do not include governments such as government-owned water utilities. Also provided in Table ES-10 are the estimated total numbers of permittees by use type.

Table ES-10: Estimated Numbers of CFWI Water Use Permittees by Use Type Who May be a Small Business

Water Use Type	Total Number of Permittees	Permittees Who May Be Small Private Businesses (Excludes governments such as government-owned water utilities)	
		% of Total Permittees	Number
(1)	(2)	(3)	(4) = (2) x (3)
Agricultural	1,899	89.00%	1,690
Commercial / Industrial / Institutional	184	33.50%	62
Environmental	3	33.00%	1
Landscape / Recreation / Aesthetic	675	63.00%	425
Mining / Dewatering	8	19.00%	2
Other	3	13.00%	0.4
Public Supply	300	43.00%	129
Total	**3,072**		**2,309**

Of the estimated 3,072 water use permittees in the CFWI, 2,209, or 75 percent, could be small private businesses and about 1,690 may be small agricultural businesses. About 425 of the 675 landscape / recreation / aesthetic water use permittees may be small private businesses and most of these use water for landscape irrigation. Agricultural and landscape water use permittees and applicants will be able to obtain permitted water quantities from the UFA to satisfy water demand after 2025 as they would have under existing rule. Impacts to agricultural and landscape irrigation permittees and applicants are not expected to be significant.

About 129 of the 300 public supply permittees may be small businesses. These businesses may be able to obtain potable water to satisfy water demands after 2025 by purchasing water from a local water utility or by obtaining a variance or a temporary allocation from the water management district that would provide for new permitted water quantities from the UFA after 2025.

About 62 of the estimated 184 ICI water use permittees in the CFWI could be small businesses. Under the proposed rule, ICI and power generation permitted quantities from the UFA in the CFWI area will be limited to the permittee or applicant's "Demonstrated 2025 Demand," which means the quantity of water needed to meet demands in the year 2025. If the permitted allocation is based on a water balance and not a growth projection, then the Demonstrated 2025 Demand would be the existing permitted allocation. Water demand growth after 2025 will need to come from "offsets", "substitution credits", "land use transitions" and/or "alternative water source development".

The numbers of new applicants for permitted quantities by use type in the CFWI who are small businesses, as estimated by the SJRWMD and the SWFWMD based on their permittees in the CFWI area, are provided in Table ES-11. These small businesses do not include governments such as government-owned water utilities. Also provided in Table ES-11 are the estimated total numbers of new applicants by use type. About 11 of the 19 new applicants for permitted quantities each year are estimated to be small agricultural businesses.

Table ES-11: Estimated Number of CFWI Water Use Permit New Applicants Who May be Small Businesses

Water Use Type	Number of New Applicants	New Applicants Who May Be Small Private Businesses	
		% of Total New Applicants	Annual Number
(1)	(2)	(3)	(4) = (2) x (3)
Agricultural	12.1	89.00%	10.8
Commercial / Industrial / Institutional	1.6	33.50%	0.5
Environmental	0.4	33.00%	0.1
Landscape / Recreation / Aesthetic	2.0	63.00%	1.3
Mining / Dewatering	1.5	19.00%	0.3
Other	0.4	13.00%	0.0
Public Supply	0.7	43.00%	0.3
Total	**18.6**		**13.3**

Small businesses in the CFWI that are not water use permittees could be indirectly impacted by the proposed CFWI rule if their monthly water bill increases because of the proposed rule. This SERC does not provide estimates of the impact of the proposed CFWI rule on future water bills and affordability.

1. Introduction

This Statement of Estimated Regulatory Costs addresses proposed changes to water use permitting requirements in the Central Florida Water Initiative (CFWI) area. The boundaries of the CFWI area are provided in Figure 1-1.

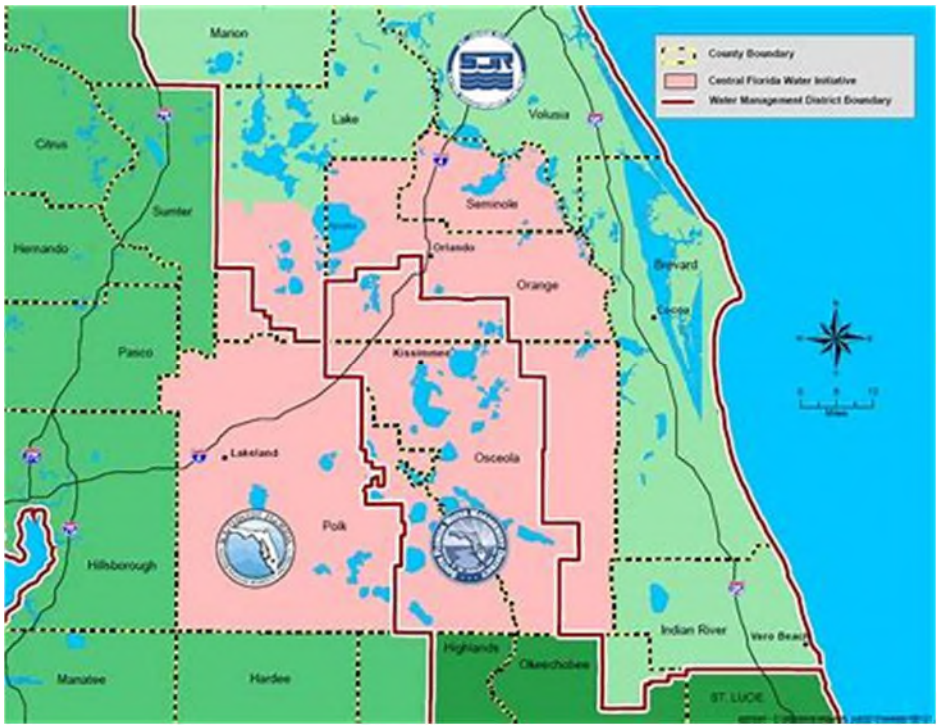

Figure 1-1 Boundaries of the Central Florida Water Initiative in Florida

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

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

Section 373.0465, Florida Statutes, directs the Department of Environmental Protection to adopt uniform rules for application within the CFWI Area. Rules 62-41.301 through 62-41.305, F.A.C., and this Supplemental Applicant's Handbook address the public interest by providing a uniform regulatory framework to allow for the allocation of available groundwater in the area, subject to avoidance and mitigation measures to prevent harm. This regulatory framework is one component of a comprehensive joint water management strategy for regional water resource management that also includes regional water supply planning, alternative water supply project funding, and water resource investigations and analysis. These rules will apply to consumptive use permit applicants in the CFWI Area and supersede portions of chapters 40C-2, 40D-2 and 40E-2, F.A.C., regulating the consumptive use of water in the CFWI Area explicitly identified in the chapter."

The CFWI process addresses the following water supply issues in the area:

- Identifying sustainable quantities of groundwater that can be withdrawn in the CFWI area without causing unacceptable harm to the water resources and associated natural systems.
- Developing strategies to meet water demands that are greater than the sustainable yield of existing traditional groundwater sources.
- Establishing consistent rules and regulations for the three water management districts that meet their collective goals and implement the results of the CFWI.

In April 2016, to continue the collaborative process, the Steering Committee adopted the CFWI 2020 Guiding Principles:

- Review and update the 2015 CFWI Regional Water Supply Plan (RWSP), as well as the sustainable quantities of traditional groundwater sources available in the CFWI area that can be used without causing unacceptable harm to the water resources and associated natural systems.
- Monitor progress of regional strategies and solutions identified in the 2015 CFWI Plan;
- Review and update strategies to meet water demands that are greater than the sustainable yield of existing traditional groundwater sources.
- Establish consistent rules and regulations for the three water management districts that meet the Collaborative Process Goals and implement the results of this Central Florida Water Initiative.
- Encourage funding for regional strategies necessary to achieve the objectives of the CFWI.

1.1 Proposed CFWI Rule and Supplemental Applicant's Handbook

Under existing rule, each of the three water management districts in the CFWI area regulate water use permitting through their respective rules and applicant's handbooks. A list of these rules and handbooks for each district is as follows.

St. Johns River Water Management District (SJRWMD) – 40C-2, F.A.C and the SJRWMD Supplemental Applicant's Handbook

Southwest Florida Water Management District (SWFWMD) – 40D-2, F.A.C and the SWFWMD Supplemental Applicant's Handbook

South Florida Water Management District (SFWMD) – 40E-2, F.A.C and the SFWMD Supplemental Applicant's Handbook

The FDEP intends to create rules 62-41.300 through 62-41.305, F.A.C., and the CFWI Area Supplemental Applicant's Handbook to implement section 373.0465(2)(d), F.S. regarding water supply management in the CFWI. These proposed rules and handbook are herein referred to as the proposed CFWI rules.

These proposed rules would create uniform rules for consumptive use permitting within the CFWI Area and supersede portions of chapters 40C-2, 40D-2 and 40E-2, F.A.C. regulating the consumptive uses of water in the SJRWMD, SWFWMD and the SFWMD, respectively, and each District's Applicant's Handbook for Water Use Permitting. These rules would supersede the F.A.C. rules and the Applicant's Handbook of the SJRWMD, the SWFWMD or the SFWMD only when explicitly provided in the proposed CFWI rules or the proposed CFWI Supplemental Applicant's Handbook.

1.2 Statement of Estimated Regulatory Cost (SERC) Requirements

This Statement of Regulatory Costs (SERC) follows the requirements of section 120.541(2), F.S. which requires that the SERC provide the following information.

(a) An economic analysis showing whether the rule directly or indirectly:

1. Is likely to have an adverse impact on economic growth, private sector job creation or employment, or private sector investment in excess of $1 million in the aggregate within 5 years after the implementation of the rule;

2. Is likely to have an adverse impact on business competitiveness, including the ability of persons doing business in the state to compete with persons doing business in other states or domestic markets, productivity, or innovation in excess of $1 million in the aggregate within 5 years after the implementation of the rule; or,

3. Is likely to increase regulatory costs, including any transactional costs, in excess of $1 million in the aggregate within 5 years after the implementation of the rule.

(b) A good faith estimate of the number of individuals and entities likely to be required to comply with the rule, together with a general description of the types of individuals likely to be affected by the rule.

(c) A good faith estimate of the cost to the agency, and to any other state and local government entities, of implementing and enforcing the proposed rule, and any anticipated effect on state or local revenues.

(d) A good faith estimate of the transactional costs likely to be incurred by individuals and entities, including local government entities, required to comply with the requirements of the rule. As used in this section, "transactional costs" are direct costs that are readily ascertainable based upon

standard business practices, and include filing fees, the cost of obtaining a license, the cost of equipment required to be installed or used or procedures required to be employed in complying with the rule, additional operating costs incurred, the cost of monitoring and reporting, and any other costs necessary to comply with the rule.

(e) An analysis of the impact on small businesses as defined by s. 288.703, and an analysis of the impact on small counties and small cities as defined in s. 120.52. The impact analysis for small businesses must include the basis for the agency's decision not to implement alternatives that would reduce adverse impacts on small businesses.

(f) Any additional information that the agency determines may be useful.

(g) In the statement or revised statement, whichever applies, a description of any regulatory alternatives submitted under paragraph (1)(a) and a statement adopting the alternative or a statement of the reasons for rejecting the alternative in favor of the proposed rule.

This SERC report addresses items (a) through (e).

1.3 Report Organization

This SERC report is organized into seven sections. The report begins with an executive summary that is the completed SERC Template. Section 1.0 is this introduction to the CFWI, the proposed rule, and the requirements of the SERC. Section 2.0 provides a summary of the propose CFWI rule in comparison to existing rule for those proposed changes that are likely to create transactional costs to the persons and entities required to comply with the proposed CFWI rule. Details regarding each component of the proposed rule are provided in other sections of this report as relevant. Section 3.0 provides estimates of the number and types of persons and entities required to comply with the proposed CFWI rule.

Section 4.0 provides estimates of the transactional costs to persons and entities as they comply with the proposed rule. The transactional costs are the net change in costs to persons and entities required to comply as compared to the existing rules of the three water management districts. Section 5.0 provides estimates of the costs to implement and monitor the proposed rule by the three districts and the FDEP. Section 6.0 describes the impact of the proposed rule on small businesses, small cities, and small counties.

2. Summary of Proposed CFWI Rule

This summary identifies those proposed changes to existing rule, including the district's applicant's handbooks, that have the potential to incur transactional costs or economic impacts. The persons and entities expected to comply with the proposed CFWI rule are water use permittees with existing permitted quantities in the CFWI and new applicants for permitted water withdrawal quantities within the CFWI.

The proposed CFWI rule does not change the water use permitting of domestic self-supplied (DSS) and aquaculture use types. The DSS category consists of residential dwellings served by small public supply systems (annual average withdrawals of less than 0.1 mgd) or self-supplied by private wells.

2.1 Proposed CFWI Rule Change with Greatest Impact

The proposed change to existing rules that will generate the greatest transactional costs and potential economic impacts is the limitation on water withdrawals from the Upper Floridan aquifer (UFA) for public supply and industrial / commercial / institutional, and mining/dewatering use types.

According to the proposed CFWI Supplemental Applicant's Handbook sections 2.8.2 through 2.8.3:

> CFWI - 2.8.2 Industrial/Commercial/Institutional and Mining/Mining Dewatering Use Types
>
> For Industrial/Commercial/ Institutional and Mining/ Mining Dewatering use types, the Demonstrated 2025 Demand is the existing permitted allocation, as of the effective date of this rule [date]. Any additional allocations are subject to the requirements of Section 2.8.6.
>
> CFWI - 2.8.3 Public Supply Use Types
>
> For Public Supply use types, an applicant or permittee shall be restricted to a maximum allocation from the Upper Floridan aquifer in an amount no greater than its Demonstrated 2025 Demand. Allocations for withdrawals from all other sources will not be reduced. The District may authorize a permittee to retain some or all of a previously approved allocation above its Demonstrated 2025 Demand from the Upper Floridan aquifer where it considers any conservation, water resource or water supply development projects (such as substitution credit, other reclaimed water or aquifer recharge) completed by the applicant or permittee after December 31, 2015 to provide net water resource benefits to the Upper Floridan aquifer. The District's consideration shall include projects that were authorized in connection with a permittee's existing permit and projects for reuse supplementation consistent with Rule 62-40.416(9), F.A.C.
>
> For Public Supply use types with an allocation from multiple sources, any reduction in allocation shall be made from a permittee's current allocation from the Upper Floridan aquifer. Design Aid 4 provides example scenarios of how this section applies to an allocation from multiple sources.
>
> Permittees, at their option, may request to combine or aggregate permits in accordance with Rules 40C-2, 40D-2, and 40E-2, F.A.C.

> "CFWI - 2.8.2.1 Exceptions: The restrictions in subsections 2.8.1 and 2.8.2 on groundwater allocations shall not limit permitted groundwater withdrawals from:
>
> A. Aquifer storage and recovery wells that receive only surface water, stormwater, or reclaimed water, when the volume of water withdrawn does not exceed the volume of water injected; or
>
> B. An injection/recovery wellfield that injects surface water, stormwater, or reclaimed water that is not required under District rules to be provided to other uses, through one or more wells for storage within an aquifer zone and subsequently recovers it through wells from the same aquifer zone and in the same wellfield, when the volume of water withdrawn does not exceed the volume of water injected; or
>
> C. A recharge/recovery project that receives only surface water, stormwater, or reclaimed water that is not provided to users in accordance with District rules, when the volume of water recovered does not exceed the volume of water recharged, and the drawdown due to recovery of water from the Upper Floridan aquifer will be offset in the:
>
> 1. surficial aquifer by recharge from the project, and
>
> 2. Floridan aquifer by recharge from the project, except immediately adjacent to the recovery well(s)."

The CFWI Supplemental Applicant's Handbook section 2.8.3.1 provides for Temporary Allocations until water from AWS projects become operational.

> "CFWI - 2.8.3.1 Temporary Allocations
>
> A "temporary allocation" is water temporarily required to meet the applicant's reasonable demands while implementing an offset (see subsection 2.8.3.2), a substitution credit or land use transition (see subsection 2.8.3.3), or an alternative water supply (see subsection 2.8.3.4). Temporary allocations from the Upper Floridan aquifer are only available for existing permitted uses while the necessary offsets or alternative water supplies are being developed and implemented. The permit will be conditioned with dates and milestones for development of the alternative water supply or offset. A temporary allocation shall be reduced to be consistent with this subsection when the alternative source is projected to be available, consistent with permit conditions."

For the purposes of this SERC, the Department made conservative assumptions that, under the existing rules, all increases in water demands after 2025 could be supplied with water from the UFA instead of from the more expensive alternative water supplies. Thus, most of the transactional costs associated with this proposed rule change would not be expected until after 2025, when the UFA demand-not-met will need to be supplied with water from the more expensive alternative water sources. As demand-not-met grows over time, so will the transactional costs needed to obtain more and more water quantities from the more expensive alternative water supply (AWS) projects.

Under existing rule, each water use permit would be evaluated for impacts to the UFA as it comes in for renewal and it is possible that the resulting permitted quantities from the UFA would be the same as or

similar to those quantities under the proposed CFWI rule. **In this case, the transactional costs presented in this SERC might still be expended anyway under existing rule but the expenditures would be incurred later in time than they would be under the proposed CFWI rule.**

2.2 Relevant Definitions

Selected definitions provided in the proposed CFWI rule that are relevant to understanding the proposed CFWI rule are provided as follows.

- "Demonstrated 2025 Demand" means the quantity of water, needed to meet demands in 2025 as described in CFWI - 1.1 Definitions of the Supplemental Applicant's Handbook. Demonstrated 2025 Demand will be calculated utilizing the methodologies described in Section 2.0 of the CFWI Supplemental Applicant's Handbook.
- "Existing Uses" means those permitted consumptive uses in effect as of the effective date of the proposed CFWI rule as described in CFWI - 1.1 Definitions of the Supplemental Applicant's Handbook.
- "New Uses" means those uses permitted after the effective date of the proposed rule as described in CFWI - 1.1 Definitions of the Supplemental Applicant's Handbook.
- "Alternative Water Supplies - According to section 373.019, F.S. "When appearing in this chapter or in any rule, regulation, or order adopted pursuant thereto, the term:

  "Alternative water supplies" means salt water; brackish surface and groundwater; surface water captured predominately during wet-weather flows; sources made available through the addition of new storage capacity for surface or groundwater, water that has been reclaimed after one or more public supply, municipal, industrial, commercial, or agricultural uses; the downstream augmentation of water bodies with reclaimed water; stormwater; and any other water supply source that is designated as nontraditional for a water supply planning region in the applicable regional water supply plan.

  As stated in the proposed CFWI - 2.8.4 Development of Alternative Water Supplies, "An alternative water supply will be approved if it is adequate to meet the reasonable increased demands and modeling demonstrates it will not cause an increased volume of the withdrawal from the Upper Floridan aquifer over the Demonstrated 2025 Demand."

- Implementation of Offsets - According to CFWI – 2.8.3.2, the "applicant may propose the implementation of offsets to eliminate the projected increase in volume of withdrawals from the Upper Floridan Aquifer (UFA) beyond the applicant's Demonstrated 2025 Demand. An offset will be approved if the applicant's modeling shows the offset prevents an increase in volume of groundwater withdrawn from the Upper Floridan aquifer over the applicant's Demonstrated 2025 Demand. Offsets include the use of impact offsets, recharge systems and seepage barriers.
- Substitution Credits or Land Use Transitions – According to CFWI – 2.8.3.3, the applicant may propose the implementation of substitution credits or retirement of existing consumptive use permits. If the applicant selects this option, the applicant shall identify terminated or reduced

CUP allocations. The request will be approved if the applicant's modeling demonstrates that the requested allocation does not cause an increase in volume of withdrawals from the UFA over the applicant's Demonstrated 2025 Demand due to the reduction or elimination of other CUPs that existed on the effective date of the proposed CFWI rule. For agricultural, recreational, and landscape irrigation uses, the retired quantity will be based on the average annual allocation which is the amount of supplemental irrigation required during a five in ten rainfall condition. For all other use types, the retired quantity will be based on the Demonstrated 2025 Demand or actual permitted allocation, whichever is less.

2.3 Proposed CFWI Rules Affecting Public Supply Permittees and Applicants

Table 2-1 provides the proposed changes to water use permitting rules in the CFWI that are expected to impact public supply permittees and applicants. These changes are further described in Section 4.0 Transactional Costs.

Table 4-1: Proposed Change to Water Use Permitting Rules for Public Supply Permittees and Applicants in the CFWI Area

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
A. Permitted quantities from UFA restricted to "2025 Demonstrated Demand".	New	New	New
B. Most existing water use permits will be modified.	New	New	New
C. Plan required to address how "demand-not-met" beyond 2025 will be supplied (a)	New	New	New
D. Meet "Public Supply Annual Conservation Goal" of 115 gpcd – required of permittees and applicants with at least 100,000 gpd in total permitted quantity	150 gpcd under existing rule	New	New
E. Implement an end-of-permit residential per capita water use goal for permittees and applicants with at least 100,000 gpd in total permitted quantity	New	New	New
F. Permittees with at least 100,000 gpd in total permitted quantity must provide Annual Report to demonstrate compliance with the Residential Per Capita Water Use Goal and Public Supply Annual Conservation Goal.	Existing	New	New
G. Additional level of detail required for water demand forecasts by applicants.	Extent of additional detail will vary by District and Applicant		
H. All public supply applicants must consider using lowest quality water source and evaluate the technical, environmental, and economic feasibility of using lowest quality water source.	New	New	No Change

(a) "Demand-not-met" means the amount of water demand that would not be supplied with water from the UFA as a result of the proposed CFWI Rule.

2.4 Proposed CFWI Rules Affecting Industrial / Commercial / Institutional / Mining / Dewatering / Power Generation Self-Supplied Permittees and Applicants

Table 2-2 provides the proposed changes to water use permitting rules in the CFWI that are expected to impact Industrial / Commercial / Institutional / Mining / Dewatering / Power Generation Self-Supplied permittees and applicants. These changes are further described in Section 4.0 Transactional Costs.

Table 2-2: Proposed Change in Water Use Permitting Rules in CFWI Area Affecting Industrial / Commercial / Institutional / and Power Generation Self-Supplied Permittees and Applicants

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
A. Permitted quantities from UFA restricted to the "Demonstrated 2025 Demand" or, for allocations based on a water balance and not a growth projection, the Demonstrated 2025 Demand is the existing permitted allocation. Water demand growth after 2025 will need to come from "offsets", "substitution credits", "land use transitions" and/or "alternative water source (AWS) development".	New	New	New
B. Most existing water use permits will be modified.	New	New	New
C. Plan required to address how "demand-not-met" beyond 2025 will be supplied.	New	New	New
D. Requires applicants to prepare a water balance in the form of a spreadsheet or flow diagram.	No Change	No Change	No Change
E. Additional level of detail required for water demand forecasts by applicants.	New	New	New
F. All ICI applicants must consider using lowest quality water source and evaluate the technical, environmental, and economic feasibility of using lowest quality water source.	No Change	No Change	No Change

2.5 Proposed CFWI Rules Affecting Agricultural, Recreational and Landscape Irrigation Self-Supplied Permittees and Applicants

Table 2-3 provides the proposed changes to water use permitting rules in the CFWI that are expected to impact Agricultural, Recreational and Landscape Irrigation Self-Supplied permittees and applicants. These changes are further described in Section 4.0 Transactional Costs.

Table 2-3: Proposed Change in Water Use Permitting Rules in CFWI Area Affecting Agricultural, Recreation, and Landscape Irrigation Self-Supplied Permittees and Applicants

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
A. District will determine supplemental irrigation requirements during average rainfall conditions by applying a five-in-ten-year rainfall condition.	New except for inside the SWUCA	New	New
B. District will determine supplemental irrigation requirements for drought condition by applying a two-in-ten-year rainfall condition.	No Change	No Change	Change from 1-in-10-year

Table 2-3: Proposed Change in Water Use Permitting Rules in CFWI Area Affecting Agricultural, Recreation, and Landscape Irrigation Self-Supplied Permittees and Applicants

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
C. Most existing water use permits will be modified.	New	New	New
D. Uniform Irrigation System Efficiencies	No Change except for Portable Guns 65% to 70%	No Change except Overhead Sprinkler from 70% to 75%	No Change except for Portable Guns 66.7% to 70%
E. Annual Conservation Goal Implementation Plan (ACGIP)	No Change	No Change	New
F. Additional level of detail required for water demand forecasts by applicants.	No Change	No Change	No Change

2.6 Section 62-41.304: CFWI Area, Uniform Process for Setting Minimum Flows and Minimum Water Levels and Water Reservations

Proposed rule 62-41.304, F.A.C., is a new rule that prescribes the methodology the Water Management Districts (Districts) will use in establishing Minimum Flows and Levels (MFLs). There are no requirements in rule 62-41.304, F.A.C., that will be applied to permittees or applicants. The described methodology will not represent any process changes for district staff, as it simply describes in more detail the processes that are already used to develop MFLs in the CFWI area.

2.7 62-41.303: Central Florida Water Initiative Area, Variances to the Uniform Rules

Applicants may seek a variance from the CFWI rules if there are unique circumstances or hydrogeological factors that make application of the uniform rules unrealistic or impractical. A variance under this rule is as defined in section 120.52(21), F.S. (2020). Variances under this rule shall not be granted for any requirements relating to the Southern Water Use Caution Area or the Dover/Plant City Water Use Caution Area, provisions of which are incorporated by reference in rule 62-41.305, F.A.C. Nothing in this rule shall preclude a petitioner from applying for variances or other relief mechanisms under other provisions of law.

This proposed rule 62-41.303, F.A.C., is functionally the same as the existing statutes and rules in chapter 120, F.S., and chapter 28-106, F.A.C., regarding variances. The difference in rule 62-41.303, F.A.C., is that it explains how the Districts will evaluate whether "there are unique circumstances or hydrogeological factors that make application of the uniform rules unrealistic or impractical," as required by section 373.0465, F.S. This standard is the same as the one currently applied under 120.542, F.S. (i.e., "for the purposes of this rule, unrealistic or impractical shall mean compliance with the rule will create a substantial hardship or would violate the principles of fairness"). The information required of an applicant under rule 62-41.303(6), F.A.C., is also the same as the information required of an applicant seeking a variance from any other water management district rule under 120.542 F.S.

3. Number of Persons and Entities Required to Comply

The persons and entities required to comply with the proposed CFWI rule are all water use permittees with permitted water withdrawals in the CFWI and all water use permit applicants for permitted water quantities from the CFWI. This Section provides the numbers and descriptions of the persons and entities required to comply based on the data and information provided by the three water management districts. This Section provides the number of persons and entities required to comply by water management district and in total for the CFWI. Each permit is defined by a unique permit number of an active permit. Each permittee is a unique permittee name assigned to the permit.

3.1 Southwest Florida Water Management District

In the SWFWMD, there are 2,210 existing water use permits in the CFWI held by an estimated 1,847 permittees. Of the 1,847 permittees, 1,372 use their permitted quantities for agricultural irrigation. The rest are about evenly distributed among the other use types.

Table 3-1: Number of Water Use Permittees by Use Type in the SWFWMD Portion of the CFWI

Use Type	Number of Permits	Number of Permitees
Agricultural Irrigation	1,727	1,372
Landscape/Recreation	174	154
Public Supply	82	76
Commercial / Industrial / Institutional / Power Generation	112	107
Misc. Agriculture – Non-Irrigation Uses	115	138
Total	**2,210**	**1,847**

Table 3-2 provides the estimated future numbers of new applicants for permitted quantities in the CFWI by use type. These estimates are based on the average annual numbers of new applicants over the ten-year period from 2010 to 2019. In an average year, the SWFWMD sees 10.6 new applicants seeking a water use permit in the CFWI. Consistent with the number of permittees, most new applicants are seeking permitted water for agricultural irrigation. Conversely, in ten years there has only been one new public supply applicant.

Table 3-2: New Water Use Applicants by Use type in the SWFWMD Portion of the CFWI (2010-2019)

Use Type	Number of New Applicants from 2010 to 2019	Annual Average Number of New Applicants
(1)	**(2)**	**(3) = (2) / 10 years**
Agricultural Irrigation	85	8.5
Landscape/Recreation	8	0.8
Public Supply	1	0.1
Commercial / Industrial / Institutional / Power Generation	8	0.8
Misc. Agriculture – Non-Irrigation Uses	4	0.4
Total	**106**	**10.6**

3.2 St. Johns River Water Management District

The SJRWMD provided a list of their water use permittees located in the CFWI. Table 3-3 provides a count of these permittees by use type. There are currently 430 water use permittees holding 516 permits in the SJRWMD's area of the CFWI. About one-half are agricultural water use permittees.

Table 3-3: Number of Water Use Permits and Permittees by Use Type in the SJRWMD Portion of the CFWI

Use Type	Number of Permits	Number of Permittees
Agricultural	236	211
Commercial / Industrial / Institutional	44	36
Environmental	3	3
Landscape / Recreation / Aesthetic	112	90
Mining / Dewatering	16	8
Other	8	2
Public Supply	97	80
Total	**516**	**430**

Table 3-4 provides the estimated future numbers of new applicants for permitted quantities in the CFWI by use type. In an average year, the SJRWMD sees 6.2 new applicants seeking a water use permit in the CFWI. The most common new use types are agricultural irrigation, landscape / recreation, and mining / dewatering. Conversely, in ten years there has only been one new public supply applicant.

Table 3-4: New Water Use Applicants by Use Type in the SJRWMD Portion of the CFWI (2010-2019)

Use Type	Number of New Applicants from 2010 to 2019	Annual Average Number of New Applicants
(1)	**(2)**	**(3) = (2) / 10 years**
Agricultural Irrigation	17	1.7
Landscape Recreation	11	1.1
Public Supply	1	0.1
Commercial / Industrial / Institutional / Power Generation	8	0.8
Mining / Dewatering	15	1.5
Misc. Agriculture – Non-Irrigation Uses	3	0.3
Other, including Environmental	7	0.7
Total	**52**	**6.2**

3.3 South Florida Water Management District

The SFWMD provided a list of their water use permits located in the CFWI. Table 3-5 provides a count of the number of permits and permittees by use type. There are currently 821 water use permits held by 795 water use permittees in the SFWMD's area of the CFWI. About one-half of these permittees and permits are for landscape irrigation.

Table 3-3: Number of Water Use Permittees by Use Type in the SFWMD Portion of the CFWI

Use Type	Number of Permits	Number of Permittees
Agricultural Irrigation	136	131
Aquaculture	2	2
Golf	28	28
Industrial	42	41
Landscape	410	403
Livestock	28	21
Nursery	26	24
Lake Augmentation	1	1
Public Water Supply Utilities	45	43
Public Water Supply Other Than Utilities	103	101
Total	**821**	**795**

The predominant use type is Landscape with 403 permittees followed by Agricultural Irrigation with 131 permittees. There are 43 public supply permittees holding a total of 45 permits who are water utilities.

There are an additional 101 public supply permittees holding 103 permits who use water for domestic uses in a retail, commercial, school, religious, or other type of establishment. The other two Districts categorize these permittees as ICI. These small self-supplied permittees are not expected to be impacted by the proposed rule unless they request additional permitted quantities after 2025. However, the SFWMD has indicated that these types of permittees and applicants with UFA quantities below 100,000 gpd would still be able to get additional or new quantities from the UFA. If the project is in an area of concern for wetlands, an impact assessment would be performed to make sure there is no excessive drawdown.

Table 3-6 provides the estimated future numbers of new applicants for permitted quantities located in the SFWMD's portion of the CFWI by use type. In an average year, the SFWMD sees 1.8 new applicants seeking a water use permit in the CFWI. The new use types are agricultural irrigation, public supply, and landscape / recreation.

Table 3-6: New Water Use Applicants by Use Type in the SFWMD Portion of the CFWI (2010-2019)

Use Type	Number of New Applicants from 2010 to 2019	Annual Average Number of New Applicants
(1)	(2)	(3) = (2) / 10 years
Agricultural Irrigation	12	1.2
Public Supply	5	0.5
Landscape / Recreation	1	0.1
Golf Course	0	0
Commercial / Industrial / Institutional / Power Generation	0	0
Total	**18**	**1.8**

3.4 Total Number of Permittees and Applicants Expected to be Impacted by the Proposed CFWI Rule

Summing the number of permittees and applicants presented in Tables 3-1 to 3-6 provides a summary of the total existing water use permittees and the forecasted annual number of future applicants in the CFWI. Table 3-7 provides the total number of water use permittees by use type. There are an estimated 3,072 water use permittees in the CFWI, of which 56 percent use their permitted water for agricultural irrigation, 22 percent use their water for landscape / recreation and 10 percent use the water to supply the potable water needs of households and businesses. Commercial / Industrial / Institutional permittees and Miscellaneous Agriculture permittees each comprise six percent and five percent, respectively, of all permittees in the CFWI. Mining / Dewatering and Other, including Environmental use types, comprise less than one percent of all permittees.

Table 3-7: Estimated Number of Water Use Permittees by Use Type in the CFWI as of 2020

Use Type	Number of Permits	Number of Permittees	Percent of Permittees
Agricultural Irrigation	2,125	1,738	56.58%
Landscape / Recreation	724	675	21.97%
Public Supply	327	300	9.77%
Commercial / Industrial / Institutional / Power Generation	198	184	5.99%
Misc. Agriculture – Non-Irrigation Uses	145	161	5.24%
Mining / Dewatering	16	8	0.26%
Other, including Environmental	12	6	0.20%
Total	**3,547**	**3,072**	**100.00%**

Based on the average number of new applicants for permitted quantities over the past 10 years, about 18.6 applicants are expected each year in the future. About 11.4 will be applicants requesting permitted water for agricultural irrigation and 2.0 will be for landscape / recreation. About 0.7 applicants will request permitted quantities for public supply

Table 3-8: Estimated Annual Number of New Water Use Applicants by Use Type in the CFWI

Use Type	Annual Average Number of New Applicants (Past 10 Years)	Percent of New Applicants
Agricultural Irrigation	11.4	61.29%
Landscape / Recreation	2.0	10.75%
Public Supply	0.7	3.76%
Commercial / Industrial / Institutional / Power Generation	1.6	8.60%
Mining / Dewatering	1.5	8.06%
Misc. Agriculture	0.7	3.76%
Other, including Environmental	0.7	3.76%
Total	**18.6**	**100.00%**

The distributions of water use among the use types in 2015 and forecasted in 2040 are provided in Table 3-9. While agricultural irrigation comprises the largest percentage of permittees, public supply comprises the largest percentage of water demand in the CFWI.

Table 3-9: 2015 and Forecasted 2040 Water Demand Under Average Rainfall Conditions in the CFWI by Use Type

Use Type	Water Demand (mgd)		% of Water Demand	
	2015	2040	2015	2040
Agriculture	159.38	163.49	24%	18%
Commercial / Industrial / Institutional	53.5	69	8%	8%
Domestic Self-Supply	21.56	24.59	3%	3%
Landscape / Recreational	38.24	46.96	6%	5%
Power Generation	8.47	11.27	1%	1%
Public Supply	385.97	592.28	58%	65%
Total	**667.12**	**907.59**	**100%**	**100%**

Source: Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020: “A comprehensive plan for Orange, Osceola, Polk, Seminole, and southern Lake counties”. No date. Distributed in the summer of 2020. The report is located at https://cfwiwater.com/planning.html.

4. Transactional Costs

This Section provides estimates of the transactional costs associated with the proposed rule. Section 120.451, F.S. defines transactional costs as follows.

"direct costs that are readily ascertainable based upon standard business practices, and include filing fees, the cost of obtaining a license, the cost of equipment required to be installed or used or procedures required to be employed in complying with the rule, additional operating costs incurred, the cost of monitoring and reporting, and any other costs necessary to comply with the rule."

The types of water use permittees and applicants expected to be impacted by the proposed rule are listed below along with the section number where the transactional cost estimates are provided.

- 4.1 Public Water Supply Use Type Permittees and Applicants
- 4.2 Industrial/Commercial/Institutional and Electric Power Generation (ICI) Use Type Permittees and Applicants
- 4.3 Agricultural and Landscape/Recreation Use Type Permittees and Applicants

The estimated transactional costs of each use type are presented as follows. All costs, including future costs, are reported in today's (2020) dollars. Therefore, the estimated future costs reported in this SERC do not include inflation.

4.1 Public Supply Use Type Permittees and Applicants

Table 4-1 summarizes the portions of the proposed rule that have the potential to incur transactional costs to public supply permittees and applicants. Each is described in turn.

A. Permitted Quantities from the UFA: The rule change expected to have the greatest impact on transactional costs in total and for the public water use sector is the change to the permitted amount of water withdrawn from the Upper Floridan Aquifer (UFA). Under the proposed rule, public supply permitted quantities from the UFA in the CFWI Area will be limited to the permittee or applicant's "Demonstrated 2025 Demand," which means the quantity of water needed to meet demands in the year 2025.

Water demand growth after 2025 will need to come from "offsets," "substitution credits," "land use transitions," and/or "alternative water source development." If the permittee is unable to implement these measures in a timely manner, the proposed CFWI Supplemental Applicant's Handbook allows for temporary allocations. Section 8.3.1 Temporary Allocations of the proposed CFWI Supplemental Applicant's Handbook states the following: "A "temporary allocation" is water temporarily required to meet the applicant's reasonable demands while implementing an offset, … a substitution credit or land use transition …, or an alternative water supply. … Temporary allocations from the Upper Floridan aquifer are only available for existing permitted uses while the necessary offsets or alternative water supplies are being developed and implemented. The permit will be conditioned with dates and milestones for development of the alternative water supply or offset. A temporary allocation shall be reduced to be consistent with this subsection when the alternative source is projected to be available, consistent with

permit conditions." The proposed CFWI Supplemental Applicant's Handbook defines "New Uses" as those uses permitted after the effective date of the proposed rule and "Existing Uses" as those permitted consumptive uses in effect as of the effective date of the proposed rule.

For the purposes of preparing this SERC, the Department made the conservative assumption that, under existing rule, requests for permitted quantities from the UFA above the "Demonstrated 2025 Demand" would continue to be approved by the Districts. In practice, such approval would be subject to the existing rules regarding conditions for issuance of permits and, thus, applicants and permittees would likely incur similar costs under the existing rules as under the proposed rule.

For the purposes of preparing this SERC, it was assumed that, under existing rule, requests for permitted quantities from the UFA above the "Demonstrated 2025 Demand" would continue to be approved by the Districts. In practice, such approval would be subject to the existing rules regarding conditions for issuance of permits.

Table 4-1: Proposed Change to Water Use Permitting Rules for Public Supply Permittees and Applicants in the CFWI Area

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
A. Permitted quantities from UFA restricted to "2025 Demonstrated Demand".	New	New	New
B. Most existing water use permits will be modified.	New	New	New
C. Plan required to address how "demand-not-met" beyond 2025 will be supplied (a)	New	New	New
D. Meet "Public Supply Annual Conservation Goal" of 115 gpcd – required of permittees and applicants with at least 100,000 gpd in total permitted quantity	150 gpcd under existing rule	New	New
E. Implement an end-of-permit residential per capita water use goal for permittees and applicants with at least 100,000 gpd in total permitted quantity	New	New	New
F. Permittees with at least 100,000 gpd in total permitted quantity must provide Annual Report to demonstrate compliance with the Residential Per Capita Water Use Goal and Public Supply Annual Conservation Goal.	Existing	New	New
G. Additional level of detail required for water demand forecasts by applicants.	Extent of additional detail will vary by District and Applicant		
H. All public supply applicants must consider using lowest quality water source and evaluate the technical, environmental, and economic feasibility of using lowest quality water source.	New	New	No Change

(a) "Demand-not-met" means the amount of water demand that would not be supplied with water from the UFA as a result of the proposed CFWI rule.

B. Permit Modification: For most existing public supply permittees, water use permits would be modified by the respective water management district after the proposed rule is adopted. For applicants, new permitted quantities from the UFA can be approved by the water management district up to the "Demonstrated 2025 Demand."

C. Plan to Address "Demand-Not-Met": "Demand-not-met" means the amount of water demand that would not be supplied with permitted water quantities from the UFA under the proposed CFWI rule. According to the proposed CFWI Supplemental Applicant's Handbook, "By December 31, 2023, any permittee or applicant seeking a permit duration extending beyond 2025 whose projected water demand will exceed its Demonstrated 2025 Demand shall submit a plan to the District describing how the remainder of their demand will be met (e.g., impact offsets, substitution credits, alternative water supply development). The plan shall propose projects and identify a schedule for implementation. Annual updates detailing progress shall be provided to the District. The annual status reports shall include work completed to date, expenditures, and any anticipated changes in timelines." This Plan is a new requirement of public supply permittees and would result in transactional costs to these entities.

D. "Public Supply Annual Conservation Goal": According to the proposed CFWI Supplemental Applicant's Handbook, section 2.7.3 Public Supply Use Type Annual Conservation Goal, requires that: "Public supply permittees with an annual average daily quantity of 100,000 gpd or greater shall meet the requirements of the annual conservation goal by demonstrating yearly progress toward an end-of-permit gross per capita daily water use rate of no greater than 115 gpd or a functional population per capita daily water use rate of no greater than 100 gpd." Permittees will have 20 years to reach either of these goals and, for those who can demonstrate that it is unrealistic or impractical to get reach either of these goals, variances will be provided. Under existing rule, there is no similar type of goal. However, for permits in the SWFWMD, there is an implied "goal" wherein no more than 150 gpcd can be permitted for public supply. Thus, this goal is a new requirement of public supply permittees and would result in transactional costs to these entities as they attempt to implement water conservation efforts to reduce gross per capita water use to 115 gpcd or functional population per capita daily water use to 100 gpcd. The magnitude of such costs would depend on the current gpcd of the water utility. For example, if the current gross gpcd is less than or equal to 115 gpcd, it is anticipated that the entity would not experience any transactional costs associated with this proposed rule change.

E. End-of-Permit Residential Per Capita Use Goal: According to the proposed CFWI Supplemental Applicant's Handbook, "2.7.2 Residential Per Capita Water Use Goal", for public supply use only, an applicant must implement an end-of-permit residential per capita water use goal. A public supply permittee with an annual average daily quantity of 100,000 gpd or greater shall track its progress toward achieving the end-of-permit residential per capita water use as a distinct metric within" the annual per capita compliance report. This new requirement would result in transactional costs to these entities.

F. Annual Per Capita Compliance Report: Section 2.7.3.1 of the proposed CFWI Supplemental Applicant's Handbook requires "Compliance with Per Capita Daily Water Use Rate Annual Report - For all public supply permits with an annual average daily quantity of 100,000 gpd or greater, compliance with the Residential Per Capita Water Use Goal and the Public Supply Annual Conservation Goal shall be monitored via an Annual Report that each Permittee must submit to the district by April 1 of each year. For the Public Supply Annual Conservation Goal, quantities included in the calculation of Gross Per Capita Water Use, Adjusted Per Capita Water Use, and Alternative Per Capita Water Use in section 2.7.3 shall be documented and reported by the Permittee in the Annual Report for the reporting period included in the permit…" The draft Design Aids for the CFWI Supplemental Applicants' Handbook show that if the Gross Per Capita Water Use goal is met, then calculation of the other two measures of per capita use are not required. If the Adjusted Per Capita Water Use goal is met, then calculation of the Alternative Per Capita Water Use is not required.

"If the Permittee achieves the 115 gpd gross per capita water use rate goal or the 100 gpd functional population per capita water use rate goal using the methods set forth in section 2.7.3, they will be deemed in compliance with the per capita requirement. The District will evaluate the information submitted by Permittees, including those operating under a Goal-based Water Conservation Plan, who have an Alternative Per Capita Water Use Rate greater than 115 gpd gross or 100 gpd functional." This Annual Report is a new requirement of public supply permittees in the SJRWMD and the SFWMD and would result in transactional costs to these entities. It is not a new requirement of public supply permittees in the SWFWMD.

G. Additional Detail Required for Water Demand Forecasts: The proposed CFWI Supplemental Applicant's Handbook specifies a uniform method for calculating future water demands of public supply water use permit applicants. For applicants located in the SWFWMD, the requirements are the same as existing rule. For applicants located in the other two Districts, the proposed rule change will likely result in additional data collection and demand calculations because the water demand will need to be forecast by three new use categories: residential single-family; residential multi-family, and non-residential/other metered use.

H. Lowest Quality Water Source: According to the proposed CFWI Supplemental Applicant's Handbook, section 2.9 Use of Lowest Quality Water Source says that "applicants must provide reasonable assurance that the proposed use (or portion of the proposed use) will be met with the lowest quality water source that is suitable for the purpose and is technically, economically, and environmentally feasible." The requirements described for determining the technical, economic, and environmental feasibility will necessitate that the applicant prepare a written report. The SFWMD already requires this consideration and evaluation under existing rule. For applicants in the SJRWMD and the SWFWMD, this requirement is new and would result in transactional costs to these entities.

The following sections provide estimates of the transactional costs associated with these proposed rule changes.

4.1.1 Permitted Quantities from the UFA

The methods and data used to estimate the transactional costs to public supply permittees are provided in this section.

Transactional Cost Estimation Method

Transactional costs include the costs incurred to develop alternative water supplies (AWS) sufficient to meet the projected increase in demand beyond the year 2025. This SERC does not attempt to evaluate the circumstances of each individual public supply permittee or applicant within the CFWI area. Instead transactional costs were estimated in the aggregate by county using the public supply water demand projections and the water production benefit and unit cost of AWS projects provided in the DRAFT CFWI Regional Water Supply Plan 2020 report, undated.[1] The unit cost is the estimated capital and

[1] Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020: "A comprehensive plan for Orange, Osceola, Polk, Seminole, and southern Lake counties". No date. Distributed in the summer of 2020. The report is located at https://cfwiwater.com/planning.html.

annual operations and maintenance (O&M) cost per 1,000 gallons of water supply provided. “Capital cost” means planning, design, engineering, and project construction costs.

The choice of AWS projects used to estimate transactional costs does not imply that each selected AWS project would be developed. Instead, the intent is to obtain reasonable estimates of the unit costs associated with the types of AWS projects being contemplated in the CFWI.

The transactional cost estimation encompassed the following steps:

- Compile water demand projections from 2025 to 2040 for the CWFI area by county, water management district, and by large and small public supply utility.
- Estimate the demand-not-met by withdrawals from the UFA.
- Compile information on potential AWS projects by county and water management district, including estimates of potential supply benefits and the unit cost of water supply.
- Calculate the weighted average unit cost of the AWS projects by AWS type for each county.
- Estimate the total and incremental cost of AWS by county.
- Estimate the unit and incremental unit cost to supply the water demand-not-met.

The following describes these steps of the analysis and presents the estimates of transactional costs to public supply permittees in the CFWI Area.

Projections of Public Supply Permittee Water Demand in the CFWI Area

The draft CFWI Regional Water Supply Plan 2020 presents water demand projections through the year 2040 by public supply permittee, by county, and by water management district. Public supply permittees are divided into large utilities (at least 100,000 gallons per day of demand) and small utilities (less than 100,000 gallons per day of demand). The amounts of water supplied by each public supply permittee from ground water and surface water are also provided. This report does not provide the breakdown between withdrawals from the Upper Floridan Aquifer (UFA) and the Lower Floridian Aquifer (LFA).

For the public water supply use type, the source of the water demand data included in the draft CFWI RWSP varied among the three districts and included metered data for raw water withdrawals and water treatment plant Monthly Operating Report (MOR) data for treated water withdrawals. According to the SWFWMD, most of the water treatment methods currently used by public supply permittees in the CFWI Area have minimal treatment losses and any differences are assumed to be negligible.

Because the proposed CFWI rule would limit additional permitted withdrawals from the UFA, increases in projected demand for groundwater between 2025 and 2040 are included in the estimation of transactional costs. This analysis does not go beyond the year 2040 due to a lack of available data.

Table 4-2 provides the forecasted increases in UFA water demand from 2025 to 2040 by large and small public supply permittees located in the CFWI by county. Overall, demand-not-met from the UFA by 2040 is estimated to be 93.8 mgd. This water quantity will need to come from “offsets”, “substitution credits”, “land use transitions” and/or “alternative water source development”.

Almost all the water demand represented in Table 4-2 is associated with the large public supply permittees. Total water demand of small public supply permittees is forecast to be 2.96 mgd in 2025 and 3.04 mgd in 2040, an increase of 0.08 mgd.

Table 4-2: Public Supply Permittee UFA Water Demand Forecast and Demand-Not-Met by 2040 for each CFWI County

County	2025 Water Demand (mgd) (a)	2040 Water Demand (mgd) (a)	Demand-Not-Met by 2040 (mgd)	Percent of Total "Demand-Not-Met by 2040"	2040 Demand as % of Total 2040 Demand
(1)	(2)	(3)	(4) = (3) – (2)	(5) = (4) / 93.8	(6) = (3) / 579.21
Lake	23.65	28.49	4.84	5.2%	4.9%
Orange	260.57	314.05	53.48	57.0%	54.2%
Osceola	53.83	69.25	15.43	16.4%	12.0%
Polk	86.02	101.37	15.35	16.4%	17.5%
Seminole	61.34	66.04	4.70	5.0%	11.4%
Total	**485.41**	**579.21**	**93.80**	**100.0%**	**100.0%**

(a) Source: CFWI Regional Water Supply Plan 2020, draft, Appendix A, Table A-5b (Large Public Supply) and Table A -6b (Small Public Supply)

Table 4-3 provides the forecasted demand of public supply water use permittees by water management district. Public supply permittees within the SFWMD account for 47 percent of the demand-not-met by 2040. For the SJRWMD, the demand-not-met is 37 percent of the total. Only 16 percent of the total demand-not-met is by permittees within the SWFWMD.

Table 4-3: Public Supply Permittee UFA Water Demand Forecast and Demand-Not-Met by 2040 in Each Water Management District

Water Management District	2025 Water Demand (mgd)	2040 Water Demand (mgd)	Demand-Not-Met by 2040 (mgd)	Percent of Total "Demand-Not-Met by 2040"
(1)	(2)	(3)	(4) = (3) – (2)	(5) = (4) / 93.80
SJRWMD	255.93	291.00	35.06	37%
SWFWMD	81.33	95.95	14.63	16%
SFWMD	148.15	192.26	44.10	47%
Total	**485.41**	**579.21**	**93.80**	**100%**

Projections of Potential Water Supply and Unit Costs for the CFWI Area

The 2020 RWSP identifies current and future AWS projects that could potentially provide additional water supply within the CFWI Area. The project list includes projects that range from purely conceptual and in the earliest stages of planning to projects that are currently under construction. The detail of information presented on the AWS projects varied greatly, with some AWS projects too early in their development stage to have any cost information or water supply benefit available. For purposes of the SERC, only projects with estimated capital costs, unit costs (i.e., cost per 1000 gallons), and the generated or water resource benefit in mgd were included in the estimates of AWS unit costs. "Generated or water resource benefit" is defined as the amount of water supply added or the amount of water demand saved by

the project and will be herein referred to as “water supply”. In the RWSP, projects are grouped by the following categories.

- Brackish/Nontraditional Groundwater Projects
- Water Conservation Projects
- Reclaimed Water Projects
- Surface Water Projects
- Stormwater Projects
- Water Management Strategies

Brackish, Reclaimed, Surface Water, and Stormwater projects and Water Management Strategies with the requisite cost and water supply information were compiled by category, by county, and by water management district. The selected projects were used to obtain representative estimates of the cost per 1,000 gallons to obtain water from AWS projects.

In compiling the AWS projects and the associated water supply and cost data, the timing of AWS project completion was not considered. Public supply permittees making good faith efforts to develop AWS projects will be granted temporary withdrawal allocations from the UFA to tide them over until the AWS projects are in operation. Thus, potential water shortages after 2025 and the resulting negative economic impact would not be expected.

The following steps were taken to estimate the cost of AWS projects.

- Identify AWS projects with the available water supply and cost information.
- Compile AWS projects within each county and water management district by category, unit cost, and amount of water supplied.
- Determine if the identified AWS projects would generate sufficient water supply to meet the estimated “demand-not-met” by the UFA under the proposed CFWI rule.
- Calculate a weighted average unit cost of the projects within each AWS project category potentially supplying water to permittees in each CFWI county where the weights are the percent of total water supply that is provided by the project.
- Calculate the contribution of each AWS project category to the total amount of water supplied by all AWS projects within each CFWI county.
- Calculate the weighted unit cost of all AWS water supply projects within the county where the weights are the percent of total water supply that is provided by each project category.

As presented in Table 4-4, the identified potential AWS projects, if fully implemented, could provide for the forecasted demand-not-met in all five counties within the CFWI.

Table 4-4: Projected UFA Demand-Not-Met in 2040 and Potential Supply from AWS Projects

County	Demand-Not-Met by 2040 (mgd)	AWS Water Supply in mgd (a)	Is Water Supply Greater than Demand-Not-Met
(1)	(2)	(3)	(4)
Lake	4.84	19.70	Yes
Orange (b)	53.48	113.85	Yes
Osceola (c)	15.43	28.12	Yes
Polk	15.35	94.85	Yes
Seminole	4.70	89.28	Yes
Total	**93.80**	**345.80**	**Yes**

(a) AWS Water Supply quantities provided in this column reflect those projects used to calculate the AWS unit costs within this SERC. These quantities do not reflect the total available water supply from all AWS projects listed in the CFWI Regional Water Supply Plan, draft, Appendix E.

(b) AWS Water Supply includes Taylor Creek Reservoir and Cypress Lake Wellfield.

(c) To avoid double counting, the AWS Water Supply does not include Cypress Lake Wellfield.

Source: Appendix E, Water Supply and Water Resource Development Options in Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date.

The next step of the analysis involved calculating the weighted average cost of AWS projects by project category for each CFWI county as described below.

Lake County Potential AWS Projects and Unit Costs

For Lake County, sufficient information was available for two brackish water projects, one reclaimed water project, and one surface water project. These projects and selected descriptive information are provided in Table 4-5.

Table 4-5: Potential AWS Projects for Lake County

Project Name (RWSP #)	AWS Project Category	Project Description	Water Supply (mgd)	Unit Cost in $/1,000 gallons (a)
South Lake County Wellfield (2015_1)	Brackish	LFA wellfield (fresh) co-located at existing UFA wellfield sites. Participants include Groveland (2 sites), Minneola (2 sites), Clermont (2 sites) (SJ00166A) and Utilities Inc. of Florida (3 sites).	12.70	$0.36
City of Mascotte Floridan Aquifer Wellfield (2020_3)	Brackish	LFA wellfield (fresh) co-located at existing UFA wellfield sites.	1.00	$0.65
Minneola SMART – Pipeline Interconnection (2020_62)	Reclaimed	Construct interconnect pipeline between City's WRF and the potable supply system and conversion of an existing pipeline, currently used for these purposes, to distribute public access reclaimed water from the WRF to end users.	1.0	$0.85
Securing Minneola's Alternative Resources for Tomorrow (2015_125)	Surface water	Construct an intake for surface water from Lake Apopka, surface water treatment, storage, and a reclaimed water transmission system.	5.00	$5.43

(a) The unit cost is the estimated capital and annual operations and maintenance cost per 1,000 gallons of water supply provided.

Source: Appendix E of the Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date. The report is located at https://cfwiwater.com/planning.html.

Using the information presented in Table 4-5, Table 4-6 provides the weighted unit cost associated with each AWS category. The weighted average unit cost of the brackish AWS projects is $0.38 per thousand gallons, and the weighted average unit costs of the reclaimed water and surface water projects are $0.85 and $5.43 per 1,000 gallons, respectively.

Table 4-6: Weighted Unit Costs of Lake County AWS Projects

Project	Water Supply (mgd)	Unit Cost per 1000 gallons	% of Supply in AWS Category	Weighted Average Unit Cost - Weighted by % of Supply in Column (4)
(1)	(2)	(3)	(4)	(5)
Brackish Water Projects				
South Lake County Wellfield	12.70	$0.36	93%	
City of Mascotte Floridan Aquifer Wellfield	1.00	$0.65	7%	
Total	**13.70**		**100%**	**$0.38**
Reclaimed Water Project				
Minneola SMART – Interconnection	**1.00**	**$0.85**	**100%**	**$0.85**
Surface Water Project				
Securing Minneola's Alternative Resources for Tomorrow	**5.00**	**$5.43**	**100%**	**$5.43**

A further weighting of unit costs was performed based on the contribution of AWS project categories to total AWS project supply. The weighted unit cost of providing AWS project water to meet the projected demand-not-met for Lake County by the year 2040 is $1.69 per 1,000 gallons as presented in Table 4-7.

Table 4-7: Calculated Weighted Unit Cost of Lake County AWS Projects

AWS Category	Water Supply (mgd)	Percent of Total Supply	Weighted Unit Cost (from Table 4-6)	Weighted Average Unit Cost Among all AWS Categories
(1)	(2)	(3) = (2) / 19.7	(4)	(5) = (3) x (4)
Brackish	13.7	70%	$0.38	$0.27
Reclaimed	1.0	5%	$0.85	$0.04
Surface Water	5.0	25%	$5.43	$1.38
Total	**19.7**	**100%**		
Weighted unit cost all AWS categories (sum of Col. (5)):				**$1.69**

Orange County Potential AWS Projects and Unit Costs

For Orange County, sufficient information was available for two brackish water projects, three reclaimed water projects, and one surface water project. Table 4-8 provides these projects and selected descriptive information.

Table 4-8: Potential AWS Projects for Orange County

Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
Cypress Lake Wellfield, Treatment, and Booster Pump (2015_3,4,5)	Brackish	LFA wellfield, RO treatment, and pump station that will take treated brackish water and deliver it to customers.	30.00	$6.24
OUC Southeast WTP LFA Wellfield (2020_1)	Brackish	LFA wellfield and membrane treatment at the Southeast Water Treatment Facility. Currently this facility is a repump station.	20.00	$3.64
City of Ocoee Northwest Reuse (2015_42)	Reclaimed	Re-Pump Station and Interconnection Mains - Construction of transmission pipelines and pump stations and an interconnect for up to 1 mgd of reclaimed water from OCU NWRF to Ocoee.	0.60	$0.25
The Hammocks - Reclaimed Water Retrofit Project (2020_43)	Reclaimed	Construct 125 reclaimed water retrofits for landscape irrigation in the Hammocks neighborhood.	0.05	$1.43
Project RENEW (2015_44)	Reclaimed	Regional reclaimed water project originally planned to provide 9.2 mgd of reclaimed water from the City of Orlando's Iron Bridge WRF to Northwest Orange County. Project to be re-evaluated to determine best location(s) for reuse in region.	9.20	$1.41
St. Johns River / Taylor Creek Reservoir (2015_126)	Surface Water	Construct intake structure, reservoir, treatment, storage, and transmission facilities to withdraw from Taylor Creek Reservoir & the St. Johns River	54.00	$3.14

(a) Unit cost includes the estimated capital and annual operations and maintenance cost per 1,000 gallons of water provided.

Source: Appendix E of the Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date. The report is located at https://cfwiwater.com/planning.html.Public Review DRAFT CFWI Regional Water Supply Plan 2020, draft, undated.

Using the information presented in Table 4-8, Table 4-9 presents the calculations for the weighted unit cost of each AWS project category. The weighted average unit cost of the brackish projects is $5.20 per thousand gallons, and the weighted average unit costs of the reclaimed water and surface water projects are $1.34 and $3.14, respectively.

Table 4-9: Weighted Unit Costs of Orange County AWS Projects

Project	Supply in mgd	Unit Cost per 1000 gallons	% of Supply in AWS Category	Weighted Average Unit Cost - Weighted by % of Supply in Column (4)
(1)	(2)	(3)	(4)	(5)
Brackish Water Projects				
Cypress Lake Wellfield	30	$6.24	60%	
OUC Southeast WTP LFA Wellfield	20	$3.64	40%	
Total	**50**			**$5.20**
Reclaimed Water Projects				
City of Ocoee Northwest Reuse Re-Pump Station and Interconnection Mains	9.20	$1.41	46%	
Hammocks - Reclaimed Water Retrofit Project	0.05	$1.43	2%	
Project RENEW	0.60	$0.25	19%	
Total	**9.85**			**$1.34**
Surface Water Project				
St. Johns River / Taylor Creek Reservoir	**54**	**$3.14**	**100%**	**$3.14**

A further weighting of unit costs was performed based on the contribution of AWS project categories to the total potential AWS project supply. The weighted unit cost of providing AWS project water to meet the projected demand-not-met for Orange County by the year 2040 is $3.89 per 1,000 gallons as presented in Table 4-10.

Table 4-10: Calculated Weighted Unit Cost of Orange County AWS Projects

AWS Category	Water Supply (mgd)	Percent of Total Supply	Weighted Unit Cost (from Table 4-9)	Weighted Average Unit Cost Among all AWS Categories
(1)	(2)	(3)	(4)	(5) = (3) x (4)
Brackish	50.0	44%	$5.20	$2.28
Reclaimed	9.9	9%	$1.34	$0.12
Surface Water	54.0	47%	$3.14	$1.49
Total	**113.9**	**100%**		
Weighted unit cost all AWS categories (sum of Col. (5)):				**$3.89**

Osceola County Potential AWS Projects and Unit Costs

For Osceola County, sufficient information was available for one brackish water project, two reclaimed water projects, and two stormwater projects. The full 30 mgd of water supply from the Cypress Lake Wellfield was used here because the intent is to obtain an estimated unit cost of AWS projects in Osceola County as opposed to assessing the sufficiency of water supply. Table 4-11 shows these projects and selected descriptive information.

Table 4-11: Potential AWS Projects for Osceola County

Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
Cypress Lake Wellfield, Treatment, and Booster Pump (2015_3,4,5)	Brackish	LFA wellfield, RO treatment, and pump station that will take treated brackish water and deliver it to customers.	30.00	$6.24
160-Acre Site AWS (2015_60)	Reclaimed	Construction of five (5) one mgd wells and appurtenances along the160-acre site (RIBs) to withdraw groundwater as indirect potable reuse or irrigation supply. Construct 30,000 LF of 24-inch raw water.	5.00	$8.26
Central Reclaimed Water Storage and Pumping Facility (2020_61)	Reclaimed	Construct 26,000 LF of reclaimed water transmission pipeline, two 10 mg storage tanks, and 30 mgd of pumping capacity.	14.00	$1.79
West Ditch Stormwater for Reuse Augmentation (2020_59)	Stormwater	Collect water from West Ditch City canal and route through ponds to provide stormwater to supplement reclaimed water.	0.90	$3.51
Judge Farms Reservoir & Impoundment Project (2015_128)	Stormwater	Impound stormwater/surface water from Mill Slough & East City Drainage Ditch for treatment/ distribution for irrigation or potable use."	8.22	$1.77

(a) The unit cost is the estimated capital and annual operations and maintenance cost per 1,000 gallons of water supply.

Source: Appendix E of the Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date. The report is located at https://cfwiwater.com/planning.html.

Using the information shown in Table 4-11, Table 4-12 provides the calculations of the weighted unit cost for each AWS project category. The weighted unit cost of the brackish projects is $6.24 per thousand gallons, and the weighted unit costs of the reclaimed water and stormwater projects are $5.38 and $1.94, respectively.

Table 4-12: Weighted Unit Costs of Osceola County AWS Projects

Project	Water Supply (mgd)	Unit Cost per 1000 gallons	% of Supply in AWS Category	Weighted Average Unit Cost - Weighted by % Supply in Column (4)
(1)	**(2)**	**(3)**	**(4)**	**(5)**
Brackish Water Project				
Cypress Lake Wellfield, Treatment, and Booster Pump	30	$6.24	100%	
Total	**30.0**			**$6.24**
Reclaimed Water Projects				
160-Acre Site AWS	5	$8.26	26%	
Central Reclaimed Water Storage and Pumping Facility	14	$1.79	74%	
Total	**19**			**$5.38**
Stormwater Water Projects				
West Ditch Stormwater for Reuse Augmentation	0.90	$3.51	10%	
Judge Farms Reservoir & Impoundment Project	8.22	$1.77	90%	
Total	**58.1**			**$1.94**

A further weighting of unit costs was performed based on the contribution of AWS project categories to the total potential supply. The weighted unit cost of providing AWS project water to meet the projected demand-not-met in Osceola County by the year 2040 is $5.29 per 1,000 gallons as presented in Table 4-13.

Table 4-13: Calculated Weighted Unit Cost of Osceola County AWS Projects

AWS Category	Water Supply (mgd)	Percent of Total Supply	Weighted Unit Cost (from Table 4-12)	Weighted Average Unit Cost Among all AWS Categories
(1)	**(2)**	**(3)**	**(4)**	**(5) = (3) x (4)**
Brackish	30.0	52%	$6.24	$3.22
Reclaimed	19.0	32%	$5.38	$1.76
Stormwater	9.1	16%	$1.94	$0.30
Total	**58.1**	**100%**		
Weighted unit cost all AWS categories (sum of Col. (5)):				**$5.29**

Polk County Potential AWS Projects and Unit Costs

For Polk County, sufficient information was available for two brackish water projects, seven reclaimed water projects, four surface water projects, and one water management project. Table 4-14 shows these projects and selected descriptive information.

Table 4-14: Potential AWS Projects for Polk County

RWSP Project #	Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
2015_28	Southeast Polk County Wellfield	Brackish	LFA wellfield, 25 miles of transmission lines, and membrane treatment to meet regional demands.	30.00	$3.08
2020_5	West Polk LFA Deep Wells	Brackish	LFA wellfield, RO treatment, deep well concentrate disposal, and transmission and distribution pipelines.	15.00	$3.01
2015_64	"Allred WWTP to Polytechnic Reclaimed Water Storage and Transmission	Reclaimed	Project provides 1.5 mgd of reclaimed water for irrigation uses at Florida Polytechnic University and Lake Myrtle Park.	1.13	$0.72
2015_101	Winter Haven Reuse Interconnect & Aquifer Recharge	Reclaimed	"Site feasibility investigation (N796) of an aquifer recharge project using reclaimed water provided by City's Wastewater Treatment Plant No. 3."	0.50	$1.25
2015_103	Winter Haven Plant #3 WWTP 2015 expansion /Interconnect, City of Winter Haven System	Reclaimed	Construction of interconnect between City's two reclaimed water systems, including transmission mains, pump station, and 5 mg storage tank.	0.15	$16.69
2020_45	Polk County NERUSA CR547 Reuse	Reclaimed	Construct 6,900 LF of reclaimed water distribution line to supply approximately 1,060 residential irrigation customers.	0.32	$0.66
2020_46	Polk County NERUSA Ernie Caldwell Reuse	Reclaimed	Construct 10,300 LF of 16- to 24-inch reclaimed water distribution line to supply approximately 1,100 residential irrigation customers in the Ridgewood Lake Area.	0.33	$1.56
2020_50	Polk NERUSA FDC Grove Reuse	Reclaimed	Construct 13,600 LF of 6- to 8-inch reclaimed water distribution line to supply approximately 400 residential irrigation customers.	0.14	$2.96

Table 4-14, Continued: Potential AWS Projects for Polk County

RWSP Project #	Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
2020_51	Polk County NERUSA Ridgewood and Loughman	Reclaimed	Construct 12,400 LF of 12- to 24-inch reclaimed water distribution line to supply approximately 915 residential irrigation customers.	0.28	$2.17
2015_146	Peace Creek Integrated Water Supply Project (Sapphire Necklace)	Surface Water	Combination of Peace Creek Reservoir and treatment for 1.1 mgd, Peace Creek Sapphire Necklace surface storage for 14 mgd, and aquifer recharge and recovery water exchange system."	10.00	$3.80
2015_150	Polk County Regional Alafia River Basin	Surface Water	Construct surface water intake structure on the Alafia River, SW treatment and transmission to Polk County.	10.00	$5.30
2020_54	Peace River Land Use Transition Treatment Facility and Reservoir Project	Surface Water	Construct intake structure, pump station, surface water treatment and transmission through combining a reservoir and treatment of harvested Peace River Flows.	11.00	$4.22
2020_55	Peace Creek Water Supply Project / Winter Haven Peace Creek Surface Water Storage	Surface Water	Phase I: feasibility study, formation of a watershed partnership, selection and evaluation of aquifer recharge sites, integrated WSP, site permitting, and preliminary rate analysis."	10.00	$2.02
2015_140	Wellfield Sharing	Water Management Strategies	Sharing UFA wells throughout the county to optimize permit vs. actual use and minimize impacts. Cost includes additional UFA wells and transfer pumping system.	6.00	$0.36

(a) The unit cost is the estimated capital and annual operations and maintenance cost per 1,000 gallons of water supply.

Source: Appendix E of the Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date. The report is located at https://cfwiwater.com/planning.html.

Using the information shown in Table 4-14, Table 4-15 provides the calculations of the weighted unit cost for each AWS project category. The weighted unit cost of the brackish water projects is $3.06 per thousand gallons, and the weighted unit costs of the reclaimed water and surface water projects are $2.00 and $3.84 per 1,000 gallons, respectively. The unit cost of the water management strategy is $0.36 per thousand gallons.

Table 4-15: Weighted Unit Costs of Polk County AWS Projects

Project	Water Supply (mgd)	Unit Cost per 1000 gallons	% of Supply from AWS Category	Weighted Average Unit Cost - Weighted by % Supply in Column (4)
(1)	(2)	(3)	(4)	(5)
Brackish Water Projects				
Southeast Polk County Wellfield	30.00	$3.08	67%	
West Polk LFA Deep Wells	15.00	$3.01	33%	
Total	**45.00**			**$3.06**
Reclaimed Water Projects				
Allred WWTP to Polytechnic Reclaimed Water Storage and Transmission	1.13	$0.72	40%	
Winter Haven Reuse Interconnect & Aquifer Recharge	0.50	$1.25	18%	
Winter Haven Plant #3 WWTP 2015 expansion /	0.15	$16.69	5%	
Polk County NERUSA CR547 Reuse"	0.32	$0.66	11%	
Polk County NERUSA Ernie Caldwell Reuse	0.33	$1.56	12%	
Polk NERUSA FDC Grove Reuse	0.14	$2.96	5%	
Polk County NERUSA Ridgewood and Loughman Reclaimed Water transmission Supply	0.28	$2.17	10%	
Total	**2.85**			**$2.00**
Surface Water Projects				
Peace Creek Integrated Water Supply Project	10.00	$3.80	24%	
Polk County Regional Alafia River Basin	10.00	$5.30	24%	
Peace River Land Use Transition Treatment Facility and Reservoir Project	11.00	$4.22	27%	
Peace Creek Water Supply Project / Winter Haven Peace Creek Surface Water Storage	10.00	$2.02	24%	
Total	**41.00**			**$3.84**
Water Management Project				
Wellfield Sharing	6.00	$0.36	100%	$0.36

A further weighting of unit costs was performed based on the contribution of AWS project categories to the total potential supply. The weighted unit cost of providing AWS project water to meet the projected demand-not-met in Polk County by the year 2040 is $2.99 per 1,000 gallons as presented in Table 4-16.

Table 4-16: Calculated Weighted Unit Cost of Polk County AWS Projects

AWS Category	Water Supply (mgd)	Percent of Total Supply	Weighted Unit Cost (from Table 4-15)	Weighted Average Unit Cost Among all AWS Categories
(1)	(2)	(3)	(4)	(5) = (3) x (4)
Brackish	45.00	48%	$3.06	$1.45
Reclaimed	2.85	3%	$2.00	$0.06
Surface Water	41.00	43%	$3.84	$1.66
Water Management	6.00	6%	$0.36	$0.02
Total	**94.85**	**100%**		
Weighted unit cost all AWS categories (sum of Col. (5)):				**$3.19**

Seminole County Potential AWS Projects and Weighted Unit Costs

For Seminole County, sufficient information was available for two brackish water projects, seven reclaimed water projects, four surface water projects, and one water management project. Table 4-17 presents these projects and selected information.

Table 4-17: Potential AWS Projects for Seminole County

RWSP Project #	Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
2020_2	City of Sanford Brackish RO WTP	Brackish	LFA wellfield and RO treatment.	1.00	$3.95
2015_111	Reclaimed Water Orlando-Sanford International Airport Interconnection	Reclaimed	Extension of existing SSWRC reclaimed water line to connect to existing 16-in reclaimed water line on Victoria Street, irrigation pipeline installation in and around Airport."	1.12	$1.11
2015_112	Lake Mary Reclaimed Water System Retrofit	Reclaimed	Retrofit existing reclaimed water system in selected neighborhoods and expand in others.	0.36	$1.11
2015_120	Seminole County Residential Reclaimed Water Retrofit Project - Phase IV	Reclaimed	Construct reclaimed water distribution lines for landscape irrigation in several communities.	0.18	$0.83
2015_121	Seminole County Residential Reclaimed Water Retrofit Project- Phase V	Reclaimed	Construct reclaimed water distribution lines for landscape irrigation in several communities.	0.42	$0.83

Table 4-17, Continued: Potential AWS Projects for Seminole County

RWSP Project #	Project Name	AWS Project Category	Project Description	Water Supply in mgd	Unit Cost in $/1,000 Gallons (a)
2020_52	Regional Water Reclamation Facility Improvement for AWT – Phase II	Reclaimed	Phase II expands capacity from 9.0 to 12.5 mgd and improves nutrient reduction.	3.50	$0.26
2020_59	Pure ALTA	Reclaimed	This phase is for the design and construction of a 0.3 to 0.5 mgd full-scale potable reuse project.	0.50	$2.61
2015_135	St. Johns River Near SR 46	Surface Water	Construct intake for brackish surface water from St. Johns River, water treatment and concentrate management facilities, ground storage, and potable water transmission system.	40.00	$5.09
2015_138a	St. Johns River Near Yankee Lake – Option 1	Surface Water	Expand existing 5 mgd brackish surface water source at Yankee Lake Regional Surface WTP up to 45 mgd. Includes additional treatment, ground storage and concentrate management.	40.00	$4.36
2015_139	Winter Springs - Lake Jesup Reclaimed Water Augmentation Project	Surface Water	Construct surface water storage tank and transmission lines for reclaimed water supplementation.	2.20	$2.25

(a) The unit cost is the estimated capital and annual operations and maintenance cost per 1,000 gallons of water supply provided.

Source: Appendix E of the Central Florida Water Initiative. Public Review DRAFT Regional Water Supply Plan 2020. No date. The report is located at https://cfwiwater.com/planning.html.

Using the information shown in Table 4-17, Table 4-18 provides the calculations of the weighted unit cost for each AWS project category. The weighted unit cost of the brackish water projects is $3.95 per thousand gallons, and the weighted unit costs of the reclaimed water and surface water projects are $0.72 and $4.66, respectively.

Table 4-18: Weighted Unit Costs of Seminole County AWS Projects

Project	Water Supply (mgd)	Unit Cost per 1000 gallons	% of Supply in AWS Category	Weighted Average Unit Cost - Weighted by % of Supply in Column (4)
(1)	(2)	(3)	(4)	(5)
Brackish Water Project				
Sanford City Brackish RO WTP	1.00	$3.95		**$3.95**
Reclaimed Water Projects				
Reclaimed Water Orlando-Sanford International Airport Interconnection	1.12	1.11	18%	
Lake Mary Reclaimed Water System Retrofit	0.36	1.11	6%	
Seminole County Residential Reclaimed Water Retrofit Project - Phase IV	0.18	0.83	3%	
Reclaimed Water Orlando-Sanford International Airport Interconnection	0.42	0.83	7%	
Regional Water Reclamation Facility Improvement for AWT – Phase II	3.50	0.26	58%	
Pure ALTA	0.50	2.61	8%	
Total	**6.08**		**100%**	**$0.72**
Surface Water Projects				
St. Johns River Near SR 46	40.00	5.09	48.7%	40
St. Johns River Near Yankee Lake – Option 1	40.00	4.36	48.7%	40
Winter Springs - Lake Jesup Reclaimed Water Augmentation Project	2.20	2.25	2.7%	2
Total	**82.20**			**$4.66**

A further weighting of unit costs was performed based on the contribution of AWS project categories to the total potential supply. The weighted unit cost of providing AWS project water to meet the projected demand-not-met in Seminole County by the year 2040 is $4.38 per 1,000 gallons as presented in Table 4-19.

Table 4-19: Calculated Weighted Unit Cost of Seminole County AWS Projects

AWS Category	Water Supply (mgd)	Percent of Total Supply	Weighted Unit Cost (from Table 4-18)	Weighted Average Unit Cost Among all AWS Categories
(1)	(2)	(3)	(4)	(5) = (3) x (4)
Brackish	1.00	1%	$3.95	$0.04
Reclaimed	6.08	7%	$0.72	$0.05
Surface Water	82.20	92%	$4.66	$4.29
Total	**89.30**	**100%**		
Weighted unit cost all AWS categories (sum of Col. (5))				**$4.38**

Estimated Transactional Cost of Proposed CFWI Rule Regarding Permitted Quantities from the UFA to Public Supply Permittees and Applicants

The water demand-not-met by county provided in Table 4-2 and the AWS projects' unit costs provided in Tables 4-7, 4-10, 4-13, 4-16, and 4-19 were used to estimate the cost to supply the demand-not-met by 2040. The calculation is provided in Table 4-20. This total cost is $134.1 million per year by the year 2040. Annual costs for AWS supply will increase over time once the proposed rule is adopted as additional capacity is constructed each year to provide the needed supply in a timely manner.

Table 4-20: Estimated Transactional Cost of Proposed CFWI Rule Regarding Permitted Quantities from the UFA to Public Supply Permittees and Applicants

County	UFA Demand-Not-Met by 2040 (mgd)	AWS Cost per 1000 gallons	Annual Cost to Supply UFA Demand-Not-Met by 2040, $ per Year (in 2020 dollars)		
			Under Proposed CFWI Rule	Under Existing Rule	Transactional Cost of Proposed CFWI Rule
(1)	(2)	(3)	(4) = (3) x (2) x 1000 x 365	(5) = $0.30 x (2) x 1000 x 365	(6) = (4) – (5)
Lake	4.84	$1.69	$2,978,066	$529,781	$2,448,286
Orange	53.48	$3.89	$75,936,792	$5,856,018	$70,080,774
Osceola	15.43	$5.29	$29,767,708	$1,689,293	$28,078,415
Polk	15.35	$3.19	$17,898,215	$1,680,726	$16,217,489
Seminole	4.70	$4.38	$7,517,603	$514,629	$7,002,975
Total	**93.80**		**$134,098,384**	**$10,270,446**	**$123,827,937**

To obtain an estimate of the transactional cost associated with this part of the proposed rule, the estimated unit cost to obtain water from the UFA of $0.30 per 1,000 gallons was deducted from the estimated unit cost to supply the demand-not-met from AWS projects. The unit cost to withdraw and treat water from the UFW was taken from the report titled *Potable Reuse Investigation for the St. Johns River Water Management District White Paper No. 4, The Costs for Potable Reuse Alternatives*, August 30, 2014 prepared by WRA. This report provides the capital, operations, and maintenance cost per 1,000 gallons for a 20-mgd and a 10-mgd fresh groundwater withdrawal and treatment system of $0.25 and $0.27 per 1,000 gallons. These unit costs were converted from 2014 dollars to 2020 dollars resulting in a range of $0.28 to $0.30 per 1,000 gallons.

The calculations and resulting transactional cost are provided in Table 4-20. The transactional cost associated with changes in permitted water quantities from the UFA under the proposed CFWI rule is estimated to be $123.8 million per year by the year 2040.

Of the 93.8 mgd of UFA demand-not-met by 2040, about 37 percent of this amount will be the demand-not-met by 2030. Table 4-21 provides the calculations. About 34 mgd of the 94 mgd is unmet demand by 2030. Many of the AWS projects are of significant size and complexity and will require many years from design to completion. Thus, public supply permittees will need to address how to supply this unmet demand as soon as possible.

Table 4-21: Public Supply Demand-Not-Met by 2030 Under the Proposed CFWI Rule

CFWI County	Water Demand in mgd		Demand-Not Met by 2030 in mgd
	2025	2030	
(1)	(2)	(3)	(4) = (3) – (2)
Lake	23.65	25.56	1.91
Orange	260.57	279.99	19.42
Osceola	53.83	60.36	6.54
Polk	86.02	91.49	5.47
Seminole	61.34	62.93	1.58
Total	**485.41**	**520.33**	**34.92**
Percent of Demand-Not-Met by 2040 (34.92/93.8 mgd):			**37%**

Given the UFA water demand projections and the proposed CFWI rule, AWS projects will be needed to supply the CFWI demand-not-met beginning in year 2026 and many of these projects will take many years from design to completion. Therefore, the impact of the proposed CFWI rule regarding permitted quantities from the UFA will likely, directly or indirectly, increase transactional costs to public supply permittees in excess of $1 million in the aggregate within 5 years after the implementation of the CFWI rule.

The Cost of Stranded Water Withdrawal and Treatment Capacity

In the event an existing public supply permittee located in the CFWI has already invested in the capacity to withdraw and treat water from the UFA above that permittee's "Demonstrated 2025 Demand", this capacity would be stranded under the CFWI rule. The cost of this "stranded capacity" would be the foregone opportunity cost of the investment made to construct it. The actual dollar value impact to the permittee would be the remaining debt service on this stranded capacity or the remaining undepreciated value of the stranded capacity. Also, the debt remaining on this stranded capacity could impact the permittee's ability to acquire new debt to finance AWS projects, usually through the payment of higher interest rates. The cost of this stranded capacity was not estimated for this SERC due to a lack of data regarding the amount of stranded capacity that would exist in the CFWI under the proposed rule.

4.1.2 Most existing water use permits will be modified

The proposed CFWI rule requires that the water management district retroactively apply modifications to most existing water use permits within the CFWI area using letter modifications. During the modification of each permit, the requirements of the proposed CFWI rule as they apply to each permittee will be applied. Existing permittees may incur transactional costs associated with responding to the District's questions regarding modification of their permits or filing challenges to the modification, but this cost was not estimated and is not expected to be large relative to the other transactional costs to these permittees that are described in this Section.

4.1.3 Plan required to address how "demand-not-met" beyond 2025 will be supplied

Under the proposed CFWI rule, section 2.8.2 All Other Use Types: By December 31, 2023, "Applicants are required to submit a plan pursuant to CFWI Handbook section 2.8.3 if additional water use from a lower quality or alternative water source is needed to meet current or future demands (as calculated in CFWI Handbook sections 2.2, 2.3, or 2.4)".

According to section 2.8.3 Allocations from the Upper Floridan Aquifer Above the Demonstrated 2025 Demand: "By December 31, 2023, any permittee or applicant seeking a permit duration extending beyond 2025 whose projected water demand will exceed its Demonstrated 2025 Demand shall submit a plan to the District describing how the remainder of their demand will be met (e.g., impact offsets, substitution credits, alternative water supply development). The plan shall propose projects and identify a schedule for implementation. Annual updates detailing progress shall be provided to the District. The annual status reports shall include work completed to date, expenditures, and any anticipated changes in timelines."

Tables 4-22 and 4-23 provide the estimated one-time transactional costs to large and small public supply permittees with water demands greater than their Demonstrated 2025 Demand. Large public supply permittees have at least 100,000 gpd of permitted quantities from ground and surface water sources and small public supply permittees have less than 100,000 gpd permitted quantity.

Table 4-22: Demand-Not-Met Plan: Estimated One-Time Transactional Cost of Preparation by Public Supply Permittees with at Least 100,000 gpd Permitted Quantities

Metric	2030 demand-not-met	2040 demand-not-met
Mgd of Existing Permittees with Forecasted Demand-Not-Met > 0		
Minimum	0.0001	0.0001
Maximum	7.28	25.30
Average	0.49	1.30
Median	0.08	0.17
Number of Existing Permittees		
Demand-Not-Met > 0 mgd	71	72
Demand-Not-Met = 0 mgd	16	15
Total	87	87
Estimated One-Time Transactional Cost		
Cost per AWS Project Plan:		
Two Permitttees with largest 2040 demand-not-met (15 to 26 mgd) - $500,000 per permittee		$1,000,000
All Other Permittees ($ per permittee)		$50,000
Total Transactional Cost	**$4,450,000**	**$50,000**

Based on the forecasted water demands by permittee, about 72 large permittees will likely need to prepare a plan to address unmet demands from 2026 through 2040 with all but one permittee needing to address this shortage over the next five years. While the average unmet demand is only about 0.49 mgd per permittee by 2030 and 1.3 mgd by 2040, two public supply permittees are forecast to experience unmet demands of 5.1 mgd and 7.3 mgd by 2030 and 13.2 mgd and 25.3 mgd by 2040. For these two permittees

only, the estimated cost of staff and consultant time to develop an AWS plan is about $500,000 per permittee, not including project engineering design costs. For each of the other affected permittees, the average estimated cost of staff and consultant time is $50,000 per affected permittee. Thus, the total estimated one-time transactional cost to develop an AWS Plan is estimated to be $4.45 million over the next five years and an additional $50,000 one-time cost for the permittee who will not face an unmet demand until the year 2040 approaches.

Of the 99 small public supply permittees in the CFWI, about 40 will experience unmet demands by 2030 and an additional permittee will need more permitted water by 2035. The average unmet demand is 0.0008 mgd (800 gpd) per permittee by 2030 and 0.002 mgd (2,000 gpd) by 2040. For each of the affected permittees, the average estimated cost of staff and consultant time is $20,000 per affected permittee. Thus, the total estimated one-time transactional cost is estimated to be $800,000 over the next five years and an additional $20,000 by the year 2040.

Table 4-23: Demand-Not-Met Plan: Estimated One-Time Transactional Cost for Preparation by Public Supply Permittees with Less than 100,000 gpd Permitted Quantities

Metric	2030 demand-not-met	2040 demand-not-met
Mgd of Existing Permittees with Forecasted Demand-Not-Met > 0		
Minimum	0.0001	0.0001
Maximum	0.01	0.01
Average	0.0008	0.002
Median	0.0004	0.001
Number of Existing Permittees		
Demand-Not-Met > 0 mgd	40	41
Demand-Not-Met = 0 mgd	59	58
Total	99	99
Estimated One-Time Transactional Cost		
Cost per AWS Project Plan:	$20,000	
Total Transactional Cost	**$800,000**	**$20,000**

4.1.4 "Public Supply Annual Conservation Goal"

Under the proposed CFWI rule, large public supply permittees shall demonstrate yearly progress toward an end-of-permit gross per capita daily water use rate of no greater than 115 gpd or a functional population per capita daily water use rate of no greater than 100 gpd. The gross per capita daily water use rate is based on the residential population while the functional rate is based on the permanent population as adjusted by the seasonal resident, tourist, group quarters and net commuter population within a utility's service area. The gpcd goal is met if any of the following per capita metrics are less than or equal to 115 or 100, as applicable: gross per capita, adjusted per capita or alternative per capita. Permittees will have 20 years to reach the 115 or 100 gpcd goal and for those who can demonstrate that it is unrealistic or impractical to get to 115 or 100 gpcd, variances will be provided.

Under existing rule, there is no similar type of goal. However, there is an implied "goal" wherein the SWFWMD allows no more than 150 gpcd in the permitting of public water use quantities. The SJRWMD and the SFWMD allow for permitted quantities greater than 150 gpcd if additional justifying information is provided by the applicant.

Thus, this gpcd goal is a new requirement of public supply permittees and would result in transactional costs to these entities as they attempt to implement water conservation efforts to reduce customer water use to 115 or 100 gpcd. If the permittee's existing gpcd is less than or equal to 115 or 100 gpcd, as applicable, it is anticipated that the entity would not experience any transactional costs associated with this proposed rule change.

For those permittees with customer gpcd greater than 115 or 100, the transactional cost of the rule is expected to vary by permittee depending on the existing gpcd and utility characteristics such as age of home construction, distribution of water use, and growth rates by customer class, customer socioeconomics, and past conservation investments.

To estimate the transactional cost associated with this proposed rule change for the purposes of this SERC, the forecasted residential population and water demand of each large public supply permittee in the CFWI, as provided by the SWFWMD on behalf of the three districts, was evaluated. Using the implied gross gpcd of each utility in 2020 found that 55 permits have a gross per capita water use above 115 gpcd. Data representing adjusted and alternative gpcd and functional population for each large public supply utility in the CFWI was not provided.

For each of these 55 permittees, the gallon reduction needed relative to existing rule was calculated. For the SWFWMD, 150 gpcd was considered the implied requirement under existing rule. In this case the difference between 150 gpcd and 115 gpcd was used as the required gallon reduction for those permittees with a gpcd greater than 150. For the SJRWMD and the SFWMD, the required gallon reduction of each permittee is the difference between the permittee's gpcd and 115 gpcd.

The average reduction in gross gpcd per permittee needed to meet the 115 gpcd goal relative to existing rule, weighted by population, is 31.8 gpcd per permit. The total population served by these permits in 2040 is forecast to be 3.3 million. Assuming some permittees can meet this goal through the adjusted gpcd, this value was reduced by 20 percent resulting in a needed gpcd reduction of 25.4 gpcd per permit on average.

The water conservation investments that will be needed to attempt to reach the 115 gpcd goal will vary by permit and will likely focus on indoor and outdoor water uses and reductions in water loss. Assuming that it will cost utilities on average $500 per gallon reduction in gpcd per 1,000 people, the total transactional cost is estimated to be $42.0 million over the period 2020 to 2040 for permittees to attempt to reach the 115 gpcd goal or, on average, $2.1 million per year [$41.91 million = 25.4 gpcd x ($500/1000 people) x 3.3 million people].

This result implies that the average total transactional cost to attempt to reach the 115 gpcd for all 55 permits is $12.70 per person or about $33.60 per household. The average total transactional cost per permit for these 55 permits is estimated to be $764,000. The total transactional cost could be higher or lower than $42.00 million depending on the cost threshold that the districts use to determine whether a variance should be provided to a permittee who cannot reach the 115 gpcd goal.

4.1.5 End-of-Permit Residential Per Capita Use Goal

Large public supply permittees will be required to implement an end-of-permit residential per capita water use goal based on the following formula: Total Residential Water Use / Service Area Residential Population. Large public supply permittees will be required to track progress toward the end-of-permit residential per capita use within the Annual Per Capita Compliance Report. This new requirement would result in transactional costs to these entities. Data is not available to estimate the transactional cost of this proposed rule because the "goal" would be developed by the permittee in consultation with the water management district. The cost to prepare the Annual Per Capita Compliance Report is provided in the next sub-section.

4.1.6 Annual Per Capita Compliance Report

Large public supply permittees will need to submit to the water management district an annual "Compliance with Per Capita Daily Water Use Rate Annual Report" by April 1 of each year. An example of such a report is provided in the draft Design Aids for the CFWI Supplemental Applicants' Handbook. This report is a requirement of the SWFWMD under existing rule and is new for permittees and applicants in the other two Districts.

This "Design Aid 3" is a three-page template that guides the permittee through the data and calculations needed to complete this requirement. Part A guides the permittee through the calculations of Gross Per Capita Water Use; Adjusted Gross Per Capita Water Use; and Alternative Per Capita Water Use. If applicable, it also prompts the permittee to explain why the gross alternative per capita rate is greater than 115 gpcd. A service area map is also required in the submission.

Part B prompts the permittee to fill out the "Residential and Non-Residential Water Use" form which requires that water demand be itemized by single-family use and number of dwelling units, multiple-family use and number of dwelling units, mobile home use and number of dwelling units (if not included in the previous two categories); residential irrigation accounts and itemized non-residential use categories. Part C prompts the permittees to fill out the one-half page "Residential Per Capita Water Use Goal" report.

The transactional cost to permittees to fill out and submit this report each year will depend on the size and diversity of the permittee's water customers. For the purposes of this SERC, Table 4-24 provides an estimate of the annual transactional cost. The 55 large public supply permittees located in the SFWMD and SJRWMD were allocated to one of four total permitted quantity categories. For each category, an average number of staff hours needed to prepare the report each year was estimated and includes staff from a variety of labor categories with an average hourly salary, benefits, and overhead cost of $70 per hour. The estimated annual cost per report is provided in Column (4) and the total annual cost is calculated in Column (5). The total estimated transactional cost associated with the annual per capita water use reporting requirement of the proposed rule is $417,200 per year for the 55 large public supply permittees.

Table 4-24: Estimated Annual Transactional Cost For Existing Permittees to Complete the "Compliance with Per Capita Daily Water Use Rate Annual Report"

Total Permitted Quantity, mgd	Number of Permittees	Estimated Hours Per Report	Estimated Annual Cost per Report	Total Annual Cost
(1)	(2)	(3)	(4) = (3) x $70 per hour	(5) = (2) x (4)
At least 50	3	320	$22,400	$67,200
From 10 to 50	7	160	$11,200	$78,400
From 5 to 10	7	120	$8,400	$58,800
Less than 5	38	80	$5,600	$212,800
Total	**55**			**$417,200**

4.1.7 Additional Detail Required for Water Demand Forecasts

The proposed CFWI Supplemental Applicant's Handbook specifies a uniform method for calculating future water demands of public supply water use applicants. For applicants located in the SWFWMD, the requirements are the same as existing rule. For applicants located in the other two Districts, the proposed rule will likely require additional data collection and demand calculations because the water demand will need to be forecast by three new use categories: residential single-family; residential multi-family, and non-residential/other metered use. Because the extent to which the required data is readily available to each permittee it is not known, the transactional cost of this new requirement was not estimated.

4.1.8 Lowest Quality Water Source

The proposed CFWI rule requires that water use permit applicants, regardless of size, provide reasonable assurance that the proposed use (or portion of the proposed use) will be met with the lowest quality water source that is suitable for the purpose and is technically, economically, and environmentally feasible. The requirements described for determining feasibility will necessitate that the applicant prepare a written report. The SFWMD already requires this consideration and evaluation under existing rule.

Also, under existing rule, if the permittee is a wastewater utility that requests new or expanded surface water discharge or that has wastewater facilities located within, serving a population within, or discharging within a designated Water Resource Caution Area, then the utility must conduct a reuse feasibility study.

For public supply permittees and new applicants in the SJRWMD and the SWFWMD, this requirement to prepare a lowest quality water source feasibility study is new and would result in transactional costs to these entities as each prepares a "Lowest Quality Water Source" report upon permit application or renewal.

Because this rule change could effectively require that permittees address direct and indirect potable reuse, the average cost among the permittees that was used to estimate the transactional cost in this SERC is larger than what would be expected if only the traditional reclaimed water end uses were evaluated. This assumed average cost per permittee is $100,000 in staff and consultant time for large public supply permittees and new applicants and $20,000 for small public supply permittees and new applicants. For each individual permittee, the cost could be higher or lower than this amount. It is possible that the permittee or applicant would not incur any cost associated with this proposed rule change.

Using these costs per permittee, the total estimated one-time transactional cost is $8.78 million that would be expended over the next 20 years as permits are renewed. The calculation is provided in Table 4-25. If these renewals are evenly distributed over the next 20 years, then the average annual cost would be $439,000. This estimate provides an order-of-magnitude cost associated with this proposed rule change.

Table 4-25: Estimated One-Time Transactional Cost to Prepare "Lowest Quality Water Source" Report at Permit Application or Renewal – Public Supply Permits

Size	Number of Existing Public Supply Permittees	Cost of Lowest Quality Water Feasibility Study Per Report	Total One-Time Cost
(1)	(2)	(3)	(4) = (2) x (3)
Large	74	$100,000	$7,400,000
Small	69	$20,000	$1,380,000
Total	**143**		**$8,780,000**

4.1.9 Summary of Transactional Cost to Public Supply Permittees

Table 4-26 provides a summary of the estimated transactional costs as the proposed CFWI rule is expected to affect public supply permittees. Most of the cost is associated with obtaining water from AWS projects. The total annualized capital and O&M cost is estimated to be $124 million per year by the year 2040 to supply 94 mgd of "demand-not-met" from the UFA. Under existing rule, each water use permit would be evaluated for impacts to the UFA as it comes in for renewal and it is possible that the resulting permitted quantities from the UFA would be the same as or similar to those quantities under the proposed CFWI rule. In that case the annual transactional cost by 2040 would be lower than $124 million.

Table 4-26: Summary of Estimated Transactional Cost as the Proposed CFWI Rule Affects Public Supply Permittees

Proposed CFWI Rule	One-Time or Total Cost - 2020 to 2040	Annual Cost beginning in 2021	Annual Cost By 2040
A. Permitted Quantities from the UFA – Annual Cost (a)	$0	$200,000	$123,828,000
C. Plan to Address "Demand-Not-Met" – One-Time Cost	$5,320,000	$0	$0
D. Public Supply Annual Conservation Goal – Total Cost Over 20 Years	$42,000,000	$0	$0
F. Annual Per Capita Compliance Report – Annual Cost	$0	$417,000	$417,000
H. Lowest Quality Water Source – One-Time Cost	$8,780,000	$0	$0
Total	**$56,100,000**	**$617,000**	**$124,245,000**

(a) Under existing rule, each water use permit would be evaluated for impacts to the UFA as it comes in for renewal and it is possible that the resulting permitted quantities from the UFA would be the same as or similar to those quantities under the proposed CFWI rule.

Costs Not Estimated for:

B. Permit Modification - No significant cost expected of permittees.

E. End-of-Permit Residential Per Capita Use Goal - Insufficient data available to estimate cost

G. Additional Detail Required for Water Demand Forecasts - Insufficient data available to estimate cost.

The next highest cost is the cost to permittees as they try to reach a conservation goal of 115 gpcd. While a permittee could obtain a variance from this requirement after 20 years, the permittee would need to try to obtain this goal through investment in water conservation programs. Over the next 20 years, these investments are estimated to total $42.00 million or, on average, $2.1 million per year.

Overall, the one-time transactional cost of the proposed rule to public supply permittees to be spent over a 20 year period from 2021 to 2040 is estimated to be $56.1 million and the annual transactional cost is estimated to be $124.2 million by the year 2040.

Immediately after the proposed rule is adopted, about $617,000 per year would be spent as permittees begin to develop AWS projects to supply demand-not-met after 2025 and to immediately begin submitting annual per capita compliance reports. This cost would increase each year as more and more AWS capacity is installed such that, by the year 2040, these AWS projects, suppling 94 mgd of unmet demand from the UFA, would cost an estimated $124.2 million per year in annualized capital and O&M cost. This cost is in addition to the $56.1 million in one-time costs that would be spent over the period 2021 to 2040 as permittees and applicants develop “Demand-Not-Met” plans, comply with the annual conservation goal, and address the use of the lower quality water sources to supply potable water demands.

If all of the transactional costs are paid by households and businesses within the CFWI and if all of these costs are paid to persons and businesses operating within the CFWI such that the income generated stays within the CFWI, then no negative or positive economic impacts in the CFWI would be expected. To the extent that some of the money would be spent on goods and services provided by businesses and households outside of the CFWI, then negative economic impacts within the CFWI are expected. However, money used to pay these costs that comes from outside the CFWI, perhaps through State appropriations, would offset some of the negative economic impact. Given the size of the transactional costs relative to the overall size of the CFWI economy and the caveats described above, negative impacts to employment, income, wages and salaries, property values, and tax revenue in the CFWI area are not expected to be significant and are not expected to be greater than $1 million over the next five years.

Under the proposed CFWI rule, temporary allocations from the UFA would be available to permittees developing AWS projects to supply unmet demands after 2025. Therefore, there would be little prospect of water shortages; little prospect of impacts to expanded business operations; no impact to the number of Florida visitors; and no losses to consumer value from the water shortage. There may be some impact to some new businesses that need a CUP.

To the extent that the cost of the AWS projects and the other transactional costs are incorporated into water rates, the affordability of water bills to some customers could be jeopardized. This SERC does not provide estimates of the impact of these costs on future water bills and affordability.

4.1.10 Transactional Cost to Public Supply Applicants for New Permits

New public supply applicants in the CFWI who request permitted quantities after 2025 will face the same types of transactional costs as those of the existing public supply permittees. New applicants requesting permitted quantities from 2021 to 2025 will receive permitted quantities from the UFA up to their forecasted 2025 demand but would need to address the feasibility of lower quality water sources, provide annual compliance reports, and seek to reduce per capita water use to 115 or 100 gpcd, as applicable.

To estimate the transactional costs to new applicants from 2021 to 2040, the Department made the conservative assumption that all requested permitted quantities would have come from the UFA under existing rule.[2] In addition, the request would be the average forecasted 2040 groundwater demand of all public supply permits in the CFWI of 2.30 mgd regardless of the year requested. Also, the applicant's gross gpcd would be 147, which is the average 2020 gross gpcd of the CFWI's large public supply permittees. Thus, to meet the 115 gpcd goal under the proposed rule, the applicant would need to attempt to reduce per capita water use by 32 gpcd. The 2.30 mgd demand coupled with the 147 gpcd implies that the population to be served by the applicant is 15,660 people.

Based on the average annual number of new public supply applicants in the CFWI over the past 10 years of 0.70, the cumulative number of new applicants for public supply permitted quantities from 2021 to 2025 is estimated to be 3.5. From 2026 to 2030, the cumulative number is also 3.5 applicants resulting in a total of 7.0 new applicants from 2021 to 2030. From 2031 to 2040, the cumulative number of new applicants is 7 resulting in a total of 14 new applicants from 2021 to 2040.

Given this data regarding number of new applicants, their requested permitted quantities, their gross gpcd, and their populations, the estimated transactional costs were estimated using the cost information described in Section 4.1 for existing public supply permittees. The estimated transactional costs are provided in Table 4-27.

Table 4-27: Summary of Estimated Transactional Cost as the Proposed CFWI Rule Affects New Public Water Supply Applicants during the period 2021 to 2030 and from 2021 to 2040

Proposed CFWI Rule	Total Costs from 2021 to 2030 - Cumulative No. of New Applicants from 2021 to 2030 is 7		Total Costs from 2021 to 2040 - Cumulative No. of New Applicants from 2021 to 2040 is 14	
	One-Time or Total Cost - 2021 to 2030	Annual Cost by 2030	One-Time or Total Cost - 2021 to 2040	Annual Cost by 2040
A. Permitted Quantities from the UFA (a)	$0	$10,639,000	$0	$31,917,000
C. Plan to Address "Demand-Not-Met" (a)	$175,000	$0	$525,000	$0
D. Public Supply Annual Conservation Goal	$1,754,000	$0	$3,508,000	$0
F. Annual Per Capita Compliance Report	$0	$39,200	$0	$78,400
H. Lowest Quality Water Source	$140,000	$0	$280,000	$0
Total	**$2,069,000**	**$10,678,200**	**$4,313,000**	**$31,995,400**

Costs Not Estimated for:

B. Permit Modification - No significant cost expected of permittees.

E. End-of-Permit Residential Per Capita Use Goal - Insufficient data available to estimate cost

G. Additional Detail Required for Water Demand Forecasts - Insufficient data available to estimate cost.

(a) The cost of acquiring water quantities from AWS projects applies only to those who apply for permits after 2025. Therefore, the total cost provided under the columns titled "2021 to 2030" is based on 3.5 cumulative new applicants from 2026 to 2030 and the total cost provided under the columns "2021 to 2040" is based on 10.5 new applicants from 2026 to 2040.

[2] Under existing rule, each water use permit would be evaluated for impacts to the UFA as it comes in for renewal and it is possible that the resulting permitted quantities from the UFA would be the same as or similar to those quantities under the proposed CFWI rule.

For those new applicants applying for permitted quantities after 2025, the $122 million annual cost to acquire 93.8 mgd of water from AWS projects by the existing permittees was used as an estimate of the cost to new applicants to obtain water after 2025. The ratio of these two numbers provides a weighted average unit cost is $3.57 per 1,000 gallons. All 2.30 mgd of each new applicant's demand would need to come from AWS projects, "offsets", "substitution credits", and/or "land use transitions".

The unit costs associated with the other cost items are the same as the costs used to estimate the transactional costs to the existing CFWI public supply permittees. These unit costs include preparing a "demand-not-met" plan ($50,000 per applicant), attempting to meet the 115 gross gpcd goal ($500 per gpcd per 1,000 population), and investigating the feasibility of a lower quality water source ($20,000 per investigation using the cost to the small public supply permittees).

The interpretation of Table 4-27 is that for the period 2021 to 2030 the one-time or total transactional cost to new public supply permit applicants is estimated to be $2.1 million. By 2030 the annual transactional cost to new public supply applicants is estimated to be $10.5 million. When the period is extended to 2040 the one-time or total transactional cost to new public supply permit applicants from 2021 to 2040 is estimated to be $4.3 million. By 2040 the annual transactional cost to new public supply applicants is estimated to be $31.5 million.

4.2 Industrial/Commercial/Institutional (ICI) and Power Generation Use Type Permittees

The ICI use type category represents businesses that have their own permitted water supply from ground and surface water sources. The types of ICI establishments that can be "self-supplied" are described as follows:

- Commercial uses including general businesses, office complexes, commercial cooling and heating, and other commercial facilities.
- Industrial uses including manufacturing and chemical processing plants and other industrial facilities.
- Institutional uses including hospitals, group home/assisted living facilities, churches, prisons, schools, universities, and military bases.
- Mining and long-term dewatering use which is the use of water associated with the extraction and processing of subsurface materials and minerals (mining) and the removal of water to control surface or groundwater levels during construction or excavation activities (long-term dewatering).

The Power Generation category represents the self-supplied water use associated with power generation facilities and includes the consumptive use of water for steam generation, cooling, and replenishment of cooling reservoirs.

Table 4-28 summarizes the portions of the proposed rule that have the potential to incur transactional costs to ICI and power generation permittees and applicants. The transactional cost associated with each change in existing rule is described in turn.

Table 4-28: Proposed Change in Water Use Permitting Rules in CFWI Area Affecting Industrial / Commercial / Institutional / and Power Generation Self-Supplied Permittees and Applicants

Change to Existing Rule	Proposed Rule Change Relative to Existing Rule		
	SWFWMD	SJRWMD	SFWMD
A. Permitted quantities from UFA restricted to "2025 Demonstrated Demand".	New	New	New
B. Most existing water use permits will be modified.	New	New	New
C. Plan required to address how "demand-not-met" beyond 2025 will be supplied.	New	New	New
D. Requires applicants to prepare a water balance in the form of a spreadsheet or flow diagram.	No Change	No Change	No Change
E. Additional level of detail required for water demand forecasts by applicants.	New	New	New

4.2.1 Permitted Quantities from the UFA

Under the proposed rule, ICI and power generation permitted quantities from the UFA in the CFWI area will be limited to the permittee or applicant's "Demonstrated 2025 Demand," which means the quantity of water needed to meet demands in the year 2025. If the permitted allocation is based on a water balance and not a growth projection, then the Demonstrated 2025 Demand would be the existing permitted allocation. Water demand growth after 2025 will need to come from "offsets", "substitution credits", "land use transitions" and/or "alternative water source development".

For ICI permittees, Table 4-29 provides the forecasted UFA demands-not-met by 2030, 2035 and 2040 for each CFWI county. By the year 2040, 5.11 mgd of water will be needed from AWS projects.

Table 4-29: ICI Demand-Not-Met from UFA by County

County	Demand-Not-Met, mgd		
	2030	2035	2040
Lake	0.39	0.71	1.02
Orange	0.56	1.12	1.67
Osceola	0.20	0.36	0.49
Polk	3.95	1.72	1.93
Seminole	0.00	0.00	0.00
Total	**5.10**	**3.91**	**5.11**

Given this relatively small demand-not-met, the FDEP and the Districts anticipate that management strategies (wellfield optimization, flexible operation plans) and increased system efficiencies are likely the best options for these permittees. Also, there are no proposed limitations on quantities withdrawn from the surficial aquifer system (SAS) and the Lower Floridan Aquifer (LFA) in the CFWI area. Permittees may also implement impact offsets, substitution credits, or land use transitions.

To estimate a transactional cost to obtain enough water to supply the 5.11 mgd UFA demand-not-met, the unit cost of RWSP Project No. 2020_2 located in Seminole County was used. This brackish water AWS project is a one-mgd LFA wellfield with reverse osmosis (RO) treatment. Its unit cost is estimated to be

$3.95 per 1,000 gallons. Subtracting the unit cost of a UFA wellfield with treatment of $0.30 per 1,000 gallons provides a net unit cost of $3.65 per 1,000 gallons. Relative to the other alternatives listed in the paragraph above, this is an expensive source of water and likely represents a high-end estimate of the transactional cost to these permittees.

Table 4-30 provides the estimated transactional cost of the proposed rule to these ICI permittees in need of additional permitted water quantities after 2025. The annual transactional cost ranges from $5.2 million per year by 2035 to $6.8 million by 2040 and is likely a very high-end estimate of the actual transactional cost.

Table 4-30: Annual Transactional Cost to ICI Permittees to Supply UFA Demand-Not-Met With 1 mgd Brackish Groundwater Wellfield and Reverse Osmosis Treatment

County	Net Unit Cost = $3.65 per 1,000 gallons		
	2030	2035	2040
Lake	$519,578	$945,898	$1,358,895
Orange	$746,060	$1,492,120	$2,224,858
Osceola	$266,450	$479,610	$652,803
Polk	$5,262,388	$2,291,470	$2,571,243
Seminole	$0	$0	$0
Total	**$6,794,476**	**$5,209,098**	**$6,807,799**

Of the 16 facilities with water use permits for self-supplied thermoelectric power generation in the CFWI, only one has unmet demands after 2025. Unmet demand for this facility is 0.07 mgd by 2030, 0.14 mgd by 2035, and 0.21 mgd by 2040. The City of Lakeland's Northside Wastewater Reclamation Facility has a capacity to produce 8.0 mgd of reclaimed water. It is located near this power generation facility and may be able to increase its reclaimed water deliveries to this facility. One of the RWSP AWS projects is the Lakeland WWTP (Northside & Glendale) Reuse Expansion to TECO and the City of Lakeland. From the information provided in the RWSP under Project ID 2015_99, it appears that this project would supply water to the power generation facility.

According to the RWSP, the project is expected to provide 7 mgd of reclaimed water supply at a capital cost of $53 million. The unit cost is not provided. Instead, it was estimated by adding a $0.50 per 1,000-gallon O&M cost estimate to the amortized $53 million over 30 years at 3 percent annual interest divided by 7 mgd to obtain a unit cost of $1.56 per 1,000 gallons. The estimated unit cost of acquiring water from the UFA of $.30 per 1,000 gallons was deducted from the $1.56 to obtain a net unit cost of $1.26 per 1,000 gallons. This net unit cost was multiplied by the amount of unmet demand in 2030, 2035 and 2040 to obtain an estimate of the annual cost of the proposed rule to this facility owner. The estimated transactional cost is $31,000 per year by 2030; $63,000 per year by 2035 and $97,000 per year by 2040.

4.2.2 Permit Modification of Existing Permittees

For existing permittees, water use permits would be modified by the respective water management district after the proposed rule is adopted and, if the permitted allocation is based on a water balance and not a growth projection, then the Demonstrated 2025 Demand would be the existing permitted allocation. Existing permittees may incur transactional costs associated with responding to the District's

modification of their permits, but this cost was not estimated and is not expected to be large relative to the other transactional costs to these permittees that are described in this Section.

4.2.3 Plan to Address "Demand-Not-Met"

"Demand-not-met" means the amount of water demand that would not be supplied with permitted water quantities from the UFA under the proposed CFWI rule. According to the proposed CFWI Supplemental Applicant's Handbook, by December 31, 2023 any permittee or applicant with projected water demand greater than its Demonstrated 2025 Demand shall submit a plan to the District regarding how demand-not-met would be addressed.

This Plan is a new requirement of ICI and hydroelectric power generation permittees and would result in transactional costs to these entities. Because water demand forecasts of the individual ICI permittees were not available, the estimated transactional cost was based on the quantity of unmet demand by 2040 or 5.32 mgd (5.11 mgd for ICI and 0.21 mgd for Power Generation). For large public supply permittees, the estimated average cost to prepare this plan per mgd of unmet demand in 2040 is $48,000 ($4,500,000 / 93.8 mgd from Section 4.1.3). Thus, the estimated one-time transactional cost for ICI and Hydroelectric Power Generation permittees to each prepare a plan to supply unmet demand is estimated to total $255,400.

4.2.4 Prepare a water balance in the form of a spreadsheet or flow diagram

The proposed CFWI rule requires all ICI applicants to prepare a water balance in the form of a spreadsheet or flow diagram. This action is already required under the existing rules of all three districts so there is no cost associated with this part of the proposed rule.

4.2.5 Additional Detail Required for Water Demand Forecasts

The proposed CFWI Supplemental Applicant's Handbook specifies a uniform method for calculating future water demands of ICI and Power Generation permit applicants. For applicants located in the SWFWMD, the requirements are the same as existing rule. For applicants located in the other two Districts, the proposed rule change will likely result in additional data collection and demand calculations because the water demand will need to be forecast by the following categories:

- Processing and manufacturing / Mining, dewatering, and processing, which includes water lost in processing and manufacturing where water is an input in the process
- Office and personnel use, which includes personal and sanitary use.
- Landscaping and irrigation
- Other needs. All "other needs" shall be specified in the application along with supporting documentation to meet the conditions for issuance pursuant to 62-41.301, F.A.C.

Because the extent to which the required data is readily available to each permittee it is not known, the transactional cost of this new requirement was not estimated.

4.2.6 Summary of Transactional Cost to ICI and Power Generation Permittees

Table 4-31 provides a summary of the estimated transactional costs to ICI and Power Generation permittees. The one-time or total cost expected during the period 2020 to 2040 is $255,400 to prepare a demand-not-met plan by December 31, 2023.

By 2030, the annual cost to supply UFA demand-not-met from AWS projects is estimated to be $6.9 million, which is expected to hold steady at this annual cost value through the year 2040. This cost is expected to be lower if management strategies (wellfield optimization, flexible operation plans), increased system efficiencies, impact offsets, substitution credits, or land use transitions are feasible as they could be less expensive than AWS projects.

Table 4-31: Summary of Estimated Transactional Cost as the Proposed CFWI Rule Affects ICI and Power Generation Permittees

Proposed CFWI Rule	One-Time or Total Cost - 2020 to 2040	Annual Cost By 2030
A. Permitted Quantities from the UFA – Annual Cost	$0	$6,904,799
C. Plan to Address "Demand-Not-Met" – One-Time Cost	$255,400	$0
Total	**$255,400**	**$6,904,799**

Costs Not Estimated for:

B. Permit Modification - No significant cost expected of permittees.

E. Additional Detail Required for Water Demand Forecasts - Insufficient data available to estimate cost.

4.2.7 Industrial/Commercial/Institutional (ICI) and Power Generation Use Type Applicants

New ICI and Power Generation applicants in the CFWI who request permitted quantities after 2025 will face the same types of transactional costs as those of the existing public supply permittees. New applicants requesting permitted quantities from 2021 to 2025 will receive permitted quantities from the UFA up to their forecasted 2025 demand.

Using the average number of applicants for ICI / Power Generation and Mining / Dewatering permits over the past 10 years, it is forecast that each year there will be 3.1 new applicants requesting permitted water quantities in the CFWI (From Table 3-9 ICI / Power Generation is 1.6 new applicants per year and Mining / Dewatering is 1.5 new applicants per year). To estimate the transactional costs to new applicants from 2021 to 2040, it was assumed that all requested permitted quantities would have come from the UFA under existing rule. Between 2021 and 2040, there is forecasted to be 62 new applicants for ICI / Power Generation and Mining / Dewatering permitted water quantities in the CFWI.

Table 4-32 provides the transactions cost to these applicants. The methods used to obtain these estimates are the same as was used to estimate the transactional cost of the existing ICI permittees as explained in the footnotes to this table. From 2021 to 2030, the estimated transactions cost is comprised of a one-time cost of $307,200 and an annual cost of $8.5 million by 2030. From 2021 to 2040, the estimated

transactions cost includes the one-time cost of $854,000 and an annual cost of $23.7 million by the year 2040.

Table 4-32: Estimated Transactional Cost to New Applicants Requesting Permitted Water Quantities for CII and Power Generation

Proposed CFWI Rule	Total Costs from 2021 to 2030		Total Costs from 2021 to 2040	
	One-Time Cost - 2021 to 2030	Annual Cost by 2030	One-Time Cost - 2021 to 2040	Annual Cost by 2040
A. Permitted Quantities from the UFA – Annual Cost (a)	$0	$8,466,449	$0	$23,706,057
C. Plan to Address "Demand-Not-Met" – One-Time Cost (b)	$307,200	$0	$854,400	$0
Total	**$307,200**	**$8,466,449**	**$854,400**	**$23,706,057**

Costs Not Estimated for:

B. Permit Modification - No significant cost expected of permittees.

E. Additional Detail Required for Water Demand Forecasts - Insufficient data available to estimate cost.

(a) Under Item A, the number of new applicants is 15.5 from 2026 to 2030 and 43.4 from 2026 to 2040. The average requested permitted quantity is 0.41 mgd per applicant. The net unit cost of AWS projects is $3.69 per 1,000 gallons.

(b) Under Item C, the estimated cost is equal to $48,000 in staff and consultant costs per mgd times the total requested permitted water quantity of applicants. The requested quantities are based on 0.41 mgd per applicant. The total requested permitted quantity of the 15.5 applicants from 2026 to 2030 is 6.4 mgd (15.5 x 0.43 x 365 x 1,000) and the total requested permitted quantity of the 43.4 applicants from 2026 to 2040 is 17.8 mgd (43.4 x 0.43 mgd x 365 x 1,000).

4.3 Agricultural / Landscape / Recreation Use Type Permittees and Applicants

The proposed CFWI rules affecting Agricultural, Landscape, and Recreation use type permittees and their estimated transactional cost are provided as follows.

4.3.1 Expansion in the permitted withdrawal thresholds

Permittees and applicants using UFA water for irrigation would not be limited to their 2025 water demands. Instead, permitted quantities for supplemental irrigation will be based on two thresholds of water use:

1. A 5-in-10-year rainfall condition.
2. A 2-in-10-year drought condition.

An allocation using a 5-in-10-year condition represents the amount of water required to meet average annual water demands. Compliance with this annual allocation is based on the quantity withdrawn over a rolling average of the previous 12-month time period.

An allocation using a 2-in-10-year drought condition represents the amount of water required to meet the water demands generated from a rainfall deficit during a drought with the probability of recurring twice every ten years. Compliance with this annual allocation is based on the quantity withdrawn over a rolling average of the previous 12-months.

According to the proposed CFWI – 2.5.5 Irrigation Pumpage Compliance, "If the Permittee exceeds the allocated supplemental irrigation quantities, upon request by the District, the Permittee must submit a report that includes reasons why the allocated quantities were exceeded, measures taken to meet the allocated quantities, and a plan to bring the permit into compliance. The District will evaluate information submitted by Permittees who exceed their allocated quantities to determine whether there is good cause for the exceedance. Permittees may justify an exceedance by documenting unusual water needs, such as weather conditions creating greater irrigation needs than normal. However, even with such documentation, phased reductions in water use will be required unless the District determines that water usage was reasonable under the circumstances reported and that further reductions are not feasible. The permittee must seek a permit modification if it desires to implement any increase in allocated quantities."

The addition of the 5-in-10-year supplemental irrigation quantity is new to permittees and applicants in all three districts, except for those in the Southern Water Use Caution Area of the SWFWMD. Because the intent of this supplemental quantity is to better match actual water demands to their corresponding rainfall condition, no transactional costs are associated with the proposed rule. In other words, irrigators should not need more than the 5-in-10-year quantity during an average rainfall year or during a wet year.

The 2-in-10-year supplemental irrigation quantity is new only to those permittees and applicants in the SFWMD which permits water quantities for irrigation under a 1-in-10 drought condition. Because the proposed rule allows for unusual water needs caused by weather conditions, as provided for in CFWI – 2.5.5, the change in this supplemental quantity is not expected to incur transactional costs to irrigation permittees and applicants.

4.3.2 Uniform Irrigation System Efficiencies

The irrigation system efficiencies and multipliers used by the three districts to calculate supplemental permitted quantities for irrigation are proposed to be the same, or uniform, among the three districts. For the most part, these efficiencies and multipliers are either the same as under existing rule or are less strict than under existing rule. The exceptions are overhead sprinkler in the SJRWMD in which the efficiency is proposed to be increased from 70 percent to 75 percent and portable guns in the SWFWMD and the SFWMD in which the efficiency is proposed to be increased from 65 percent and 66.7 percent under existing rule, respectively, to 70 percent under the proposed CFWI rule. None of these changes are expected to have a significant impact on crop productivity or the costs of irrigation.

4.3.3 Annual Conservation Goal Implementation Plan (ACGIP)

An Annual Conservation Goal Implementation Plan (ACGIP) must be developed and submitted by agricultural permittees and applicants as part of the application for a renewal of an existing consumptive use permit, a modification of an existing consumptive use permit with an increased allocation, or an application for a new consumptive use permit. The ACGIP must contain annual conservation goals for at least five years (current year plus four additional years) or through the end of the permit, whichever is shorter; identify the person(s) or positions(s) responsible for overseeing implementation of the goal(s); and contain an annual record of whether each listed annual goal was met. An ACGIP is iterative and may be modified by the permittee without the need to modify the permit; however, all versions of the ACGIP

must be kept up to date, and must be signed and dated and maintained at the permittee's principal place of business through the term of the permit (inclusive of any extension).

In lieu of an ACGIP, agricultural users with a total allocation less than 100,000 gallons per day may enroll in an adopted FDACS BMP program applicable to their commodity and implement the BMPs annually. Agricultural users that utilize the FDACS BMPs as their annual conservation goal shall maintain documentation supporting the enrollment and implementation of selected BMPs. The permittee shall report to the District its progress toward achieving the conservation goals in any compliance report required pursuant to section 373.236, F.S., or, if a compliance report is not required pursuant to section 373.236, F.S., as part of any application to renew or modify the permit.

Under existing rule, the SWFWMD and the SJRWMD requires that agricultural permittees and applicants submit conservation plans so no transactional costs to these entities are expected under the proposed CFWI rule. The SFWMD does not have such a requirement under existing rule so their 69 existing permittees would need to submit this plan. To estimate the transactional cost, an average cost of staff and consultant time of $10,000 per plan was used to provide an estimated one-time transactional cost of $690,000. Adding in the cost to the 22.8 new applicants over the next 20 years (2021 through 2040) yields an estimated one-time cost of $228,000 by new applicants. The total transactional cost to permittees and applicants is $918,000.

5. Cost to the Regulatory Agencies

The proposed CFWI rule will require the SJRWMD, SWFWMD, and SFWMD to incorporate the new regulatory requirements into all water use permits issued in the CFWI area. Although the proposed rule is not expected to require these districts to hire more staff, it is expected to expand the overall agency workload, relative to the existing rule, during the initial implementation phase. Technical personnel could be diverted from other tasks and/or will be required to add the permit modification task to their current assignments. The Florida Department of Environmental Protection does not expect an increase in workload or other costs associated with the proposed rule.

The labor hours needed to modify existing permits are considered a one-time cost while labor hours for monitoring compliance with the water conservation goals would be a recurring cost estimated on an annual basis. The proposed rule is not expected to require any capital investment or the use of consumable materials; hence, the SERC agency cost estimates are limited to projected one-time and recurring labor costs.

5.1 Cost Estimation Methodology

Agency cost estimates to implement the proposed rule were based on responses to an information request prepared for the SERC analysis and submitted to each of the three water management districts and the FDEP. The information request was provided in an Excel spreadsheet with instructions to estimate total full-time-equivalent additional staff hours required to implement the proposed rule, the hourly salary of applicable staff positions, and the employee benefit and overhead multipliers for these positions. Benefit and overhead multipliers were used to calculate the fully loaded labor cost for all positions projected to be used to implement the proposed rule. The information request also asked for any non-labor expenditures and sought information on the proposed rule's potential for reducing costs. All three water management districts reported no likely reduction in any type of cost attributable to the proposed rule.

5.2 Labor Cost Estimation Results

All three water management districts responded to the information request. The estimated costs are described in turn for each water management district.

5.2.1 SJRWMD Estimated Costs to Implement the Proposed CFWI Rule

The SJRWMD estimated that, initially, the proposed rule would require 44 weeks or 1,760 staff hours to modify all permits within its portion of the CFWI area. This labor requirement is based on the estimated number of permits that would be modified and the estimated average time per permit. As shown in Table 5-1, SJRWMD assigned these hours to 3 staff positions including 532 hours each to a Level 1 Hydrologist and Level II Hydrologist, and 662 hours to a Level IV Hydrologist.

Table 5-1: SJRWMD Estimated Staff Hours to Modify Permits

Modify permitted water quantity of:	Number of Permits	Hours Per Permit	Number of Hours
(1)	(2)	(3)	(4) = (2) x (3)
Large public supply permittees	15	40	600
Small public supply permittees	16	20	320
Agricultural and Landscape permittees to reflect 5-in-10 rainfall conditions:			
• With quantities greater than 100,000 gpd	331	2	662
• With quantities less than 100,000 gpd	26	4	104
Mining/Dewatering permittees	17	2	34
Total			**1,720**

As shown in Table 5-2, one-time direct labor costs are estimated to be $46,222.

Table 5-2: SJRWMD Estimated Labor Hours and Direct Labor Cost to Modify Existing Permits

Position	Number of Hours	Direct Labor Cost Per Hour.	Direct Labor Cost
(1)	(2)	(3)	(4) = (2) x (3)
Level 1 Hydrologist	539	$20.2	$10,888
Level II Hydrologist	539	$22.2	$11,966
Level IV Hydrologist	642	$36.4	$23,369
Total	**1,720**		**$46,222**

SJRWMD estimated an additional 75 hours per year (5 hours per permit for 15 large public supply permits[3]) of labor to monitor compliance with the conservation goals of the large public supply permittees with 60 hours split between the Level I and II Hydrologists and 15 hours for the Level IV Hydrologist. Table 5-3 provides the SJRWMD's estimated annual cost of compliance monitoring.

Table 5-3: SJRWMD Estimated Annual Cost to Monitor Conservation Compliance

Position	Number of Hours	Direct Labor Cost Per Hour	Direct Labor Cost
(1)	(2)	(3)	(4) = (2) x (3)
Level 1 Hydrologist	30	$20.2	$606
Level II Hydrologist	30	$22.2	$666
Level IV Hydrologist	15	$36.4	$546
Total	75		**$1,818**

[3] SJRWMD estimated that 15 of the 31 large public supply permittees will require compliance monitoring.

In addition to direct labor costs, employees receive benefits including health, vacation, and retirement. In addition, for each employee, the Agency must support the operations and maintenance of the buildings and vehicles that support the work of these employees. In response to the information request, SJRWMD estimated a benefits multiplier of 1.32 and an overhead multiplier of 1.15. When these multipliers are factored in, the fully loaded one-time labor cost to implement the proposed rule is estimated to be $70,165 ($46,222 x 1.32 x 1.15). The fully loaded annual labor cost to monitor conservation compliance is estimated using the same formula: $1,818 x 1.32 x 1.15, which yields a total annual cost of $2,760. Table 5-4 summarizes these costs.

Table 5-4: SJRWMD Estimated Cost to Implement the Proposed CFWI Rule

Estimated Total One-Time Cost	$70,165
Estimated Annual Cost	$2,760

5.2.2 SWFWMD Estimated Costs to Implement the Proposed CFWI Rule

SWFWMD estimated that 179 weeks or 7,164 staff hours would be needed to implement the proposed rule. In addition, the proposed rule would require 646 staff hours annually to monitor compliance with the conservation goals. As shown in Table 5-5, SWFWMD's estimated labor hours for permit modifications are based on the estimated number of permits that would be modified and the estimated average time per permit.

Table 5-5: SWFWMD Estimated Staff Hours to Modify Permits

Water Use Type/Proposed Rule	Number of Permits	Hours Per Permit	Number of Hours
(1)	(2)	(3)	(4) = (2) x (3)
Modify permitted water quantity on most existing permits in the CFWI	2,221	3	6.663
Calculate Public Supply Permittee Demonstrated 2025 Demand	78	5	390
Evaluate residential per capita water use goal of Public Supply Permittees	37	3	111
Total			**7,164**

As shown in Table 5-6, the one-time direct labor cost is estimated to be $247,040.

Table 5-6: SWFWMD Estimated Labor Hours and Direct Labor Cost to Modify Existing Permits

Position	Number of Hours	Direct Labor Cost Per Hour.	Direct Labor Cost
(1)	(2)	(3)	(4) = (2) x (3)
Professional Geologist	6,663	$35.00	$233,205
Environmental Project Manager	111	$31.71	$3,520
Staff Economist	390	$26.45	$10,315
Total	**7,164**		**$247,040**

The SWFWMD estimates that it will require 646 hours annually for a professional geologist to monitor compliance with the conservation mandate. Table 5-7 provides the annual direct labor costs.

Table 5-7: SWFWMD Estimated Costs to Monitor Conservation Compliance

Position	Number of Hours	Direct Labor Cost per Hour.	Direct Labor Cost
Professional Geologist	646	$35.00	
Total Direct Labor Cost			$22,610

In addition to direct labor costs, employees receive benefits including health, vacation, and retirement. In addition, for each employee, the Agency must support the operations and maintenance of the buildings and vehicles that support the work of these employees. In response to the information request, SWFWMD estimated a benefits multiplier of 1.38 and an overhead multiplier of 1.15. When these multipliers are factored in, the fully loaded labor cost to implement the proposed rule would be $247,040 x 1.38 x 1.15, which yields a total one-time cost of $391,998. The fully loaded annual cost to monitor compliance is estimated using the same formula: $1,818 x 1.38 x 1.15, which yields a total annual cost of $35,877. Table 5-8 summarizes these costs.

Table 5-8: SWFWMD Estimated Cost to Implement the Proposed CFWI Rule

Estimated Total One-Time Cost	$392,000
Estimated Annual Cost	$36,000

5.2.3 SFWMD Estimated Costs to Implement the Proposed CFWI Rule

SFWMD estimated that 79 weeks or 3,175 staff hours would be needed to implement the proposed rule. In addition, the proposed rule would require 646 staff hours annually to monitor compliance with the conservation goals. As shown in Table 5-9, SFWMD's estimated labor hours for permit modifications are based on the estimated number of permits that would be modified and the estimated average time per permit.

Table 5-9: SFWMD Estimated Staff Hours to Modify Permits

Water Use Type/Proposed Rule	Number of Permits	Hours Per Permit	Number of Hours
(1)	(2)	(3)	(4) = (2) x (3)
Modify permitted water quantity on most existing permits in the CFWI	821	3	2,463
Calculate Public Supply Permittee Demonstrated 2025 Demand	24	5	120
Evaluate residential per capita water use goal of Public Supply Permittees	148	4	592
Total			**3,175**

As shown in Table 5-10, the one-time direct labor cost is estimated to be $110,165.

Table 5-10: SFWMD Estimated Labor Hours and Direct Labor Cost to Modify Existing Permits

Position	Number of Hours	Direct Labor Cost Per Hour.	Direct Labor Cost
(1)	(2)	(3)	(4) = (2) x (3)
Permit Reviewer	2,463	$35.00	$86,205
Compliance Professional	592	$30.00	$17,760
Permit Reviewer	120	$35.00	$4,200
Total	**3,175**		**$110,165**

The SFWMD estimates that it will require 444 hours annually for a permit reviewer to monitor compliance with the conservation mandate. The annual direct labor costs are provided in Table 5-11.

Table 5-11: SFWMD Estimated Costs to Monitor Conservation Compliance

Position	Number of Hours	Direct Labor Cost per Hour.	Direct Labor Cost
Permit Reviewer	444	$35.00	
Total Direct Labor Cost			$15,540

In addition to direct labor costs, employees receive benefits including health, vacation, and retirement. In addition, for each employee, the Agency must support the operations and maintenance of the buildings and vehicles that support the work of these employees. In response to the information request, SFWMD estimated a benefits multiplier of 1.38 and an overhead multiplier of 1.15. When these multipliers are factored in, the fully loaded labor cost to implement the proposed rule would be $110,165 x 1.38 x 1.15, which yields a total one-time cost of $174,832. The fully loaded annual cost to monitor compliance is estimated using the same formula: $15,540 x 1.38 x 1.15, which yields a total annual cost of $24,662. These costs are summarized in Table 5-12.

Table 5-12: SFWMD Estimated Cost to Implement the Proposed CFWI Rule

Estimated Total One-Time Cost	$174,832
Estimated Annual Cost	$24,662

5.3 Estimated Total Agency Cost to Implement the Proposed CFWI Rule

The total estimated Agency cost for implementing the proposed CFWI rule is the estimated one-time cost to modify existing water use permits in the CFWI area and the annual cost to monitor compliance with the conservation goals. Table 5-9 shows the total one-time CFWI implementation cost of $637,000.

Table 5-9: Estimated Total One-time Implementation cost of the Proposed CFWI Rule

Agency	One-time Cost
SJRWMD	$70,165
SWFWMD	$391,998
SFWMD	$174,832
FDEP	$0
Total One-time Cost	**$636,995**

The annual cost to monitor the proposed rule's conservation goal is estimated to be $63,422 as summarized in Table 5-10 for the four agencies.

Table 5-10: Estimated Annual Cost to Monitor the Proposed CFWI Rule Conservation Goals

Agency	Annual Cost
SJRWMD	$2,760
SWFWMD	$36,000
SFWMD	$24,662
FDEP	$0
Total Annual Cost	**$63,422**

6. Impacts to Small Businesses, Cities and Counties

This section describes the potential impacts of the proposed CFWI rule on small businesses, small cities, and small counties. As required by section 120.541, F.S., the SERC shall include "An analysis of the impact on small businesses as defined by s. 288.703, and an analysis of the impact on small counties and small cities as defined in s. 120.52. The impact analysis for small businesses must include the basis for the agency's decision not to implement alternatives that would reduce adverse impacts on small businesses."

According to section 288.703, F.S.: "Small business" means an independently owned and operated business concern that employs 200 or fewer permanent full-time employees and that, together with its affiliates, has a net worth of not more than $5 million or any firm based in this state which has a Small Business Administration 8(a) certification. As applicable to sole proprietorships, the $5 million net worth requirement shall include both personal and business investments.

According to section 120.52, F.S.:

"Small city" means any municipality that has an unincarcerated population of 10,000 or less according to the most recent decennial census.

"Small county" means any county that has an unincarcerated population of 75,000 or less according to the most recent decennial census.

6.1 Impacts to Small Counties

According to the 2019 county population data obtained from the Florida Office of Economic and Demographic Research, none of the CFWI counties, Brevard, Lake, Orange, Osceola, Polk, and Seminole, are small.

6.2 Impacts to Small Cities

According to the 2019 county population data obtained from the Florida Office of Economic and Demographic Research, there are 23 small cities and towns in the CFWI. Of these 23 small cities and towns, 13 are large public supply permittees and one is a small public supply permittee as summarized in Table 6-1.

Table 6-1: Number of Small Cities in the CFWI Required to Comply with the Proposed Rule

Category	Number of Small Cities
Public Supply Permittees:	
Large	13
Small	1
Total Public Supply Permittees:	**14**

The 13 large public supply permittees would be impacted by the proposed changes to permitted quantities from the UFA. They would also be required to prepare a Demand-Not-Met Plan, attempt to reduce per capita water use to 115 Gross gpcd, prepare an annual "Per Capita Compliance Report", and evaluate the lowest quality water source at permit renewal. The largest transactional cost to small

cities that are large public supply permittees is associated with supplying their forecasted UFA demand-not-met with water from AWS projects. Table 6-2 provides the UFA forecasted demand-not met in 2030, 2035, and 2040 for each of the 13 permittees. By 2040, unmet demand of each permittee ranges from 0.01 mgd to 0.33 mgd.

Table 6-2: Forecast of UFA Demand-Not-Met of Small Cities that are Large Public Supply Permittees

Individual Permittee	County	Forecasted Demand-Not-Met, mgd		
		2030	2035	2040
1	Lake	0.08	0.17	0.26
2	Lake	0.01	0.02	0.03
3	Orange	0.17	0.19	0.19
4	Orange	0.01	0.01	0.01
5	Polk	0.02	0.05	0.08
6	Polk	0.02	0.05	0.07
7	Polk	0.10	0.22	0.33
8	Polk	0.02	0.04	0.07
9	Polk	0.08	0.16	0.25
10	Polk	0.03	0.06	0.09
11	Polk	0.11	0.21	0.31
12	Polk	0.07	0.16	0.25
13	Polk	0.04	0.07	0.11
Total		**0.76**	**1.41**	**2.05**

Table 6-3 provides the estimated transaction cost for each permittee.

Table 6-3: Estimated Annual Transactional Cost of Proposed CFWI Rule to Small Cities that are Large Public Supply Permittees

Individual Permittee	Net Unit Cost (AWS Project minus $0.30 UFA Cost)	Annual Transactional Cost to Supply UFA Demand-Not-Met, mgd			One-Time Cost to Prepare Unmet Demand Plan	Total Cost – Attempt to Achieve 115 Gross gpcd Goal Over 20 Years
		2030	2035	2040		
1	$1.39	$42,800	$86,410	$129,557	$50,000	$0
2	$1.39	$4,731	$8,694	$12,913	$50,000	$0
3	$3.59	$222,466	$248,386	$248,386	$50,000	$54,208
4	$3.59	$7,325	$7,495	$7,495	$50,000	$20,265
5	$2.69	$23,769	$51,677	$81,187	$50,000	$0
6	$2.69	$20,226	$45,306	$71,803	$50,000	$31,780
7	$2.69	$99,209	$212,117	$326,737	$50,000	$0
8	$2.69	$20,197	$43,147	$66,849	$50,000	$0
9	$2.69	$74,817	$159,551	$246,543	$50,000	$0
10	$2.69	$29,766	$61,717	$93,148	$50,000	$0
11	$2.69	$103,159	$206,203	$302,355	$50,000	$13,637
12	$2.69	$71,895	$158,185	$249,087	$50,000	$0
13	$2.69	$34,472	$71,251	$106,646	$50,000	$0
Total		**$754,830**	**$1,360,139**	**$1,942,706**	**$650,000**	**$119,890**

As described in Section 4.0 of the SERC, the net unit cost of AWS projects was estimated using the AWS project information provided in the RWSP. The unit cost includes capital and O&M costs. The estimated unit cost of AWS projects in each county was calculated in Section 4.0. An estimated unit cost to withdraw and treat water from the UFA, $0.30 per 1,000 gallons, was subtracted from the AWS unit cost to obtain an estimate of the transactional cost associated with changes in permitted quantities from the UFA.

Also included in the Table 6-3 is the estimated one-time cost to prepare a plan that addresses how UFA unmet demand will be supplied. The actual staff and consultant cost to prepare the plan will vary by utility. As explained in Section 4.0 of this SERC an average cost per permittee, excluding the two largest permittees, is estimated to be $50,000 to prepare the plan and update it over time. The last column of Table 6-3 provides the estimated cost to attempt to achieve the gross per capita goal of 115 gpcd. For the nine permittees with gross per capita demands below 115 gpcd, the transactions cost is $0. For the remaining four permittees, the last column of Table 6-3 provides their cost based on the gpcd reduction required by 2040 and the forecasted population in 2040.

In addition, these permittees would be required to prepare and submit an annual “per capita compliance” report. Under existing rule, this report is required of large public supply permittees in the SWFWMD. Therefore, this change in the water use permitting rules would not affect the nine large public supply permittees located in Polk County. For the other four permittees, two have gross per capita use below the 115 gpcd goal so the process of filling out the report is not expected to require any significant amount of staff or consultant time or data. For the other two permittees, the estimated annual reporting cost to each is estimated to be $5,600 per year as described in Section 4.0 of this SERC. Also, for these four permittees outside of the SWFWMD, the new requirement that additional detail be provided in forecasting water demand is not expected to be significant due to the relatively small number of customers served by these permittees.

Finally, the proposed CFWI rule requires that water use permit applicants, regardless of size, provide reasonable assurance that the proposed use (or portion of the proposed use) will be met with the lowest quality water source that is suitable for the purpose and is technically, economically, and environmentally feasible. The requirements described for determining feasibility will necessitate that the applicant prepare a written report. The SFWMD already requires this consideration and evaluation under existing rule so this would be a new requirement of public supply permittees in the SWFWMD and SJRWMD. None of these 13 permittees are in the SFWMD. However, because these 13 permittees obtain less than 1.50 mgd from the UFA by 2025, the feasibility evaluation is not expected to require a significant amount of staff and consultant time and data.

There is only one small city that is a small public supply permittee. The only transactional cost to this permittee is the cost to supply its UFA demand-not-met and the one-time cost to prepare a plan to supply this unmet demand. At permit renewal, this permittee is also subject to the “Lowest Quality Water Source” feasibility study and the provision of additional details to justify water demand. Because UFA water demand of this permittee is less than 0.03 mgd by 2040, it is not likely that the water management district will require a significant amount of resources to prepare the feasibility study. Also, the staff and data requirements to provide the extra demand detail is not expected to be a significant cost to the permittee.

The estimated transactional cost to this permittee is provided in Table 6-4.

Table 6-4: Forecast of UFA Demand-Not-Met and Estimated Cost of Proposed CFWI Rule to a Small City in Polk County that is a Small Public Supply Permittee

Item	2030	2035	2040
Demand-Not-Met, mgd	0.0005	0.0012	0.0019
Annual Transactional Cost to Supply Unmet Demand at Net Unit Cost of $2.69 per 1,000 gallons	$471	$1,131	$1,885
One-Time Transactional Cost to Prepare AWS Project Plan	$20,000		

6.3 Impacts to Small Businesses

The proposed rule does not directly impact small businesses unless the business is a water use permittee or applicant in the CFWI area. The numbers of water use permittees by use type in the CFWI who are a small business, as estimated by the SJRWMD and the SWFWMD based on their permittees in the CFWI area, are provided in Table 6-5. These small businesses do not include governments such as government-owned water utilities. The impacts to water supply utilities owned by small cities were discussed in the previous sub-section. Also provided in Table 6-5 are the estimated total numbers of permittees by use type.

Table 6-5: Estimated Numbers of CFWI Water Use Permittees by Use Type Who May be a Small Business

Water Use Type	Total Number of Permittees	Permittees Who May Be Small Private Businesses (Excludes governments such as government-owned water utilities)	
		% of Total Permittees (a)	Number
(1)	(2)	(3)	(4) = (2) x (3)
Agricultural	1,899	89.00%	1,690
Industrial / Commercial / Institutional	184	33.50%	62
Environmental	3	33.00%	1
Landscape / Recreation / Aesthetic	675	63.00%	425
Mining / Dewatering	8	19.00%	2
Other	3	13.00%	0.4
Public Supply	300	43.00%	129
Total	**3,072**		**2,309**

(a) Based on an assessment of number of permittees who may be small businesses in the SJRWMD CFWI area as provided by the SJRWMD. For ICI permittees, the percent private business is the average of the percentages provided by the SJRWMD and the SWFWMD, 41% and 26%, respectively.

Of the estimated 3,072 water use permittees in the CFWI, 2,309, or 75 percent, could be small private businesses and about 1,611 of may be small agricultural businesses. About 425 of the 675 landscape / recreation / aesthetic water use permittees may be small private businesses and most of these use water for landscape irrigation. Agricultural and landscape water use permittees and applicants will be

able to obtain permitted water quantities from the UFA to satisfy water demand after 2025 as they would have under existing rule. Impacts to agricultural and landscape irrigation permittees and applicants are not expected to be significant.

About 129 of the 300 public supply permittees may be small businesses. These businesses may be able to obtain potable water to satisfy water demands after 2025 by purchasing water from a local water utility or by obtaining a variance from the water management district that would provide for new permitted water quantities from the UFA after 2025.

About 62 of the estimated 184 ICI water use permittees in the CFWI could be small businesses. Under the proposed rule, ICI and power generation permitted quantities from the UFA in the CFWI area will be limited to the permittee or applicant's "Demonstrated 2025 Demand," which means the quantity of water needed to meet demands in the year 2025. If the permitted allocation is based on a water balance and not a growth projection, then the Demonstrated 2025 Demand would be the existing permitted allocation. Water demand growth after 2025 will need to come from "offsets", "substitution credits", "land use transitions" and/or "alternative water source development".

The numbers of small business new applicants for permitted quantities by use type in the CFWI as estimated by the SJRWMD and the SWFWMD, based on their permittees in the CFWI area, are provided in Table 6-6. These small businesses do not include governments such as government-owned water utilities. Also provided in Table 6-6 are the estimated total numbers of new applicants by use type. About 11 of the 19 new applicants for permitted quantities each year are estimated to be small agricultural businesses.

Table 6-6: Estimated Number of CFWI Water Use Permit New Applicants Who May be Small Businesses

Water Use Type	Number of New Applicants	New Applicants Who May Be Small Private Businesses	
		% of Total New Applicants	Annual Number
(1)	(2)	(3)	(4) = (2) x (3)
Agricultural	12.1	89.00%	10.8
Commercial / Industrial / Institutional	1.6	33.50%	0.5
Environmental	0.4	33.00%	0.1
Landscape / Recreation / Aesthetic	2.0	63.00%	1.3
Mining / Dewatering	1.5	19.00%	0.3
Other	0.4	13.00%	0.0
Public Supply	0.7	43.00%	0.3
Total	**18.6**		**13.3**

Small businesses in the CFWI that are not water use permittees could be indirectly impacted by the proposed CFWI rule if their monthly water bill increases because of the proposed rule. This SERC does not provide estimates of the impact of the proposed CFWI rule on future water bills and affordability.

Subparagraph 120.54(3)(b)2. F.S. requires each agency to consider the impact of the proposed rule on small businesses and on small counties and cities and to tier its rules to reduce disproportionate impacts on them to avoid regulating small businesses and small counties and cities that do not contribute significantly to the problems the rule is designed to address. Each agency shall consider each of the following five alternatives for reducing the impact of the proposed rule on small businesses and on small counties and cities.

1. Establishing less stringent compliance or reporting requirements in the rule
2. Establishing less stringent schedules or deadlines in the rule for compliance or reporting requirements
3. Consolidating or simplifying the rule's compliance or reporting requirements
4. Establishing performance standards or best management practices to replace design or operational standards in the rule
5. Exempting small businesses, small counties, or small cities from any or all requirements of the rule

The Department did make attempts uniformly throughout the rules to establish less stringent compliance requirements, schedules or deadlines, or consolidation or simplifying compliance and reporting for all permittees and applicants. However, the Department determined that alternatives 1 through 3 were not suitable specifically for small businesses because those choices would not support the statutory directive in s. 373.0465, F.S., to adopt uniform rules for consumptive use permitting in the CFWI area and establishing conditions to prevent further harm.

The rule authorizes the use of FDACS best management practices for agricultural users below 100,000 gpd to meet the annual conservation goal requirement.

The Department also considered alternative 5. The Department determined that alternative 5 was not a suitable alternative because exempting small businesses, small counties, and small cities from the rule would undermine the Department's statutory obligation to prevent further harm to the water resources. Exempting small businesses and small local governments from the rule would create the negative public perception that small businesses and small local governments are not doing their part to protect water resources within the CFWI and are being treated more favorably than other users. Since approximately 75 percent of all permitted water users in the CFWI area are small businesses, applying an exemption for small businesses would eliminate much of the environmental protection required by several Florida Statutes. Additionally, such an exemption could add to the transactional costs of CUP applicants who are not small businesses or small local governments.