STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of ENVIRONMENTAL LAW FUND for Review of Order No. 81-14, Waste Discharge Requirements for Carmel Valley County Sanitation District, White Oaks, by the Regional Water Quality Control Board, Central Coast Region. Our File No. A-289.	Order No. WQ 81-12

BY THE BOARD:

On March 13, 1981, the Central Regional Water Quality Control Board, Central Coast Region (Regional Board), adopted Order No. 81-14, waste discharge requirements for Carmel County Sanitation District, White Oaks (discharger, hereafter "White Oaks"). On March 19, 1981, Environmental Law Fund (petitioner) filed a petition for review of Order No. 81-14.

I. BACKGROUND

The petition involves the propriety of allowing the discharge of approximately 7,000 gallons per day of wastewater into specially designed subsurface septic tank/leachfield systems. The discharge will be generated by the construction of 38 two bedroom condominiums, tennis courts and a clubhouse on approximately eight acres in Carmel Valley, Monterey County. The discharger, a public governmental entity, will operate the system. The site is located on a terraced bluff, 600 feet north of the Carmel River bed.

Petitioner contends generally that the waste discharge requirements should not have been issued and that the discharge will harm water quality.

II. CONTENTIONS AND FINDINGS

1. Contention: Before reaching the contentions of the petitioner, we will address the discharger's argument that the petitioner is not an "aggrieved person".

Finding: Water Code Section 13320(a) provides that, with regard to a Regional Board action, "any aggrieved person may petition the state board to review such action...." Additionally, Title 23, California Administrative Code Section 2050(a)(5) provides that any petition to the State Board by an aggrieved person state "the manner in which the petitioner is aggrieved". The statute does not define nor establish any tests for the term "aggrieved person".

Petitioners, whose members include residents in the area, appeared and testified at the Regional Board meeting. Petitioners have alleged they are aggrieved because of the nuisance which may be created due to effluent surfacing; the likelihood of contamination of the Carmel River; and the construction of a system in violation of the Basin Plan.

The State Board has broadly construed the term "aggrieved person". Petitioners have included such diverse groups as San Francisco Coalition of Organizations Against Expansion of Southeast Sewage Plant (Board Order No. WQ 76-18), North Coast Environmental Center (Board Order No. WQ 77-1), Citizens Committee

to Save our Public Lands (Board's Orders Nos. WQ 77-26, 77-27, 77-31 and 78-9), Amigos de Bolsa Chica (Board Order No. WQ 79-33), and Advocates for Balanced California Development, Inc. (Board Order No. WQ 80-11).

We feel that any person or group who testifies before the Regional Board or raises legitimate issues concerning Regional Board actions before the State Board, clearly qualifies as an "aggrieved person".

2. Contention: The petitioners contend that the density of the proposed project is not in conformance with the Basin Plan.

Finding: Petitioners contend generally that "the intent of the Basin Plan is to prohibit septic tank systems on parcels less than one (1) acre unless favorable geological data exists on the underlying property". (Petitioner's Points and Authorities, p. 4.) In support of this point, petitioners refer to the following portions of the Basin Plan.

1. "New septic tank systems should generally be limited to new divisions of land having a minimum parcel size of one acre, except where soil and other physical constraints are particularly favorable".[1/]

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1. Water Quality Control Plan, Central Coast Basin, pp. 5-35. "Physical constraints" are listed and include specific requirements for depth of water table, depth of soil, ground slope and presence of water courses. The apparent reason for establishing minimum parcel size criteria was the concern that parcels be large enough to ensure that subsurface disposal systems can handle the expectant sewage loadings and to ensure that there is room for replacement leaching areas.

2. "In addition, discharge from individual sewage systems..., is prohibited":

* * *

> "On parcels of land less than 0.5 acres in new divisions of land not located on reservoir watersheds where depth of usable groundwater is less than 100 feet below ground surface unless sufficient engineering justification is provided to prove beneficial uses will be protected."[2]

The discharger responds that these Basin Plan provisions are not even an issue since the parcel in question is over eight acres in size.

The Regional Board's position is that the cited Basin Plan provisions are inapplicable since they refer only to individual sewage disposal systems, not community systems such as the White Oaks project. However, the Regional Board policy regarding community subsurface disposal systems has always been to require even more detailed engineering justification than is normally required for individual systems.[3] Such justification is required in all community system cases, regardless of density. Such policy precludes approval of community subsurface disposal systems unless sufficient technical data is provided to assure protection of water quality and public health.

While the petitioner and the Regional Board disagree on the applicability of specific Basin Plan provisions, they do

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2. Ibid, p. 5-42.

3. Regional Board Response to Petition, p. 1.

appear to agree that subsurface disposal systems such as White Oaks should not be allowed in the absence of favorable geological and engineering data.

The Basin Plan clearly requires detailed justification for approval of individual disposal systems of less than one (1) acre. The Regional Board indicates that such justification is required of all community subsurface disposal systems, regardless of density. The Regional Board required such justification in White Oaks. Thus even if the Basin Plan provisions cited by petitioners are applicable, the level of justification required for the White Oaks project is consistent therewith.

Such an approach is also not violative of legislation adopted in 1978 relating to the review of subsurface disposal systems. This legislation, codified in Water Code Sections 13280-13284, lists the circumstances under which determinations can be made to prohibit the discharge of waste from existing or new individual disposal systems or from community collection and disposal systems which utilize subsurface disposal. Basically, the legislation states that such systems should be permitted unless substantial evidence exists that discharge of waste therefrom will unreasonably degrade water quality, violate water quality objectives, or create conditions of pollution or nuisance.

Therefore we conclude, even assuming that the Basin Plan provisions requiring detailed justification for high density projects are applicable, that the Regional Board's approach was consistent with the Basin Plan. However, our review of this matter leads us to conclude that the Basin Plan prohibition may be overly

strict as compared to the statutory scheme. Accordingly, the Regional Board should review the Basin Plan prohibitions in light of the above discussed Water Code Sections 13280-13284.

We next turn to the more crucial question of whether the record contains sufficient geological and engineering data from which to conclude that the issuance and waste discharge requirements was proper.

A major issue in addressing this question is the direction and distance the effluent will travel underground after being discharged. Our concern is whether the effluent will be adequately cleansed of pathogens. We have reviewed the record of the proceedings before the Regional Board. The record indicates a preliminary concern that effluent from the project, as originally proposed, and based on preliminary data, could surface in the bluffs to the south of the site. If such surfacing occurred to the south, the effluent may not travel through a sufficient amount of fine-grained material to adequately cleanse the effluent of pathogens and bacterial contamination. Following discussions with Regional Board staff and exploratory geologic work, the discharger redesigned the project to relocate the septic leach-fields well away from the bluffs.

Extensive geologic work, including seismic studies and exploratory borings, has determined that the site is underlain by a mostly impermeable Monterey Shale formation at depths in excess of 70 feet. Effluent from the project will percolate downward through more permeable material until this formation is

encountered. This formation appears to slope away from the bluff. While the exact route the effluent would travel after reaching the Monterey Shale formation is unclear, the initial movement should be such that the threat of effluent surfacing in the bluff to the south of the project is precluded.

The soils directly under the disposal system have an adequate fine grain material content to slow vertical percolation of the effluent and to filter bacteria and viruses. Such cleansing should occur even before lateral movement of the effluent takes place upon reaching the Monterey Shale. Additionally, cleansing will continue as lateral movement occurs. Thus the effluent will travel a distance through fine-grained material sufficient for pathogen removal before reaching water.

Petitioners have also urged that off-site geologic work be done to determine whether the Monterey Shale formation is bowl-shaped. Petitioners argue that if bowl-shaped, it would just be a matter of time until the formation filled up with effluent, spilled to the south, and threatened the quality of the River. While additional data would be of value in ascertaining more exactly the path the effluent will travel, three conclusions can be made from existing data:

1. The effluent will pass through sufficient material for pathogen removal;

2. The effluent will eventually reach the aquifer and the River.

3. Nitrates contained in the effluent will not be significantly removed before the effluent reaches the aquifer and the River. The nitrate issue will be discussed, infra.

We conclude that the record supports the Regional Board's determination that the project does not violate the Basin Plan.

3. Contention: The petitioners contend that the submittal of last minute geologic data was improper.

Finding: This project has been under review since September 1980. Regional Board staff had conducted a site visit in November 1980 and recommended that exploratory monitoring wells be installed nearby the proposed leachfield. This well was constructed in December 1980 and clay was found at a depth of 25 feet. It was this early finding that led to the concern that the effluent could surface in the bluff . In February 1981, the discharger obtained a seismic study, which more fully outlined the subsurface conditions at the site. In March 1981, the discharger contracted to receive five exploratory borings to complement the seismic work.

Although petitioners allege that the Regional Board staff had not had an opportunity to review the data, the boring information was presented to staff on March 12, 1981, the day before the Board meeting. (One boring was completed the morning of the hearing which staff did not have an opportunity to review.) The borings tended to generally strengthen the case that the discharge would not cause pollution or nuisance or otherwise unreasonably degrade water quality:

1. The Monterey Shale was found to be deeper than expected.

2. The Shale was sloping away from the bluff and thus the River.

Both of these factors will result in the effluent traveling a long distance underground before it can ever reach the waters of the Carmel River or the Carmel Valley aquifer.

Section 648.2 of Title 23, California Administrative Code provides in part:

> "It shall be the policy of the State and Regional Boards that the introduction of surprise testimony and exhibits at hearings be discouraged...."

We believe that the intent of this regulation is to provide the Regional and State Board staff with ample time to review evidence which is to be submitted. In this case, it would have been preferable to have had the new information available sufficiently in advance to allow all interested persons an opportunity to review it. In fact, it appears that the better course of action on the part of the Regional Board would have been to defer action until a later meeting. However, we note that staff was aware of the data before the meeting and that the regulation "discourages" rather than "prohibits" surprise testimony. The State Board has had ample time to review the data in question, and we find that it is both relevant and supportive of the Regional Board's action.

4. Contention: The petitioners contend that the order does not adequately protect the Carmel River and aquifer.

Finding: Petitioners allege that the discharger presented insufficient evidence to show that pollution of the Carmel River and aquifer will not occur.

While not clear from the petition, we understand the petitioner's major concern is with the nitrate contained in the effluent and the cumulative impacts of nitrate discharges to the aquifer and the River.

Petitioner states that there are high nitrate counts in the Carmel River aquifer, but presented no evidence as to what these counts are. Petitioner apparently relies on two factors in support of its argument that there is a nitrate build-up problem in the area:

1. A county ordinance which bans individual sewage disposal on parcels of less than one acre.

2. An assertion that an undiluted nitrate lens will be formed by discharges from the project.

We do not consider the county ordinance to be persuasive evidence. It apparently was based on the Regional Board's Basin Plan, and we have already concluded that the Basin Plan does not prohibit the project. More importantly, the County found this ordinance to be inapplicable to community subsurface systems and has specifically approved discharges from this site.

Turning the actual issue of possible nitrate build-up, we repeat that petitioner submitted no evidence on this issue. The discharger did submit a summary of data from monitoring wells located near the project. This data indicated that nitrate levels in the aquifer are significantly lower than drinking water standards.

At our request, State Board staff have gathered the following information on the nitrate question[4/]:

1. The discharger's submittal regarding nitrate levels in the groundwater aquifer was confirmed and supplemented. Well data indicates that nitrate (NO_3) levels in the aquifer range from 1/10th to 1/100th of the federal drinking water standard of 45 mg/l[4a/]

2. Carmel Valley is listed in the Basin Plan as an area where septic systems can be retained pending establishment of the fact the problems exist which can only be corrected by sewering (Basin Plan, page 5-36).

3. Any nitrate problem from subsurface disposal systems would be evidenced in the aquifer rather than the River. The River is seasonal in flow. When flowing, dilution would result in nitrate levels lower than the aquifer. In general the River has a much greater ability to flush out pollutants than does the aquifer, particularly during the wet season. In addition, only 10 to 30 percent of the river's recharge waters come from the aquifer (whereas 77 percent of the aquifer's recharge comes from the River).

4. A 1979 study conducted for the Carmel Sanitary District contains considerable data on the impact of nitrates on the Carmel Valley aquifer. This study contains the following findings:

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4. Water Code Section 13320 permits us to consider such information.

4a. The 45 mg/l standard for NO_3 is equivalent to the 10 mg/l standard for NO_3-N.

a. Subsurface disposal systems are the predominant method of sewage treatment and disposal used in Carmel Valley.[5/]

b. Over 3,500 systems were in use in 1976;[6/] almost 4,500 projected by 1980.

c. The 1980 effluent loading to the aquifer from subsurface disposal systems was projected to be slightly over 1 mgd.[7/]

d. The total annual nitrogen (NO_3-N) loading from all sources to the aquifer in 1976 was estimated to be 46 tons. Of this amount, subsurface disposal systems contributed 13 tons or 30 percent of the total. (The other major sources were from croplands and urban landscaping.) These figures are estimated to increase to 62 and 23 tons, respectively, by the year 2000.[8/]

e. The size of the Carmel Valley aquifer is over 50,000 acre feet.[9/]

f. Depending on the extent to which nitrogen loadings from all sources mix within the aquifer, nitrogen (NO_3-N) concentrations in the aquifer were estimated to range from 0.9 mg/l to

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5. Project Report, Carmel Valley/Highlands Study, Carmel Sanitary District, Areawide Facilities Plan, October 1979, page 5.5.

6. Ibid, page A.7.

7. Ibid, page A.7.

8. Ibid, page 5.8.

9. Ibid, page 5.7.

2.7 mg/l in 1976 and from 2.7 mg/l to 6.0 mg/l in the year 2000. These figures assume an annual flushing. However, the study concluded that a realistic estimate for mixing of shallow degraded water with deep native waters in areas of pumping would be three years. In such a case, nitrogen levels could range from 2.7 mg/l to 8.1 mg/l in 1976 and from 8.1 mg/l to 18.0 mg/l in the year 2000.[10] The 18 mg/l figure would exceed the federal drinking water standard of 10 mg/l. Such levels would be present in the shallow groundwater, not at the deeper levels presently used for domestic supplies.

g. Failures of subsurface disposal systems appear to be minimal.[11]

5. The 7,000 gpd discharge from the White Oaks project is approximately .007 percent of the 1 mgd of subsurface disposal discharge in the Carmel Valley.

6. The County has taken measures that will slow growth in the Carmel Valley area. Accordingly, the number of projected subsurface disposal systems should decrease.

7. The Regional Board order requires the discharger to establish at least four (4) on-site monitoring wells. These wells will monitor several constituents, including nitrate. Monitoring will take place four (4) times each year. The wells have the capability of observing a potential nitrate build-up problem in the project area.

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10. Ibid, page A.3.

11. Ibid, page A.3.

8. The closest water supply wells to the project are adjacent to the River over 800 feet upstream. These wells are not used. The nearest operable well is over 3,000 feet away. The Regional Board's order prohibits any discharge within 100 feet of a domestic water supply well.

Based on our review of this information, we cannot accept petitioners assertion that the discharge will unreasonably degrade the Carmel River aquifer. In this regard, we must reiterate the review standard the Legislature has established for subsurface disposal systems: any decision not to permit such discharges must be supported by substantial evidence that the discharge will unreasonably degrade water quality (Water Code Section 13280). Accordingly, we must reject petitioner's contention.

We note, however, that the cumulative effect of the use of septic system in the Carmel Valley is being investigated by several local agencies. The Regional Board should closely monitor these studies. If it appears that the level of salts are increasing so that beneficial uses may be threatened, the Regional Board should undertake an amendment of the Basin Plan to establish appropriate water quality objectives or prohibitions.

We have one final concern with the Regional Board order. The backup leachfield replacement site continues to be located too close to the bluff. It was this potential problem which initiated much of the geologic survey work. This leachfield should be relocated away from the bluff.

III. CONCLUSIONS

1. The petitioner is properly considered an "aggrieved person".

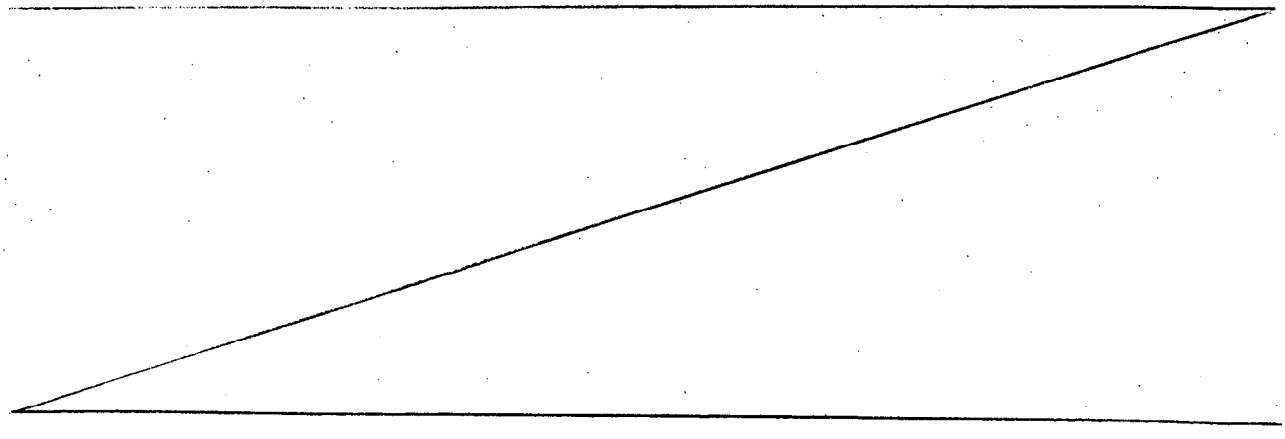
2. The Regional Board acted within the scope of its authority in accepting "last minute" testimony.

3. The record contains sufficient data from which to conclude that discharges from the system will not harm water quality.

4. The proposed replacement leachfield of the discharger should be resited.

5. The Regional Board should reevaluate its Basin Plan prohibitions for both community and individual subsurface disposal systems to be consistent with the requirements of Water Code Sections 13280-13284, and to be understandable to the public.

6. The Regional Board should consider a possible Basin Plan amendment to establish water quality objectives for the aquifer and the Carmel River if further studies indicate such a need.



IV. ORDER

IT IS HEREBY ORDERED that the Regional Board Order No. 81-14 of the Central Coast Regional Board is appropriate and proper, and the petition is hereby denied.

IT IS HEREBY FURTHER ORDERED that the Regional Board ensure that the discharger relocates the proposed replacement leachfield as discussed above.

DATED: August 20, 1981

/s/ Carla M. Bard
Carla M. Bard, Chairwoman

/s/ L. L. Mitchell
L. L. Mitchell, Vice-Chairman

/s/ Jill B. Dunlap
Jill B. Dunlap, Member

/s/ F. K. Aljibury
F. K. Aljibury, Member