Environmental Appeal Board

APPEAL No. 96/21 -- HEALTH

In the matter of an appeal under section 5 of the *Health Act,* R.S.B.C. 1979, c. 161.

BETWEEN:	Roy Leakey	**APPELLANT**
AND:	Environmental Health Officer	**RESPONDENT**
AND:	King Coho Resort	**THIRD PARTY**
BEFORE:	A Panel of the Environmental Appeal Board Carol Martin, Chair	
DATE OF HEARING:	December 11, 1996	
P**LACE OF HEARING**:	Courtenay, BC	
APPEARING:	For the Appellant:	Roy Leakey
	For the Respondent:	Carol McRae
	For the Permit Holder:	Brian Taylor

APPEAL

This was an appeal against the September 19, 1996 decision of the Environmental Health Officer to issue a permit for an on-site sewage disposal system for Lot A Plan 39 433 D.L. 224 LD, Comox (the "Property").

The Board has the authority to hear this appeal under section 11 of the *Environment Management Act* and section 5 of the *Health Act*. The Environmental Appeal Board, or a Panel of it, may, after hearing all evidence, decide to vary, rescind or confirm the decision of the Environmental Health Officer.

The order sought by the Appellant in this case is that the permit issued for a sewage disposal system for the Property be set aside due to the proximity of Little River to the disposal field site and the nature of the soils.

BACKGROUND

King Coho Resort Ltd. owns the 3.4 acre waterfront Property located near the Comox-Powell River ferry terminal. An existing 33 unit R.V. Park, including food and tackle shops and boat rentals, has been in operation for some years on the Property. Little River meanders through the area and crosses the Property parallel to the shoreline and inland perhaps 150 to 300 feet back. It is on that part of the

Property which lies between the sea and the river that the Permit Holders propose to locate a 20 bedroom resort condominium and an onsite sewage disposal system and field to service it.

The river has seasonal high water levels from rain and snow melting on the hills above and is also affected by tidal water which fills the river where it runs into the sea. At extreme high water levels, the river has been known to break out over a man-made weir near a bend in the river near the beach, thus causing the water to flow into the sea instead of flooding the surrounding flat sandy estuary lands.

In November 1995, the owner of the Resort, Rick Zyvitski, approached the Ministry of Health to discuss the requirements for an on-site sewage disposal system (under 5000 gallons/day) for the Property. On January 17, 1996, he submitted an application for a 4970 gallon/day Innovative Hydroxyl unit for on-site sewage disposal. After consulting with engineers from two hydroxyl system companies, the Environmental Health Officer (the "EHO") reviewed the application for a Hydroxyl unit category #1(HIS-23) with 30 feet of infiltrator trench and replacement fields on either side of the actual field located only 50 feet from Little River.

A field inspection was carried out by both the EHO, Dwayne Stroh, and the Senior Environmental Health Officer, Carol McRea, on January 24, 1996, during the time of year when water tables were considered seasonally high. The test holes, however, showed greater than 48 inches of "clean, dry sandy soils." However, on January 25, 1996, the next day, the senior EHO rejected the proposal (Application #5/96) and advised the applicant that the required minimum setback of the required reserve areas from a river was 100 feet, not 50 feet. In addition, due to the fast percolation rates of the sandy soils and the high volume of sewage proposed to be disposed of, the EHO advised the applicant that the Ministry would require a hydrogeological assessment to determine the environmental impact on the area.

An Environmental Impact Assessment report from Payne Engineering Geology regarding in-ground treatment of wastewater for the Property was received by the EHO in early May 1996. The report stated that "With the proposed ground discharge of disinfected wastewater from a secondary treatment plant, the risk is extremely low that the discharge will cause harm to human health or environment". The report concludes with "This review reveals no severe constraints to discharging 22.7 cubic metres (5,000 gallons) of wastewater per day, in the proposed drainfield area." The engineer also noted that water samples taken from the down-gradient test well approximately 100' toward the sea contained no fecal coliform, indicating to him that the existing field with only an ordinary septic tank was treating the effluent satisfactorily.

In May of 1996, an application was resubmitted, this time for the same 4970 gallons/day Hydroxyl system with 50 feet of infiltrator pipe and replacement field area for one conventional package treatment plant system (and/or "use the MOE Marine Outfall for a reserve").

In June the EHO visited the site with the Ministry of Health's Engineer, Mr. Greg Carriere who reviewed the newest proposal. The Engineer's report arrived on July

25, 1996, with a recommendation that there be a 15 metre setback from the field to the resort suites, and a recommendation for secondary treatment.

In August the EHO, after receiving information regarding the 20 year floodplain and confirmation that two replacement field areas would be required, again rejected the proposal.

The EHO then met with the applicant on August 20, 1996, to discuss a letter dated August 8, 1996 from the Ministry of Environment, Lands and Parks (Brian Epps) regarding the overflow weir that was constructed to stop the flooding of Little River in the general area of the resort. On September 6, a new application (#206/96) was received, to simply alter the existing sewage disposal system, by installing new tanks, in order to accommodate the proposed condominium development after the removal of the existing R.V. sites.

On September 9, 1996, the EHO received the second re-submission of application #5/96, this time for 2880 gallons/day utilizing the Hydroxyl system and including two replacement field areas. Again the EHO expressed the Ministry's concerns about the innovative systems and advised the applicant of a new requirement that all such proposals be submitted by an Engineer. (In fact, the Panel was told that the Health Unit had placed a moratorium on innovative technology proposals in early 1996 due to problems the Upper Island Health Unit had been experiencing in their area.)

The EHO researched the history of the weir which had been reconstructed along Little River in 1983 to allow the River at very high water to overflow into the sea. He was satisfied that the weir would likely prove effective and thus the risk of flooding of the resort area would be minimal. However, in his letter dated August 8, 1996, Brian Epps of the Ministry of Environment, Lands and Parks, had stated that the weir "does not guarantee that flooding will not occur during a major flooding event. Ministry policy is to floodproof new development to a 1:200 [one in 200 year] event." He concluded "In view of the above, this Ministry [Environment] *would still require that any new development be floodproofed to the Ministry standard*." [emphasis added]

On September 18, 1996, a Sewage Disposal Permit, with conditions, was issued for application #206/96 (alteration of an existing field). This permit for 1560 gallons/day could accommodate a four unit resort complex at "1+2 bedrooms per unit X 4, or 12 bedrooms total." The two conditions in the permit were that there be only one entrance to the resort and that the permit be published in at least two newspapers as per regulations.

On September 19, 1996, the applicant re-submitted application #5/96 for the third time, this time not for the installation of a Hydroxyl system, but rather for an NPS Chromaglass package treatment plant (P.T.P.) with a full conventional P.T.P. field and a full P.T.P. replacement field. Assured that the Ministry's requirements had been met, including the 100 foot set back to the River, and only after "exhaustive investigation and considering numerous expert reports," the EHO issued the permit for application #5/96. The proposed new package treatment system, theoretically

capable of handling 3000 gallons/day, is designed to accommodate 12 one-bedroom and 4 two-bedroom "resort suites" (20 bedrooms total).

Conditions attached to Permit #5/96 include:

> "Construct as per Schedule 3 of the sewage disposal regulation— Approval is contingent on the following:
>
> 1. The sewage disposal system for permit #206/96 being de-commissioned prior to this field being completed,
>
> 2. The resort complex buildings having one common entrance,
>
> 3. The primary and reserve field areas must be protected by a restrictive covenant."

On October 17, 1996, an adjacent neighbour, Mr. Leakey, whose home is located near the river, appealed the EHO's decision to issue the permit #5/96 on the grounds of high "hydrological soil loading" in the area during the winter making the land unsuitable for conventional in-ground sewage disposal. He suggested that the proposed field be relocated to higher ground on the other end of the Property.

ISSUES AND LEGISLATION

The matter at issue here is whether the EHO erred in issuing a permit for a package treatment system for a 20 bedroom resort located between Little River and Georgia Strait near Comox. More particularly is the question of whether the ultimate use of the system as approved and proposed presents any risk to public health.

The *Health Act* and Sewage Disposal Regulation set out the requirements for approval and construction of sewage disposal systems to ensure that no effluent will reach the surface of land, enter a body of fresh water. [section 2(2)] or pose a threat to public health. Section 7 provides that an Environmental Health Officer may issue a permit with conditions in certain circumstances, where a site does not meet all the requirements of the appropriate Schedule of the Regulation, provided that he has regard for safeguarding public health.

Section 3 (3) states that no permit shall be issued until site investigation tests set out in Schedule 1 have been carried out to the satisfaction of the Health Officer and he/she is satisfied that the approved system will not contravene the *Act* or Sewage Disposal Regulation.

Schedule 3 contains rules for Conventional Package Treatment Plant Systems and includes section 11 which requires that there be at least 48 inches of impermeable native soil above bedrock or the water table, and section 21 which states that "A sewage disposal system must be so located, constructed, and the ground surface landscaped to protect the system from storm water." Section 12 requires that a conventional absorption field shall not be allowed where the percolation rate exceeds 30 minutes per inch.

EVIDENCE AND FACTS

The Appellant's arguments

The Appellant, Mr. Roy Leakey, a neighbour of the King Coho Resort Property, told the Panel that the seasonal high water level in Little River, which runs through several properties bordering the shoreline, including his and the resort Property, comes close to overflowing its banks on occasion after periods of heavy rains. The Appellant provided photographs taken during recent high water levels in which Little River was approaching the top of its banks. Other photos, taken in November 1995, show the river breaking through the weir and flowing onto the beach creating a new channel. He stated that the water was also ready to break through the week before the December 11, 1996, hearing.

The Appellant expressed concern that the evaluation of the water table had been done in April. He also provided photographs of the proposed disposal field area (near the present campground) showing large puddles lying on the surface. He described having seen very high water levels in the river and even times when the water flowed over the creek bed such that he felt as though he were sitting on a "sea of water." Mr. Leakey stated that if the perc tests were to be done now [at the time of the hearing], "…there would be water in those holes." He noted that the high water in the creek is a combination of both a high tide and high water runoff from rain and snow inland.

The Appellant stated that it was his understanding that the level of the water table would be the same as the level of the adjacent water body, in this case the river water and the high tides of the sea. The Appellant noted that if that is true, then the proposed new disposal field for the 20 bedroom resort would be nearly under water at times. He also expressed concern that the 45 unit R.V. park might continue to be operated, thus exceeding the allowable amount for the system.

As reference, the Appellant pointed to a small bridge on his Property which is shown in several of the photographs just barely above level of the high water. He commented that usually the bridge is several feet above the level of the water in the river.

Mr. Leakey repeated his concern that seasonal high water levels in the river could, if the weir failed to break and release the river water, cause flooding of the Resort Property and disposal field site. He also stated that in his view the permitted field is not located on the highest part of the Property but rather on land somewhat lower.

The Respondent's argument

The Respondent, Ms. Carol McRae, Senior EHO, commented on the Appellant's photographs, expressing concern that they did not clearly depict the situation as they contained no reference points and did not show how the proposed disposal field would be impacted. She asked that the Panel not give the photographs much weight when making its decision.

The Respondent argued that the proposed Chromaglass Package Treatment Plant disposal system "clearly meets and mostly exceeds" all aspects of the Sewage Disposal Regulation. Further, she noted the following from the Ministry's statement of points:

1. The receiving soil has in excess of 48" of native undisturbed percable soil while a minimum of only 48" is required by regulation.

2. The sewage disposal field will utilize a pressure distribution system, which is a far more effective system than the trickling D-Box system. The Regulation requires only gravity flow.

3. The perforated laterals will be placed a minimum of 10' apart thus giving a greater buffer between runs. The Sewage Disposal Regulation requires only 6' separation.

4. A full size conventional Package Treatment Plant field area will be protected by a restrictive covenant for a reserve field (with 10' centres for laterals). The Regulation does not require this.

5. The sewage disposal field will be at least 100' away from the ocean high water mark. The Regulation does not state a minimum distance and local Health Unit policy allows up to a 50' setback with the use of secondary treatment, which the proposed system is.

6. The down-gradient monitoring well had a zero (0) fecal coliform count, indicating that the soil is capable of treating conventional septic tank effluent.

The EHO, Mr. Dwayne Stroh, noted that considering the above, he is "more than satisfied that this proposal will not impact the safeguarding of public health in the Little River area." The Respondents noted also that, in their view, the package treatment system as approved would provide a much higher level of treatment than would a Hydroxyl system.

In response to the question of why two-season or wet season measurements of the water table were not carried out, the Respondents replied that the regulation allows for the EHO to determine the depth of soil to water where no data exists. [schedule 1 section 2(c)].

In response to the Appellant's photographs showing standing water on the proposed disposal field site, the Respondent pointed out that compacted soil on the site from vehicles crossing it could account for the tendency for rain water to puddle on the surface. As well, they noted that the weir would in fact provide protection for the area in that it would break in the event of very heavy and high water flows, thus allowing the water to spill over onto the beach and into the sea rather than onto the neighbouring properties. They also surmised that flooding which occurred years ago had likely resulted from a blocked culvert where the river crosses under the highway.

The Respondent noted also that the Permit Holders had submitted that they would remove the R.V. site when building the resort units and that the land was already zoned to accommodate this use. In addition, he added that the regulation contains appendices from which the number of estimated gallons of effluent generated per day/per use or per unit is calculated. Using these factors, the EHO confirmed that, in his view, the proposed system exceeds the requirements.

The Respondent presented the Payne Engineering Report which had been submitted by the owner to support the application. The report notes that as a result of tests for nitrate levels in the area of the existing disposal field, any effluent leaving the field area would move toward the ocean instead of back toward the river, and that for the distances measured, the nitrate levels were well within the guidelines. The Payne Report, which examined the soil and groundwater conditions, including the direction of groundwater flow, its velocity and seasonal and tidal influenced fluctuations, as well as evaluating the impact of wastewater on sensitive receptors such as water bodies and wells, concludes that the site is capable of adequate treatment of septic tank effluent. Appendix 4 of the Report shows that the site conditions meet relevant B.C. Environment [Ministry] criteria for evaluation of drain field siting. The Report does admit that the risk of flooding was not calculated and uncertain because "No local or provincial authority has estimated the risk of flooding."

The EHO told the Panel he had no concerns about the Property flooding as long as the weir remains in place for future flood control. Should it be eliminated, he noted, he would have more concern for the older existing fields in the area. With regard to the system approved by the Permit under appeal, the EHO stated that the effluent leaving the package treatment system would be well treated by the time it reaches the field, but that *the plant would have to be water-tight.* He assured the Panel that the newly approved system would be less likely to affect the water quality in the Strait of Georgia than does the existing older system servicing the present R.V. Park.

The Permit Holder's Position

The spokesperson for the Permit Holders, Brian Taylor, noted that the 33 R.V. sites would allow for a larger number of people staying on the Property than would a 20 bedroom resort. He estimated that with the R.V. campsite removed, the daily flow of effluent would be reduced from 4,600 to 2,800 gallons/day. He provided the Panel with overheads showing maps of the Property, of the general Little River area, and of the river channel, noting the site of the rebuilt weir on private property where the river bends near the beach [the "ox-bow"] before reaching the proposed development Property.

Mr. Taylor argued that the weir actually protects the properties along the river because the water could never overflow the river banks as long as it can break through at that point nearest the sea. As witness for the Permit Holder, Mr. Zyvitski noted that none of Mr. Leakey's photos show the river actually overflowing onto the Property. He noted that in the event of the disposal field ever being flooded, the effluent from the new proposed system would cause less potential

damage because the new system would provide a higher level of treatment than does the existing system. He commented that the company would not have had to provide such a high level of treatment but they had chosen to use the best technology allowing them to decrease the quantity of effluent while increasing the quality. He noted also that they would be taking out the western-most existing older treatment plant and *that he would be willing to have that made a condition of the new Permit.* He stated that all of the existing disposal systems on the Property would be replaced by the new Chromaglass package treatment plant, but that they will be using the upgraded system for awhile (phase 1) until the company can afford to build the bigger one.

Mr. Payne, a professional Engineer and Geologist, responded to the Appellant's argument that the water level in the ground, and especially in the area of the proposed new system and field, would be high when the tide is high or when the water level in the Little River is high. He described the study they had undertaken to determine how and whether the ground water table would be influenced at the distance of the proposed field site. He noted that as a result of their three day study measuring the tide through a complete tidal cycle, they concluded that with a three metre difference in tides, the water level in one test hole rose two metres while at the drainfield area the water level rose only 2 inches. At a higher tide, extrapolating, he estimated there would be only an increase of two and one half inches. He concluded by saying that, in his opinion, the water table, as influenced by an average high tide, would not rise higher than 1.9 metre below the ground surface.

He told the Panel that in his experience, the Ministry of Health does issue permits in floodplains based on the "normal" seasonal high water level, not based on the 200 year flood level. With regard to the seasonal high water in the Little River as reported by the Appellant, Mr. Payne estimated the maximum elevation of the water in the river to be 1.3 metre from the river bed or only from .5 to .8 metres higher than the water table level at the field site. He went on to explain that because the river bed would be compacted and the water moving quickly and not remaining high for long periods, in his view the effect on the water table level at the field site would be minimal. He told the Panel that he knew of no evidence of any significant infiltration of water from the river into the surrounding land, or of the river flooding.

In conclusion, Mr. Zyvitski, the owner of the Property, requested that the date of the Permit be changed, if it is amended, so that it will be valid for a full year, instead of for the remaining part of the year since it was issued (before the appeal). The Permit Holder assured the Panel that they have no plans for any other uses, such as restaurants, stores, residential dwellings, pubs, etc., other than the 20 proposed condominium units.

DISCUSSION

On the issue of whether the EHO erred in issuing a permit for a package treatment sewage disposal system for the King Coho Resort for a 20 bedroom resort condominium, the Panel agrees with the Respondent on the following:

- The new system is said to treat effluent more effectively than the existing conventional system as shown by the engineering report;

- The Permit was issued for a system which appears to fulfill the requirements of the Sewage Disposal Regulation with one or two exceptions as noted below;

- The groundwater level measurements show at least 4 feet of soil above the water table;

- The setbacks and the percolation tests fulfill the requirements although the perc rates were quite fast; and

- According to Ministry of Health calculations, the proposed 20 bedroom resort condominium should create less effluent than the existing 33 unit R.V. park.

The primary concern of the Appellant, however, is that the Property may at some time be flooded by high water from the Little River. He has also expressed concern that the water table may at certain times of the year rise to a higher level than was measured by the Permit Holders. The Panel accepts the engineer's assurance that the water table, even at times of high water in the river and high tides, should remain below the required depth below the surface (48 inches).

However, the Panel remains unconvinced that there is no possibility of flooding of the disposal field by overflowing seasonal high water from the river at some point in time, especially if the weir were for some reason to fail to open (or otherwise be blocked). Sections 21 and 6 of Schedule 3 of the Regulation require that a package treatment plant system must be so located as to protect the system from storm water.

The Ministry of Environment, Lands and Parks' comment on August 8, 1996, was that as the weir does not guarantee that flooding will not occur during a major flooding event…. "This Ministry [Environment] would still require that any new development be flood-proofed to the Ministry standard." Mr. Epps does not in that letter state what flood-proofing they would require.

Again on the issue of the possibility of flooding, the Engineer's report is silent, stating only that no records are available and "no local or provincial authority has estimated the risk of flooding." While the possibility may be remote, the Appellant's photographs do indicate that the water level in the river is on occasion quite high, compared with the elevation of some of the surrounding areas and the area where the R.V. campers park in the summer.

The Panel is also aware that the resort condominium units may be used, in the long run at least, on a year-round basis, rather than primarily in the summer (dryer) season as with campers, thus putting more effluent into the ground during the wetter winter months.

DECISION

In making its decision, the Panel of the Environmental Appeal Board has carefully considered all of the relevant documented evidence and all comments made during the hearing, whether or not they have been specifically reiterated here.

After reviewing the material presented to it at the hearing as well as all relevant legislation, the Panel has decided to uphold the decision of the Environmental Health Officer to issue a permit for the Chromaglass package treatment plant sewage disposal system as proposed and approved in Permit #5/96, except that the Panel directs that the following conditions be added to the Permit, in addition to those already included:

- Prior to using the new package treatment system, all of the existing septic systems and fields on the Property must be de-commissioned and all uses except the 20 bedroom resort condominium removed;

- Subject to sections 6 and 21 of Schedule 3, the field must be so constructed as to be free kept of storm water, including any that may overflow from the Little River;

- The new field and plant must be flood-proofed as the Ministry of Environment, Lands and Parks may require;

- The resort owner shall participate in any flood-prevention recommended by the Ministry of Environment, Lands and Parks to ensure that the Little River cannot overflow its banks during periods of high run-off water.

- The new date of the permit shall be the date of this amendment.

Carol Martin, Panel Chair
Environmental Appeal Board

February 21, 1997