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RE: Adena Springs Ranch; CUP Application No. 2-083-129419-1 (pending)

Gentlemen:

As you know, the above-referenced Application has generated a great deal of interest and concern among many citizens as reflected in the Application's correspondence folders. My clients, Jeri Baldwin and Karen Ahlers are among those concerned about the likely impacts of the proposed Adena Springs Ranch on Silver Springs and its springshed and the Ocklawaha River Aquatic Preserve and its watershed. We have read the December 14, 2012 Amended Application and our concerns regarding the impacts of the proposed grass-fed beef cattle operation have not been addressed or assuaged.

The questions remain the same: what are the ramifications of removing 5.3 MGD from the Silver Springs springshed; and what will the impact be from the discharge of nitrogen-laden waters associated with the cattle operation. The Amended Application includes hundreds of pages but does very little to answer these questions.

The Amended Application as Response to Request for Additional Information

The Amended Application is structured as a response to the District's December 29, 2011 Request for Additional Information ("RAI"), the District's March 27, 2012 Comment Letter, and the District's April 24, 2012 List of Additional Concerns, identified as "Attachment C." We are alarmed to have found correspondence from the Applicant's attorney suggests the Applicant may have sought a deal with the District between the March 27, 2012 Comment Letter and the April 24, 2012 List of Additional Concerns. The "compromise" would make the Applicant's response to the District's concerns more limited and "voluntary," rather than exacting and mandatory. **[A copy of the Applicant's attorney's correspondence is attached]** However, agency practice requires that such a "List

of Additional Concerns” be treated as an RAI which must be answered. We expect the District would require a complete answer to all of District staff’s concerns, especially in light of the special natural resources that are likely to be affected.

The December 29, 2011 RAI

The December 29, 2011 RAI is noteworthy for its brevity and because in it the District’s reviewer Jay Lawrence, P.G. noted “the sparsity of aquifer parameter data in the vicinity” of the project, and requested the Applicant perform an aquifer performance test.

The March 27, 2012 Comment Letter

The March 27, 2012 Comment Letter from Jay Lawrence, P.G. raised additional questions, including the following:

During our second visit, I noted two depression areas in the north-western portion of the site that appear to be **classic sinkhole features**, indicating a **high probability of a disruption in confinement between the surficial aquifer and the Upper Floridan aquifer**. A review of the topographic maps of the area also indicate a **potential for variation of the structural lithology in the western portions of the site**. As we discussed previously, it appears there is a **lack of available geologic data on and in the vicinity of the project site**. For these reasons, **District staff believe a more detailed investigation of the presence or lack thereof adequate hydrologic confinement and the presence of karst features is warranted**. Further investigation may include additional aquifer performance testing, geologic and geophysical logging of selected wells, and/or any other techniques that you believe may reveal the presence of aquifer confinement.

The suitability of using the District's North-Central Florida regional groundwater flow model has also been brought into question; given the potential for the presence of karst features that facilitate conduit flow within the Floridan aquifer. There are many published geologic studies of the area that discuss karst features and their affects to the groundwater and surface water resources that may be pertinent to the Adena Springs Ranch site.

It appears that there are **four creeks that have headwaters on the Adena Springs Ranch site. One of these, Daisy Creek, has the designation of a "Special OFW" (Outstanding Florida Waters)**. The remaining three are located in the southern portion of the site that drains to the east to the Ocklawaha River and south to the Silver River, which both are designated as OFWs. **Please be reminded that it is the responsibility of the applicant to demonstrate that a consumptive use will not cause or contribute to a violation of state water quality standards in receiving waters of the state. Our primary concern is that of nutrients from the site (sources**

include manure, urine, and inorganic fertilizer) that could be transported directly off-site via surface water conveyance or indirectly off-site via groundwater conveyance to an adjacent OFW water body. (emphasis in bold added)

The April 24, 2012 List of Additional Concerns

The April 24, 2012 List of Additional Concerns, Attachment C, is titled "Adena Springs Ranch Silver Springs/Silver River WQ Discussion" and describes the "Investigation Needed" in relevant part as follows:

- **Applicant's provision of reasonable assurance that the proposed use will not cause or contribute to violations of water quality standards in streams, creeks, basins, etc. which contribute groundwater or surface water to a designated OFW, impaired waterbody, wetlands or other surface waters (e.g., stormwater runoff and groundwater baseflow).**
- Applicant's provision of reasonable assurance that the **buildup of nutrients in the soil profile will be minimized so as to not create groundwater or surface water quality issues** that would be detrimental to on-site and off-site water resources or environmental systems.
- **Applicant's approach to monitoring the potential for nutrient loading in the ground and in surface water beyond the extent of the project.**
- Applicant's provision of reasonable assurance that the environmental harm caused by the consumptive use has been reduced to an acceptable amount.
- Determination of drawdown impacts in the Upper Floridan and surficial aquifers, wetlands and other surface waters.
- **Determination of nutrient loading rates** from: - fertilizer loading rates for each center pivot (when, where & rates), - stocking rate of cattle: # cattle on # acres (cattle biological discharge, pounds of - manure and gallons of urine per head), and - industrial sites (spray fields, perk ponds).
- **Determination of conduit flow and nutrient transport potential at locations throughout site and specifically toward Silver Springs, Silver River and to the Ocklawaha River.** (emphasis in bold added)

With respect to the area's geology, Attachment C indicates the applicant must identify the:

- **Location of sinkholes and other karstic features** near irrigated and fertilized fields or areas of high cattle density (water troughs, chutes, supplemental feed stations, shaded areas, gates, etc.).
- **Lithology distribution (map) based on site-specific data** (e.g., geophysical logs or well cuttings).
- **Background water quality in adjacent water courses, surficial aquifer and upper Floridan aquifer (e.g., Daisy Creek, Orange Drain, Silver Springs and Silver River).**

Attachment C further indicates specific hydrologic information must be provided, including the following:

- Have **surface runoff pathways from the property been identified**? Are there any planned surface or groundwater water management actions intended to reduce either runoff volumes or nutrient runoff masses.
- **Rates of recharge/infiltration in managed areas** (e.g., irrigated fields, cattle pens, holding areas, etc.).
- **Data and analysis from the aquifer performance test and the validity of the test to represent the entire site without additional APTs in other locations.** (emphasis in bold added)

We note with some misgiving that the initial reviewer, Jay Lawrence, P.G. was removed from this application at some point after the April 24, 2012 List of Additional Concerns. The Applicant's attorney's e-mail gives reason to wonder whether Mr. Lawrence's removal was related to the information he sought from the Applicant. This concern is compounded by the fact that the foregoing highlighted requests for information remain unanswered and the apparent reason the District changed reviewer is that the new reviewer, Dwight Jenkins is a lawyer and an experienced witness.

The NCF Model Is Not Competent As Applied

Most of the Amended Application's analyses depend upon the predictions of the NCF Model. As quoted above, the March 27, 2012 Comment Letter from Jay Lawrence, P.G. questioned use of the NCF Model. When we spoke with Mr. Lawrence last March, he acknowledged the transmissivity issues and the relevance of the Department of Environmental Protection's dye-trace studies of the Silver Springs area and shared the view that the NCF Model was not an effective tool for evaluating this application.

The NCF Model is a porous media model, developed for broad regional analyses. The Model does not even pretend to reflect the karst hydrogeologic system or the great variability of aquifer characteristics of the Adena Springs property and surrounding area. The model is being used to simulate conditions that it wasn't designed to handle: a highly variable karst hydrogeologic system including large conduit flows, sinkholes, caves, swallets, highly variably transmissive rock, springs, and both confined and unconfined conditions. The Model relies on contrived porous media transmissivity values where porous media flow is not the predominate flow.

Inaccurate conceptualizations result in inaccurate predictions. The dye-trace tests showed the velocity of flow in the area is vastly different from that predicted by the NCF Model. The test, in fact, verifies that the aquifer is comprised of very highly conductive conduits embedded in a significantly lower transmissivity matrix. The porous media approach simplifies the framework into that of an unrealistically high-transmissivity matrix. Of critical

significance, the size and shape of the cone-of-depression are substantially determined by the transmissivity of the rock media. Over-estimating transmissivity results in underestimation of the size and depth of the cone-of depression caused by the aquifer withdrawals. This, in turn, prevents the model from accurately simulating the impacts of pumping on sensitive water resources.

The Amended Application indicates the hydrogeologist is developing a sensitivity analysis using a modified version of the NCF Model to assess the use of alternative aquifer parameters based data collected onsite. While this suggests the application remains incomplete, and the analysis may provide additional information, the analysis still depends upon the use of the wrong model. The District must require use of a more realistic model to predict the impacts from the Adena Springs Ranch water withdrawals, at very least one that correctly simulates the travel-times delineated by the dye tracing.

The Site-Specific Investigations Are Completely Inadequate

The December 29, 2011 RAI identified a “sparsity of aquifer parameter data in the vicinity” of the project. The March 27, 2012 Comment Letter noted “depressional areas,” “classic sinkhole features,” “a high probability of disruption in confinement between the surficial aquifer and the Upper Floridan aquifer,” “variation of the structural lithology in the western portions of the site,” and again asserted a “lack of available geologic data on and in the vicinity of the project site.” District staff asserted that a “detailed investigation” of the “the presence or lack thereof adequate hydrologic confinement and the presence of karst features” was necessary. The Amended Application does not include a detailed investigation addressing these issues.

The April 24, 2012 List of Additional Concerns indicated the Applicant would be required to: provide a “determination of conduit flow and nutrient transport potential at locations throughout site;” locate “sinkholes and other karstic features near irrigated and fertilized fields or areas of high cattle density;” provide a “lithology distribution map based on site specific information;” provide “background water quality in adjacent water courses, surficial aquifer and upper Floridan aquifer (e.g., Daisy Creek, Orange Drain, Silver Springs and Silver River);” identify “surface runoff pathways from the property;” and establish “rates of recharge/infiltration in managed areas.”

Other than review of existing data, maps and photos, the Applicant did very little to respond to these questions. Conduit flow and nutrient transport potential have not been determined; “sinkholes and other karstic features” have not been adequately investigated; a “lithology distribution map based on site specific information” has not been provided; “background water quality in adjacent water courses, surficial aquifer and upper Floridan aquifer (e.g., Daisy Creek, Orange Drain, Silver Springs and Silver River)” have not been provided; and “surface runoff pathways from the property” and “rates of recharge/infiltration” have not been established.

In a similar circumstance involving the permitting of a new wellfield for Bay County in a transitional karst setting, an extensive coring program and ground penetrating radar were employed to develop better insights into the karst activity and conduits near the wellfield. The District should consider requiring similar analyses here.

Surely the District cannot accept the Amended Application as complete without addressing the foregoing.

The December 7, 2012 Aquifer Performance Test Is Inconclusive

The December 7, 2012 Aquifer Performance Test Report for Well No. 83 (New #33) fails to: satisfactorily explain the repeated response in the surficial aquifer monitoring wells to the pumping activities; provide pump rate data showing that the pump rate was constant throughout the test; identify the disposition of the discharge water to ensure it was not affecting the test; and explain the anomalies in the pump test data, such as the repeated trough in the data from Floridan aquifer monitoring well MW-2b between 10/16 1400 and 10/16 1600. It is imperative that these issues be satisfactorily explained or that the test be repeated before the District can draw any conclusions regarding the hydraulic connection between the surficial and the Floridan aquifers anywhere on the project site.

The December 7, 2012 Aquifer Performance Test Report found what was considered “uncharacteristically high drawdown for a Floridan Aquifer well in this region”, “uncharacteristically low transmissivity”, and a higher than expected leakance value for the upper confining layer. The calculated values for the two variables based on the field observations during the aquifer performance test were on the order of 10^5 for transmissivity and 10^{-2} for leakance. The applicant explained the transmissivity results as being indicative of an unidentified low-permeability limestone unit of unknown origin proximal to Well 83 alone rather than being representative of the Floridan aquifer over a broader extent of the site. The applicant disregarded the higher observed leakance in favor of a value estimated from the North Central Florida groundwater model, which is three orders of magnitude lower than the observed value (10^{-5}).

The observed transmissivity value falls well within the range of observed values in Florida and within the order-of-magnitude of values reported for Marion County (Kuniansky, 2012; Torak and Painter, 2006). Rather than being erroneous, the higher-than-expected leakance value could well represent greater than expected hydraulic connection between the Floridan and surficial aquifers created by heterogeneity with respect to the thickness and lithology of the confining unit. Since it is the purpose of field work to constrain assumptions used in modeling, it is inappropriate to disregard or modify the values obtained from the aquifer performance test to fit a preferred conceptualization of aquifer permeability and confinement. Since lower aquifer transmissivity and higher leakance values equate to increased impacts both in terms of drawdown due to pumping and aquifer contamination from nutrient loading at the land surface, it is imperative that these values be used in the determination of potential impacts.

Moreover, the unexpected nature of the values indicates that the aquifer properties underlying the site are significantly more heterogeneous than may have been previously perceived. It is therefore also imperative that further investigations be conducted to delineate the spatial characteristics of the heterogeneity and the range in magnitude of these key aquifer properties. The Applicant's assessment attempts to identify a hypothetical impermeable boundary to explain the test results in order to conclude that a higher transmissivity value is more indicative of the aquifer than what they saw in the field. This is unnecessary, implausible, not good science, and not consistent with existing information regarding aquifer characteristics in the area.

The available data suggest significant heterogeneity in this region with respect to aquifer properties and the state of confinement. The District must reject the impermeable boundary explanation of the data; and require the Applicant to: provide a thorough explanation of the surficial well data; repeat the Test while monitoring heads in the area at a higher density (more wells) to determine if this one is indeed anomalous or indicative of heterogeneity; characterize the depth to bedrock, extent and thickness of the surficial material above bedrock (limestone), and the lithology of the surficial material across the property. Additional tests on additional wells are likely needed.

Nutrient Management Plan and Agricultural Conservation Plan

The Nutrient Management Plan ("NMP") is one requirement of the Agricultural Conservation Plan. The Amended Application remains incomplete, because, among other reasons, the Agricultural Conservation Plan has not been submitted. The Nutrient Management Plan is also incomplete because the Irrigation Water Management Plan ("IWMP"), described as "a vital component to the successful implementation of this NMP," has not been submitted. This IWMP is to be developed and submitted as Appendix E to the NMP. Appendix E currently acknowledges that:

Controlling the volume, frequency, and application rate of irrigation water is important in managing soil moisture to promote desired crop response and decrease non-point source pollution of surface and groundwater resources. This appendix contains the irrigation water management plan for the 34 freshwater irrigation center pivots located on the ranch.

The IWMP is critical to the evaluation of many of the questions posed in the District's March 27, 2012 Comment Letter, and the District's April 24, 2012 List of Additional Concerns.

We agree with the District that a "primary concern is that of nutrients from the site (sources include manure, urine, and inorganic fertilizer) that could be transported directly off-site via surface water conveyance or indirectly off-site via groundwater conveyance to an adjacent

OFW water body.” Without the IWMP, these concerns cannot be relieved and the Amended Application must be deemed incomplete.

The NMP provides only a conceptual narrative of the proposed grass-fed cattle operation, including that a total population of 16,800 to 17,250 finishing cattle are proposed on a total property area of about 20,827 acres. This is an average density of about 0.81 to 0.85 head per acre. The cattle will be constrained in fenced areas that include about 3,700 acres of irrigated pasture, 7,550 acres of un-irrigated pasture, and 850 acres of woodland pasture, for a total grazing area of 12,100 acres. This equates to an actual density of about 1 head per acre on the un-irrigated areas and 2.2 head per acre on the irrigated pastures.

At least two confined livestock areas (CLAs) are planned with a total area of about 3.5 acres. These areas will be unlined and have unlined waste lagoons that will have heavy manure and urine generation. Dr. Vendramini with UF published manure production rates for cattle of 81 wet pounds per day per head (as opposed to 68 in the NMP) and 4.7 gallons per day of urine per head. These CLAs will be point sources of Nitrogen to the groundwater through leaching. The NMP arguments that groundwater seepage in these CLAs will not be a problem are wishful thinking. Most of these areas are mapped by the SJRWMD as moderate to high groundwater recharge areas. These CLAs must be lined to protect the aquifer.

The grazing and rest schedules for the pastures also appear problematic. While a “six week” period may be optimal for grass growth, the NMP calls for moving the cattle after one to three days and allowing a 15 to 30 day rest period between grazing events. These numbers would seem to add up to much higher cattle densities in those pastures being grazed. More detail is needed to evaluate the effects of having 10 to 20 head per acre during a high rainfall event with subsequent runoff and leaching.

Wetlands make up an estimated 25% (5,178 acres) of the ranch property. These are not adequately protected by the NMP. One hundred sixty acres of wetlands are under pivots and may be cleared to facilitate pivot movement. This is a direct impact on wetlands. Cattle will be able to access large areas of wetlands and will seriously degrade them. A 25-ft buffer is proposed around these wetlands but there is no intention to fence many of them off from direct access by the cattle.

The onsite wooded “pastures” may be subject to significant degradation from access by so many head of cattle. The cattle will be attracted to these areas (and the associated wetlands) and will graze them to bare ground and deposit massive amounts of manure and urine that will runoff to adjacent streams or leach into the aquifer.

The permit requests permission to pump an average of 1.944 billion gallons of groundwater per year (5.326 MGD) or on average 309 gallons per day per cow. The Applicant must explain how this is reasonable.

The NMP estimates a manure production of 1.2 million pounds per day (428 million pounds or 214,072 tons per year) with a nitrogen content of about 1,130 tons per year. Approximately 1,200 tons per year of nitrogen fertilizer will be needed to grow the pastures in addition to the nitrogen in the manure.

The top of the Floridan Aquifer System (“FAS”) in the area of the Adena Ranch is between 50 and 55 feet above mean sea level (“MSL”). Land elevations of the property range from about 50 to 85 feet MSL. This indicates that water levels in many of the large wetland areas on-site may actually be an expression of the potentiometric surface of the FAS. In other words they are direct conduits into the FAS and may not be protected adequately from runoff and direct contamination by the cattle.

The NMP calls for addition of Nitrogenous fertilizer during resting periods. This conflicts with earlier statements by the Applicant that the manure would provide the needed nutrients. A rough Nitrogen mass balance based on the described operation suggests the project could cause on the order of 700 tons of Nitrogen per year to enter the groundwater that will eventually report to the area’s springs. This must be evaluated.

The fundamental reason for the NMP is to provide a nutrient mass balance that shows the additions and losses of Nitrogen and Phosphorus for the proposed project and clearly quantifies the nutrients released from the property and identifies their path and ultimate fate. This NMP does not present a true inventory of these gains and losses and obfuscates their significance.

The most conspicuous peculiarity of this plan is the selection and justification of Phosphorus as the limiting nutrient and the absence of a quantification of off-site Nitrogen impacts. The Applicant must adequately evaluate all of the impacts of its water use.

The Applicant’s exclusive focus on Nitrogen not exceeding the 10 mg/L drinking water standard in the groundwater fails to recognize or assess likely Nitrogen load against the 0.35 mg/L TMDL standard at the Silver Springs spring vents. The Applicant must be required to address compliance with the TMDL standard.

Considering the sheer magnitude of this cattle operation, mortality disposal by burial on this site will cause additional groundwater impacts. High seasonal groundwater levels will result in difficulty locating these cattle graveyards. Dead cattle should be deposited in a lined landfill.

The conclusion of the NMP is revealing: “N and P levels in the feed will be reduced to the maximum extent possible and practical, while maintaining good cattle growth and profitability.” The NMP does not and cannot make the statement that the proposed grass-fed beef operation will not cause harm to water resources and will not cause or contribute to lowering water quality below applicable water quality standards due to nutrient impairment to these watercourses.

The Conservation Map Plan

The only document allowing a glimpse of the Applicant's intended improvements is the Conservation Plan Map. This Map indicates, among other impacts, pivots will include wetlands within their circumference and farm roads will cross headwater creeks that are part of the Mill Creek and Daisy Creek systems. The DSV Environmental Impact Report acknowledges that "Ranch operations may change the hydrologic characteristics of that portion" of the Daisy Creek and Mill Creek watersheds "located within the ranch boundary." However, the Amended Application remains incomplete as these impacts are not specifically identified or assessed in the Amended Application.

The DSV Environmental Impact Report

The DSV Environmental Impact Report relies heavily on the NCF Model outputs from Andreyev Engineering. Therefore, the criticisms we have levied on that Model apply with respect to the Report to the extent of such reliance. While we do not agree with the magnitudes assigned or overall conclusions, the Amended Application and specifically the DSV Environmental Impact Report, do acknowledge a number of facts critical to the proposed withdrawals, including but not limited to the following:

1. Groundwater withdrawals in the Silver Springs springshed have increased from 31 to 40 MGD from 1998 to 2002;
2. Existing flows at Silver Springs have already been reduced by about 255 cfs (165 MGD) or 32%;
3. The area of the Silver Springs springshed has on average declined from about 954 square miles in 1995 to about 751 square miles in 2010, a decline of about 203 square miles (21%);
4. Silver Springs flow reduction cannot be explained by a single causative factor, but existing groundwater pumping in the springshed has already reduced Silver Springs flows by an estimated 5.4 to 7%;
5. Average flows at Silver Springs will be further reduced by between 2.6 and 4.8 cfs (1.7 to 3.1 MGD);
6. Existing end-of-permit allowed pumping rates with Adena Springs withdrawals included will result in a 12.6% average flow reduction at Silver Springs; and
7. Site development will result in increased flows in the Ocklawaha River of about 0.9 cfs (0.58 MGD) due to increases in surface runoff.

It is against this hydrogeologic background that the DSV Report analyzes likely project impacts. The DSV Report shows the FAS under and adjacent to the project site is very susceptible to contamination by nitrogen leaching from intensive agricultural operations. This aquifer vulnerability must be considered in conjunction with the total silence of the Nutrient Management Plan on the nitrogen issue. The NMP completely misses the target.

The DSV Report presents convincing data that flows at Silver Springs have declined precipitously due to a variety of likely causes that undoubtedly include groundwater pumping. These flow reductions are well beyond changes that have been found to cause “significant harm” in the draft Silver Springs MFL documents and at other springs.

The DSV Report indicates that Silver Springs flow reductions may exceed 12% solely due to existing consumptive use permits previously issued by the District. The DSV Report indicates that existing flows at Silver Springs may be further reduced by up to 3.1 MGD as a result of the requested Adena CUP. This amount is equal to about 0.9% additional average flow reduction, and a reduction of about 2% during drought years such as 2011.

The DSV Report predicts that runoff from the site to the Ocklawaha River (OR) will increase by 0.58 MGD due to the proposed development. Post-development flows and nutrient pollution must not exceed pre-development values. The Applicant must explain this deviation.

The DSV Report documents model predictions of surficial aquifer reductions due to this project and due to the cumulative impacts associated with projects already in place. These cumulative impacts exceed 0.5 to 1 foot at lakes and wetlands outside of the project footprint. Considering that there are “thousands of acres” of wetlands on the property and that a 0.5 foot average water reduction will reduce the area of a typical five acre wetland by at least 4%, this seemingly small reduction in surficial water levels will result in hundreds of acres of wetland and lake impacts that are not mitigated in any way. The Applicant must be required to show these impacts will not be harmful.

The USGS (Faulkner 1973) and the FGS (personal communication) have indicated that the region in and around the Adena Ranch is very karst and that sinkhole development is likely in the event of additional groundwater declines.

The DSV Report theorizes the change in the relationship between aquifer head differential and flow at Silver Springs is due to a change in hydraulic conductivity. However, the Applicant applies no rigor to rule out that the altered relationship may be the result of pumping and springshed contraction.

The DSV Report also fails to explore alternative explanations of the double mass curve excursion. For example, the Report fails to investigate significant reduction in the springshed boundaries and recharge area, increased regional groundwater pumping, lower

FAS levels, and altered land uses that reduce recharge rates. The Applicant's theories are not the only plausible theories and the Applicant must be required to evaluate alternatives.

Figure 6 on page 27 is misleading. Horizontal trend lines do not fit these data. The LOESS line shows a persistent and increasing acceleration of declining flows at Silver Springs; not an abrupt change as claimed by DSV. This persistent flow reduction began in the mid-1980s.

It is interesting that, contrary to previous assertions by DSV, pumping has increased in the combined Alachua/Marion county area and in the Silver Springs springshed. Additional analysis should be conducted to determine how pumping rates have increased over all of north Florida during this period of record and their likely effect on water levels.

The springshed analysis in Chapter 3 of the report should be scrutinized, as it appears to sacrifice accuracy to the methods employed. Conclusions regarding the amount of movement of springshed boundaries should be further analyzed because the model relied upon lacks competence to identify them. The springshed maps show major reductions in recharge area in Sumter and Lake counties, presumably in the vicinity of the Villages pumping center. The effects of the Villages withdrawals should also be evaluated.

It is critical that the Applicant fully and correctly consider the historical impacts of pumping on spring flows before asserting that additional withdrawals will not be harmful.

Affects On Water Quality

Silver Springs and Silver River within the Silver Springs State Park and the Ocklawaha River Aquatic Preserve, including part of Daisy Creek, are Outstanding Florida Waters identified in FAC Rule 62-302.700(2)(b) and (f) and 62-302.700(9)(c)70 and (9)(h)29 and (9)(i)24. According to FAC Rule 62-302.700(1):

(1) It shall be the Department policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters. No degradation of water quality, other than that allowed in subsections 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource Waters, respectively, notwithstanding any other Department rules that allow water quality lowering

In addition, "impacts of agricultural activities and agricultural water management systems on groundwater quality shall be regulated by water management districts." §403.927(2), Fla. Stat.

According to 62-302.300(13):

(13) The Department finds that **excessive nutrients (total nitrogen and total phosphorus) constitute one of the most severe water quality problems facing the State. It shall be the Department's policy to limit the introduction of man-induced nutrients into waters of the State. Particular consideration shall be given to the protection from further nutrient enrichment of waters which are presently high in nutrient concentrations or sensitive to further nutrient concentrations and sensitive to further nutrient loadings.** Also, particular consideration shall be given to the protection from nutrient enrichment of those presently containing very low nutrient concentrations: less than 0.3 milligrams per liter total nitrogen or less than 0.04 milligrams per liter total phosphorus.

The District must demand exacting analyses and superior protection strategies because Silver Springs, Silver River, the Ocklawaha River, and Daisy Creek are all OFWs impaired by nitrate/nitrogen.

Florida has a history of allowing water quality degradation, especially by nutrient pollution, and after-the-fact attempts to remedy the problem. The “Surface Water Improvement and Management Act,” Sections 373.451–373.4595, Florida Statutes, the “SWIM Act,” provide one example. The SWIM Act was enacted specifically because “the water quality of many of the surface waters of the state has been degraded, or is in danger of becoming degraded” by point and non-point sources of pollution. § 373.451(2) and (4), Fla. Stat. In support of the SWIM Act, the legislature found that important functions, including recreation, habitat for fish and wildlife, safe drinking water and attracting visitors and the related economic benefits, were being lost. *Id.* The Legislature also found that “declining quality of the state’s surface waters has been detrimental to the public’s right to enjoy these surface waters and that it is the duty of the state, through the state’s agencies and subdivisions, to enhance the environmental and scenic value of surface waters.” § 373.451(3), Fla. Stat. The SWIM Act therefore requires each “water management district develop plans and programs for the improvement and management of surface waters within its boundaries.” § 373.451(6), Fla. Stat.

Similarly, the Florida Forever Act, Section 373.199, Florida Statutes, acknowledges:

(1) Over the years, the Legislature has created numerous programs and funded several initiatives intended to restore, conserve, protect, and manage Florida’s water resources and the lands and ecosystems associated with them. Although these programs and initiatives have yielded individual successes, **the overall quality of Florida’s water resources continues to degrade; natural systems associated with surface waters continue to be altered or have not been restored to a fully functioning level; and sufficient quantities of water for current and future reasonable beneficial uses and for natural systems remain in doubt.** (emphasis in bold added)

In response to these findings, the Florida Forever Act requires the water management districts to develop a 5-year work plan that identifies projects that integrate SWIM Plans with various land acquisition plans, stormwater projects, waterbody restoration projects, and “other activities that would assist in meeting the goals of Florida Forever or activities that would assist in meeting the goals of Florida Forever.” § 373.199(3)(a), *Fla. Stat.*

The Florida Forever Act requires water management districts to work cooperatively with ecosystem management area teams, citizen advisory groups and federal, state and local governmental entities. § 373.199(3)(b), *Fla. Stat.* The Plans must list and describe projects and “**strategies and potential strategies, including improved stormwater management, for restoring or protecting the water body to Class III or better surface water quality status.**” § 373.199(4)(d), *Fla. Stat.* Such strategies should be considered to include water use permitting strategies that could be employed here.

The effect of the project’s nitrate load and the project’s reduction of flow on water quality in Silver Springs, Daisy Creek and the Ocklawaha Preserve are not addressed in the Amended Application. These matters must be addressed. Why would the District issue this water use permit only to have to move immediately into development of strategies for restoring or protecting the surrounding waters against the impacts of the project? Such action would not be consistent with the public interest.

Despite the RAI, comments, and concerns expressed by the District and others, conduit flow and nutrient transport potential have not been determined; “sinkholes and other karstic features” have not been adequately investigated; a “lithology distribution map based on site specific information” has not been provided; “background water quality in adjacent water courses, surficial aquifer and upper Floridan aquifer (e.g., Daisy Creek, Orange Drain, Silver Springs and Silver River)” have not been provided; and “surface runoff pathways from the property” and “rates of recharge/infiltration” have not been established. The Applicant has not addressed water quality impacts to surface and groundwater resources.

The Applicant’s Water Quality Exemption Argument

The Applicant appears to argue that it bears no responsibility to assess or protect water quality anywhere from any causes associated with the project because the Applicant has signaled willingness to abide by an Agricultural Conservation Plan. The Applicant’s attorney summarized the Applicant’s position regarding the Applicant’s responsibility in an e-mail to the Director of Research Programs at the University of Florida Plant Science Research and Education Unit, stating:

As I understand the nutrient issue, DEP is getting ready to establish 0.35 mg/l as the nitrogen concentration for the spring and the Silver River. **The law says that agricultural operations like Adena Springs can legally comply with this standard by adhering to applicable DACS BMP.** This BMP requires development of nutrient

management plan. The typical plan used will have as its goal reducing nutrient load to a set amount. **That plan does not require an agricultural operation to reduce loading to 0.35 mg/l. Typically a higher number is used as the goal.** I understand that Adena is concerned about disclosing that information. But as I understand that concern would be present regardless of whether we were putting forward the original 87 pivot plan, or describing the new 34 pivot plan. In fact the concern would be greater with the 87 pivot plan. Therefore, I would not get into details on the 22nd regarding the nutrient plan, but put forward the new pivot plan. I think the public's biggest concern is with quantity and not quality. (emphasis in bold added)

A copy of this communication is attached. The Applicant's attorney's analysis shows the Applicant considers itself free to load nitrogen to ground and surface waters in excess of the .35 mg/l TMDL standard regardless of the impact to the receiving ecosystems.

The Applicant's arguments are incorrect as the consumptive use permitting standards are intended to comprehensively protect, preserve and maintain Florida's water resources and to manage their use in a fashion consistent with the public interest. The Applicant's arguments would reduce and eliminate protections required under Florida's Water Resources Act and Florida's Antidegradation Policy. In addition, the Applicant lacks any permit issued pursuant to any of the rule chapters associated with the exemption and the Applicant's argument to the contrary is circular. Furthermore, according to the applicable statute, only "implementation ... of practices that have been initially verified to be effective, or verified to be effective by monitoring at representative sites, by the department" provide a presumption of compliance with state water quality standards. Effectiveness refers not merely to whether the practices reduce the target pollutants, but to whether they are likely to achieve the targets set forth in a Basin Management Action Plan ("BMAP"). No BMAP has been adopted for the project area so the effectiveness of any DACS BMP cannot be verified and no presumption would apply even if the Applicant otherwise qualified.

Summary

The District provided the Applicant with an outline of the information that would be required. The Applicant has failed and refused to develop the information necessary to complete the application. The Amended Application relies on the NCF Model which is inappropriate for the highly karstic setting. The Aquifer Performance Tests were inadequate to characterize the permeability of the Floridan aquifer underlying the site or the hydraulic connection between the Floridan and surficial aquifers at the site. The Applicant's conclusions regarding transmissivity and drawdown are not correct. The Model and Amended Application do not adequately predict impacts to water resources, likely underestimating drawdown impacts.

The Amended Application relies entirely on a legal presumption of compliance with water quality standards and provides no data or analyses to verify local water resources will not be degraded. Barring additional information, the Amended Application must be denied.

Dwight Jenkins, J.D., P.G.
Timothy Wetzel
January 8, 2013
Page 16

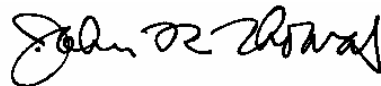
We echo the request of the Silver River State Park and the Florida Park Service: "It is our wish that the potential negative impacts to the water quality and quantity of Silver Springs and Silver River be given careful analysis and consideration." As Dr. Thomas J. Lane, Chair of the Marion Soil and Water Conservation District stated well:

Silver Springs is a Florida treasure that has generated tourism and financial gain for the local community dating back to the 1800s. It is a first magnitude springs, a magical sight of nature that has amazed young and old alike down through the years. Viewed today the Springs and Silver river have dramatically changed due to low flow and high nitrogen levels. The view through glass bottom boats no longer excites the dwindling crowds. The Florida Department of Environmental Protection has finally recognized these problems and has mandated a 79% reduction in nitrates for Silver Springs. Achieving this reduction will be difficult, time consuming, and expensive - as evidence by the 2 billion dollar restoration efforts to the Everglades. Are we willing to accept the concept that Adena Springs Ranch massive CUP will cause no harm or should we use common sense and the knowledge and wisdom of non-vested scientists to request a denial of this ground water permit?

This is an important decision that should not be rushed by general permit application processing policy, or swayed for short-term economic or political expedient. The Amended Application is incomplete and additional information or permit denial is required. Any other conclusion will demonstrate to all Floridians that they cannot rely upon the water management districts to protect Florida's water resources held in trust for the benefit of all of the people.

Sincerely,

LAW OFFICE OF JOHN R. THOMAS, P.A.

A handwritten signature in black ink, appearing to read "John R. Thomas". The signature is written in a cursive, somewhat stylized font.

John R. Thomas

CC: Governing Board
Attachments

West, Tasha L

From: Edward de la Parte Jr. <EDelaparte@dgfirm.com>
Sent: Friday, March 30, 2012 4:14 PM
To: Matt Baker; Mark Roberts
Cc: Colvin, Danny; Nicolas Porter; Jimmy Gooding
Subject: Re: RAI
Attachments: 12-03-23 DEP Guidance Memo CUP RAIs.pdf; ATT00001.htm
Importance: High

Matt and Mark,

Hope you will get a kick out of this. Just right after I responded to your email, I received the attached guidance memorandum from DEP to the WMDs regarding the use of RAIs. The memorandum is dated March 23 and was distributed to them on Wednesday. The memorandum severely limits the WMD's ability to use the RAI process to expand the number of questions being asked. As you know, the letter you just received from Jay Lawrence is directly contrary to this new policy.

After we have our internal meeting regarding SJRWMD, I will probably contact SJRWMD's General Counsel and see if I can use this Memorandum to make Jay retract his letter. Instead, I am going to propose that rather than having them send us a supplemental RAI, which they really can't do, we will propose voluntarily a more limited amount of additional information as a compromise. However, I am not going to do any think until after we get a chance to talk.

--

Edward de la Parte, Jr.
Board Certified State & Federal
Government & Administrative Practice Lawyer
De la Parte & Gilbert, P.A.
101 East Kennedy Blvd.
Suite 2000
Tampa, Florida 33601
Office: (813) 229-2775
Fax: (813) 229-2712
Cell: (813) 528-2714
edelaparte@dgfirm.com

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use of this email or any files transmitted with it is prohibited and disclaimed by de la Parte & Gilbert, P.A. Thank you.

On Mar 30, 2012, at 2:35 PM, Matt Baker wrote:

FYI....see the attached document below. I have asked Nic Andreyev to include this meeting during the districts on-site meeting on Wednesday with us if possible.

Begin forwarded message:

From: Nicolas Andreyev <andreyevn@gmail.com>
Date: March 30, 2012 1:58:35 PM EDT
To: Matt Baker <mbakerdevelopment@yahoo.com>, Voytek Mroz <VMroz@andreyevengineering.com>
Subject: RAI

Matt,

I assume you got a copy of this RAI supplement? I think we need to have a meeting with them and discuss this. The comments are not very good for us, because it will take a lot of work and analysis to address the issues.

Let me know if it is OK to proceed with setting up a meeting?

Nic
<Adena RAI Supplement.pdf>



Florida Department of Environmental Protection

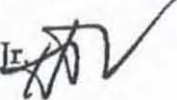
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000


Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

TO: George Roberts, Chair, NFWFMD
Douglas E. Barr, Executive Director, NFWFMD
Donald J. Quincey, Jr., Chair, SRWMD
Charlie Houser, Acting Executive Director, SRWMD
Lad Daniels, Chair, SJRWMD
Hans Tanzler, Executive Director, SJRWMD
Paul Senft, Chair, SWFWMD
Blake Guillory, Executive Director, SWFWMD
Joe Collins, Chair, SFWMD
Melissa Meeker, Executive Director, SFWMD

THROUGH: Herschel T. Vinyard Jr. 
Secretary

FROM: Greg Munson 
Deputy Secretary for Water Policy and Ecosystem Restoration

DATE: March 23, 2012

SUBJECT: Guidance Related to Requests for Additional Information in the
Consumptive Use Permitting Program

Consistent and timely decision-making is essential in the state's water regulatory programs to ensure environmental protection without adversely affecting economic activities. The consumptive use permitting process should promote thorough reviews, clear expectations, and prompt, sound, science-based decisions. The Department recently conducted stakeholder sessions around the state with water users and environmental interests seeking input on ways to improve the consistency and effectiveness of the consumptive use permitting program. Many comments were received related to the need to improve the way that Requests for Additional Information (RAIs) are used and managed in the permitting process.

Requests for Additional Information (RAIs) are used in the consumptive use permitting process to identify for the applicant additional information necessary to complete a permit application. While RAI's are an essential tool in the process, if not properly used and managed, they can become an unnecessary source of frustration for the permit applicant and delay decision-making.

On April 25, 2011, the Districts were provided with the Department's protocol for review and management of RAIs in the Department's regulatory programs (attached). Please ensure that your District has a review protocol in place for the supervisory/management review of RAIs that is at least as stringent as the following:

First RAI - Will require a mandatory review by the permitting supervisor. The RAI can be signed by the permit processor or the permit supervisor.

Second RAI - Must be signed by the applicable regulatory Bureau Chief (or equivalent).

Third RAI - Must be signed by the regulatory Division Director (or equivalent). In addition, a monthly report must be submitted to the Executive Director listing the third RAIs issued and an explanation of why the RAI was issued.

Fourth RAI or more - Shall require the approval of the Executive Director.

The following additional guidance is provided for the use of RAIs in the consumptive use permitting process. RAIs should:

- Clearly describe the information needed;
- Require only information needed to provide reasonable assurance that the permitting criteria are met as provided by statute and rule;
- Not raise new issues not raised in the first RAI or ask new questions not prompted by subsequent submittals by the applicant; and
- Never be used for the purpose of extending the permitting time clock due to workload issues or to delay decision-making by the District.

Careful management of the RAI process allows for timely identification and resolution of issues, and facilitates timely decision-making. The permitting metrics that the Districts are now reporting quarterly will allow tracking, evaluation and continual improvement of this process.

HTV/GM/as

Attachment

cc: Ann B. Shortelle, Ph.D., Director, Office of Water Policy, FDEP



Florida Department of Environmental Protection


Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

TO: George Roberts, Chair NFWFMD
Douglas E. Barr, ED NFWFMD
Donald J. Quincey, Jr., Chair SRWMD
David Still, ED SRWMD
W. Leonard Wood, Chair SJRWMD
Kirby B. Green, III, ED SJRWMD
Ronald E. Oakley, Chair SWFWMD
David Moore, ED SWFWMD
Joe Collins, Chair SFWMD
Tommy Strowd, Interim ED SFWMD

FROM:  Melissa L. Meeker, Deputy Secretary for Water Policy and Ecosystem
Projects

DATE: April 25, 2011

SUBJECT: Permitting Information

The Department compiles various permitting statistics in order to analyze permit application trends, agency performance, and budget and staffing needs. The information is essential to quality decision-making.

Two key measures among many are permit application "time in house" and the number of agency requests for additional information (RAIs). The number of RAIs bears some relationship to time in house and both measures may reflect the quality of permit applications and responses to requests for information, the clarity of agency requests, the clarity of our rules, differences in permitting staff experience and expertise, differences in the quality of consultants and agents, etc. Thus, this basic information answers some questions but, more importantly, it raises others that additional data can help answer and lead to better management.

In order to better understand and improve our collective permitting performance, I will be asking you over the next several months to share water management district data similar to that which we are reviewing. As a starting point, please provide the following:

- Number of permit applications received in each of your program areas, by year, for each of the last six full years (2005 – 2010);
- Average and median “time in house” for all permit applications for each year during the same time period, by program area. *“Time in house” means all time from receipt of application to final agency action, including all tolled time.*
- Average number of RAIs each year for the same time period, by program area.
- Number of permit processors (FTE) in each program area during the time period.

In addition to the summary, please also provide the raw data in an Excel spreadsheet or compatible format. You are welcome to share any other permitting metrics you find informative. As I noted, this request is a starting point to initiate an ongoing discussion on improving permitting performance.

The Department has also recently established uniform procedures, including levels of approval, for the issuance of RAIs (attached for your information). We want to promote thorough reviews, clear expectations and prompt, sound decisions. I know you share those objectives as well. Please advise if you have formally established such policies as well and, if so, what they entail.

Please submit your information, electronically, to Kara Nevin (kara.nevin@dep.state.fl.us) no later than May 16, 2011.

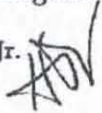
cc: Jeff Littlejohn, Deputy Secretary for Regulatory Programs
Kara G. Nevin, Office of Water Policy and Ecosystem Projects

Memorandum

Florida Department of
Environmental Protection

TO: Regulatory Division Directors
Regulatory District Directors

CC: Jeff Littlejohn, P.E.
Deputy Secretary for Regulatory Programs

FROM: Herschel T. Vinyard Jr. 
Secretary

DATE: March 22, 2011

SUBJECT: Policy for Requests for Additional Information (RAI)

To ensure that the Department is reviewing permit applications in a timely fashion, I am establishing a formal policy for the review and management of Requests for Additional Information (RAI) in the permitting process. I understand that the regulatory divisions and districts currently have management review procedures in place, and this new regulatory-wide policy will be more rigorous and will ensure consistency across the divisions and district offices.

Effective immediately, the following policy will apply to RAIs:

1st RAI – Will require a mandatory review by the permitting supervisor. The RAI can be signed by the permit processor or the permitting supervisor.

2nd RAI – Must be signed by the program administrator.

3rd RAI -- Must be signed by the district director (districts) or bureau chief (divisions). In addition, each district and division must submit a monthly report through the Deputy Secretary for Regulatory Programs of the 3rd RAIs issued and an explanation of why the RAI was issued.

4th RAI or more – Will require my approval prior to issuing the 4th or more RAI.

In addition, all RAIs should be sent to the project owner, not only consultants and agents, so that the owner is aware of the application's status.

From: Honey Rand <honey@eprgroup.com>
Sent: Friday, August 17, 2012 9:44 AM
To: Colvin, Danny
Cc: Edward de la Parte Jr.; Matt Baker
Subject: Re: Resolution on acreage

That was more than we planned so we will beef it up

Sent from my iPhone

On Aug 17, 2012, at 9:22 AM, "Colvin, Danny" <dlcol@ufl.edu> wrote:

Hey Honey, I assume you have handled deputies for the 22nd. I am fearful that we need 6-8 present. I am already hearing of plans for blanket protests no matter what we say.

Danny

Daniel L. Colvin, Ph.D.
Director of Research Programs
University of Florida
Plant Science Research and Education Unit
2556 West Highway 318
Citra, FL 32113
(352)591-2678
(352)591-1578
dlcol@ufl.edu
<http://plantscienceunit.ifas.ufl.edu>

On Aug 16, 2012, at 10:39 AM, "Edward de la Parte Jr." <EDelaparte@dgfirm.com> wrote:

Danny and Honey,

It just do happened that I discussed this with Matt. As I understand the impacts associated with the new pivot plan that have not been quantified deal with the nutrient management plan. The quantity impacts on ground water levels and spring flows have been determined. Therefore, I don't see a problem with presenting the new pivot plan, talking about the beneficial impacts on spring flow and deferring questions on nutrients to completion of nutrient management plan.

As I understand the nutrient issue, DEP is getting ready to establish 0.35 mg/l as the nitrogen concentration for the spring and the Silver River. The law says that agricultural operations like Adena Springs can legally comply with this standard by adhering to applicable DACS BMP. This BMP requires development of nutrient management plan. The typical plan used will have as its goal reducing nutrient load to a set amount. That plan does not require an agricultural operation to reduce loading to 0.35 mg/l. Typically a higher number is used as the goal. I understand that Adena is concerned about disclosing that information. But as I

understand that concern would be present regardless of whether we were putting forward the original 87 pivot plan or describing the new 34 pivot plan. In fact the concern would be greater with the 87 pivot plan. Therefore, I would not get into details on the 22nd regarding the nutrient plan, but put forward the new pivot plan. I think the public's biggest concern is with quantity and not quality.

Sent from my iPhone
Edward de la Parte
(813) 528-2714
edelaparte@dgfirm.com

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On Aug 16, 2012, at 10:07 AM, "Colvin, Danny" <dlcol@ufl.edu> wrote:

Honey,

When I drew the first plans we were about 9900 acres of the 25,000 in irrigated pastures with the cattle lounging in dry corner areas, this was the 87 pivot layout. With the dry corners that put us to about 11,000 acres total with cows. There were some grazing areas that were already cleared and in pastures that would not be under system that pushed the total acres to be used for cows to about 15,000 acres. This total led us to initially saying 60% of the land would be for cattle utilization and 40% would be left to silviculture.

Today's iteration of what we are doing allows for 34 pivots (I think) and about 4200 acres of irrigated area (not sure of area because several of these are actually smaller than standard size). Each of these pivots is then to be accompanied by a large cleared pasture associated with each one, some systems may have as much as a 500 acre pasture associated with it. This arrangement may in fact over time change the pasture/forestry ratio considerably.

With these apparent changes it is hard to say what the acre ratios may be. I made my earlier comments on Darcy's copy about the acre changes because I did not want us to get caught in a falsehood in print at some point in the future.

At this point I wonder if we shouldn't stay with all the initial plan and numbers we all have worked with from the start, especially if this is coming out prior to the 22nd meeting.

After Matt, Rick and I met with Del and Bill yesterday re nutrient plan I want to be on record as nervous about how we handle issues at this public meeting. My feeling is this is the first meeting where others than the choir will be present and the details we present could be scrutinized

carefully and in depth. At this time I don't think we know enough about eventual changes to predict outcomes. I really wonder if it is even wise to discuss the possible reduction in pivot numbers at this time and just stay with our initial course until we know about more impacts of the plan change.

DLC

Daniel L. Colvin, Ph.D.
Director of Research Programs
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and Education Unit
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(352)591-1578 fax
dlcol@ufl.edu
<http://plantscienceunit.ifas.ufl.edu>

From: Honey Rand [mailto:honey@eprgroup.com]
Sent: Wednesday, August 15, 2012 8:44 PM
To: Matt Baker
Cc: Colvin, Danny; Ed de la Parte
Subject: Re: Resolution on acreage

LOL

Honey Rand, Ph.D., APR
Environmental Communications
813.948.6400 x228

You can save the life of someone I love.
www.BeTheMatch.org

Author: Water Wars: A Story of People, Politics and Power

Follow me on TW: H2OHoney

On Aug 15, 2012, at 8:37 PM, Matt Baker wrote:

Yes. The main difference now with the reduction will be lowering the irrigated pasture volume. Our intent is to still have 60% or so in irrigated or none irrigated pasture. (Danny's usually good about correcting me about now).