



September 28, 2007

Diana Messina, Senior Engineer
California Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

SUBJECT: Comments Regarding Tentative Waste Discharge Requirements NPDES –
Permit No. CA 0079391

Dear *Diana* MS. Messina:

Thank you for the opportunity to provide supporting comment on the Tentative Waste Discharge Requirements (WDR's) for NPDES permit No. CA 007931, for the City of Jackson Wastewater Treatment Plant in Amador County. In addition to our comments, we respectfully request the status of being a designated party for the October 25 public hearing on the permit.

Our company is an interested party as a result of our application to develop a 516 acre golf course community called Jackson Hills. From its inception, the vision for our project has been to provide the City of Jackson an opportunity for beneficial reuse of wastewater and a new community amenity, a proposed eighteen-hole golf course. Our intent has been to form a partnership with the City of Jackson to substantially reduce or eliminate the need to discharge treated effluent to Jackson Creek.

We understand the general requirements of the Tentative WDR's to require treatment of all effluent to Title 22 tertiary standards for unrestricted reuse, effluent that is ready to use for irrigation. The proposed discharge prohibition to Jackson Creek when flows do not provide a minimum of 20:1 dilution is of great concern to us, as enumerated in our comments summarized below, and in the attached letter by Nolte Associates. It is also our understanding that the existing Wastewater Treatment Plant site is not large enough to accommodate the additional facilities necessary to comply with the requirements in the Tentative Discharge Requirements. Our points of concern and comment are summarized below, and further elaborated upon in the attached letter.

- The best wastewater discharge solution for the City is beneficial reuse of properly treated effluent.
- The City's best opportunity to achieve compliance with the Tentative WDR's is to work with stakeholders, partnering to provide a site for required additional treatment facilities, providing fair share funding and additional support.

- A focus on 20:1 dilution is a concern that should be further analyzed and refined in the required Beneficial Use Attainment Study. The study should consider all issues, including the benefit of dilution, and analysis of total volumetric constituent concentration at the site of the beneficial use.
- Concerns for down stream users are important, and best served by reducing total effluent discharge to Jackson Creek.
- The Tentative Discharge Option is not realistic as it de-emphasizes the down stream human health concerns in favor of an enhanced aquatic and wildlife habitat, perpetuating relatively recent human influences on the creek. This option would obviate the beneficial reuse opportunity of the golf course, as the course needs all the summer effluent that the plant is expected to generate. Reduced or no summer effluent for irrigation will eliminate this beneficial reuse option.

We trust that the Board will consider the logic of our comments, in full consideration of the objectives and goals in attaining the best possible discharge conditions. Those conditions can result from realizing that the Jackson Hills project presents a significant opportunity to reduce the problem created by discharge of wastewater to Jackson Creek, and provide the City and the region with a valuable community amenity. The best approach for all is to work together to draft wastewater discharge requirements that achieve the commonly understood objectives. Without an identified beneficial reuse option that can produce significant partnering financing, as well as provide a potential location for facilities that are necessary to achieve the effluent limitations contained in these WDR's, the ultimate objectives of improved down stream water quality may not be achieved.

Again, we appreciate the opportunity to comment on these Tentative Waste Discharge Requirements. We have an opportunity to provide a model partnership on a project that benefits both the environment and local economy. We look forward to continuing to work with you, the City and other stakeholders in order to move beyond status quo.

Sincerely,



MARTIN TUTTLE
Vice President

cc: Members, Jackson City Council
Mike Daly, Jackson City Manager

Enclosure

September 28, 2007
SA0150701

Dianna Messina
California Regional Water Quality Control Board, Central Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

**SUBJECT: COMMENTS REGARDING TENTATIVE WASTE DISCHARGE
REQUIREMENTS - NPDES PERMIT NO. CA0079391**

Dear Ms. Messina:

Thank you for the opportunity to allow Nolte Associates, Inc. (Nolte) to provide supporting comments on the Tentative Waste Discharge Requirements (WDR) for NPDES Permit No. CA 007931, for the City of Jackson Waste Water Treatment Plant in Amador County.

Jackson Hills, LLC is an interested party as a result of their project application to develop a 516 acre golf course community south of the existing City Waste Water Treatment Plant. A foundational element of their proposed project has always been to provide the City of Jackson with an opportunity for beneficial reuse of waste water, namely irrigation of a new community amenity—a proposed 18-hole golf course. The project proposal would accept Title 22 tertiary treated effluent from a City modified waste water treatment process during most months of the year. A potential symbiotic partnership would substantially reduce, or eliminate the need to discharge treated effluent to Jackson Creek during many months of the year. This reduction would occur during months when it is least likely that background flows in the creek would be sufficient to constitute any dilution rate, let alone a 20:1 dilution rate. The project is ready to proactively partner with the City to assure that the needed waste water treatment facilities can be constructed.

BASIS OF UNDERSTANDING

Nolte understands the following general requirements:

1. The Tentative WDRs require treatment of all effluent to Title 22 tertiary standards for unrestricted reuse, prior to discharge to Jackson Creek.
2. The draft Tentative Order includes a final discharge prohibition to Jackson Creek during periods when the receiving water flow does not provide a minimum of 20:1 dilution of the facility's final effluent.
3. The intent of this discharge prohibition to Jackson Creek is to protect the downstream beneficial uses. Of those listed beneficial uses, Municipal and domestic supply (MUN) is of highest concern and is the basis for the 20:1 dilution discharge prohibition (Table 5, Page 4).

4. The existing Wastewater Treatment Plant site would not afford sufficient room to construct the necessary additional filtration and disinfection facilities to meet the final effluent limitations for unrestricted reuse.

COMMENTS

With this background basis of understanding, we make the following comments:

1. *Discharge location referenced in various parts of the Order, beginning at Table 2 of the WDRs, and specifically prohibited on page 9, section III, paragraph A:*

To comply with the Final Effluent Limitations, it will be necessary to construct a Title 22, tertiary level filtration and disinfection facility. The existing treatment plant site does not provide sufficient room for construction of such a facility. Thus, it will be necessary to seek an alternative site for that facility, which will probably require a modification of the specific discharge point. We do not see specific reopener provisions, starting at page 22 of the document, that would allow modification of the discharge point should it be necessary to do so as a result of a change in site location for the tertiary treatment facility Water Reclamation Plant. We specifically suggest that sufficient flexibility in the discharge point (in the form of a distance up stream or down stream of the existing discharge point) be included in the initial WDRs to accommodate the actual implementation of the WDRs requirements.

One possible location for this probable facility, which has been discussed with the City, is on a portion of the proposed Jackson Hills Golf Course Community plan. This is a logical alternative location because it would be close to the intended point of beneficial reuse, the proposed golf course. A logical discharge point from this site is at a point along Jackson Creek, approximately 2,000 feet upstream of the existing discharge point.

If sufficient flexibility in discharge location cannot be included in the permit to allow modification of the discharge location for the stated reasons, then additional reopener clauses should be added, thus allowing for the discharge location to be modified as a result of the needed efforts to implement compliance with the permit's requirements.

2. *Page 23, section VI, paragraph C, Special Provisions, sub paragraph 1, Reopener Provisions, sub paragraph g:*

We are pleased to see recognition that subsequent technical studies, providing new information relating to flows in Jackson Creek, can be the basis for reopening the permit as it relates to the prohibition of discharges to Jackson Creek, only during periods when 20:1 dilution flows are present. This required Beneficial Use Attainment Study should include an analysis of potential positive additional benefits in reduced discharge that can be achieved by beneficial reuse of the effluent for irrigation of the proposed Jackson Hills golf course.

The full extent of the required Beneficial Use Attainment Study should include recognition of the substantial positive effects of dilution that result during winter months due to existing Inflow and Infiltration in the collection system.

3. *Page 25, section VI, paragraph C, Special Provision, sub paragraph 2, Special Studies, sub paragraph b. Jackson Creek Beneficial Use Attainment Study.*

The full scope of this study should consider and recognize the substantial dilution that will be realized from the increase in daily, weekly and monthly flows that result from inflow and infiltration into any sanitary sewer collection system. Pollutant concentrations should be measured and reported based on the Daily Discharge and Maximum Daily Effluent Limitation criteria, with full recognition of the increase in dilution at the discharge point (as a percentage of total flow).

The 20:1 dilution criteria appears to result largely from concerns expressed by DPH, for the protection of downstream beneficial municipal users. The entire premise of a dilution ratio is itself, based on the recognized benefit of dilution. This required special study can include consideration and recognition of the positive benefits of actual concentration of pollutant constituents that are deemed harmful to beneficial uses—at the point of those uses—as they relate to the total volume.

The current WDRs state that dilution credits will not be granted (page F-16, section VI [C.2.b] Discharge Conditions). This Beneficial Use Attainment Study should allow re-examination of the dilution credits, and full consideration of total constituent mass load or concentration by total volume at the point of the down stream MUN beneficial use.

4. *Page 29, section C (7) (c), Compliance Schedules:*

This section appropriately recognizes the time and schedule constraints in achieving the idealistic final discharge prohibition of instantaneous flow rate dilution of 20:1, total effluent flow to receiving water flow. It provides five years before complete implementation of this prohibition, allowing instantaneous discharges in excess of the 20:1 dilution for that five year period. The opportunity to fully analyze potential down stream impacts through the Beneficial Use Attainment Study should include the full benefit that can be realized from the potential beneficial reuse option available for irrigation on a golf course, which would substantially reduce the total annual volume of treated effluent discharged to the creek, and therefore Lake Amador.

We realize that strict compliance with the discharge prohibition will require a substantial investment in planning, design, permitting, land acquisition, and construction of large open water volume storage facilities in effort to attenuate winter discharges during periods when 20:1 dilution is not achievable. This potentially expensive investment in storage volume

facilities would result in facilities available to regulate and attenuate summer discharges, as well as intermittent winter discharges.

It seems that a better solution is full consideration of the beneficial reuse option provided by the Jackson Hills Golf Course. A required investment in storage facilities would tend to discourage the focus on, and investment in, such beneficial reuse opportunities. It must be recognized that the proposed golf course will need to receive the total projected summer discharge from the City's treatment plant at buildout conditions in order to eliminate a need for supplemental potable water. Provision of supplemental potable water for irrigation purposes is not permitted by Amador Water Agency policy. Thus, any solution that has the potential to reduce the full delivery of predicted effluent volumes during summer months will tend to reduce the likelihood of the golf course being constructed, eliminating the beneficial reuse opportunity entirely. While all or nothing predictions sound harsh, this scenario is a reality. Any situation that can result in a reduction of peak summer effluent to irrigate the proposed golf course may well result in a no-solution scenario, as the golf course could not be maintained without long term supplemental supply of potable water. Other beneficial reuse options provide little true benefit, and really constitute land disposal.

5. *Page F-5, section II, Facility Description, last sentence of introductory paragraph:*

This sentence indicates that the current facility may have sufficient capability to produce Title 22 tertiary effluent consistent with the final effluent limitations, with minor upgrades. It is clear from the effluent limitations that additional filtration and disinfection to Title 22 tertiary levels for unrestricted reuse would require additional treatment. The City states that their existing treatment plant site does not have sufficient room to accommodate the needed additional facilities. That discussion has prompted Jackson Hills, LLC to investigate the possibility of providing sufficient room on its project site for construction of such facilities. It may be beneficial to clarify this statement by providing the basis definition of Title 22 tertiary treated effluent as used in this specific context.

6. *Page F-6, section II, Facility Description, mid-page paragraph:*

This paragraph discusses two letters from DPH, and adequately characterizes the level of consideration and concern of DPH—in absence of specific effluent concentration discussions. This is the stated basis for inclusion of the final discharge prohibition on page 9 (section III, Discharge Prohibitions, paragraph E), requiring both tertiary treatment and 20:1 dilution. The level of concern expressed in these letters does not appear to be strictly based upon the positive effects of dilution at the point of beneficial use, but is focused on perceptive health concerns at the specific downstream trailer residential park and recreational area at Lake Amador. The required Beneficial Use Attainment Study should focus on this specific downstream user, and should include consideration of total constituent loading or concentration at average annual conditions, or average monthly effluent limitation (AMEL) conditions.

With the potential future implementation of beneficial reuse of effluent on a golf course, instantaneous discharge dilution requirement of 20:1 may not be required, as the required additional treatment to meet the final effluent limitations included in these WDRs, and the substantial reduction in total annual effluent discharge, should result in substantially reduced total monthly and annual constituent concentrations. Such beneficial reuse would eliminate effluent discharge during summer months, substantially reduce discharges of Title 22 tertiary treated effluent (properly filtered and disinfected to meet unrestricted reuse standards) to the creek in other months of the year, and significantly reduce total annual effluent discharge to Jackson Creek.

7. *Page F-32, section IV, C.3.r, Pathogens, sub paragraph iv:*

This paragraph states, "Tertiary treatment facilities capable of meeting Title 22, or equivalent, requirements are currently installed and operating at the facility." The additional filtration and disinfection required to treat effluent to Title 22 tertiary standards for unrestricted reuse, and meet the final effluent limitations contained in the WDRs, will require more land than is available at or adjacent to the current WWTP. This apparent discrepancy may benefit from clarification of the statement by providing the definition of Title 22 tertiary treatment as it is used in this context.

8. *Enclosure 1, Tentative Discharge Option:*

The stated genesis of the proposal to allow discharge of treated effluent without benefit of 20:1 dilution is based upon a letter from Department of Fish and Game regarding their desire to maintain in-stream summer flow in Jackson Creek for the protection of aquatic life and wildlife. Consideration of this option requires discounting the potentially higher level concerns over municipal beneficial use from DPH. While the treatment plant has historically discharged to the creek since its construction, true historical period consideration of the aquatic habitat in this creek would realize that prior to artificial discharges to the creek, summer flows in the creek would have been very low to non-existent. This option would actually increase the total annual effluent discharge to Jackson Creek and downstream municipal users.

As stated above, any proposal that would result in a reduction in available summer effluent flows for the beneficial reuse irrigation of a golf course, would eliminate the potential for that beneficial reuse. We concur that there is merit in eliminating the requirement for instantaneous 20:1 dilution, but based on a full consideration in the required Beneficial Use Attainment Study, that includes the value of additional treatment, reduction of total effluent discharge, and determination of annual and monthly constituent concentrations at the specified downstream point of concern at Lake Amador (including the effects of dilution resulting from total annual effluent volume to total annual rainfall runoff volume).

