

Island County Board of Health Special Session
December 4, 2000

The Island County Board of Health met in Special Session as scheduled and noticed, on December 4, 2000 beginning at 2:00 p.m., in the Island County Courthouse Annex, Hearing Room, Coupeville, Wa. The special session was called for the purpose of an appeal hearing of the County's recommendation to the Washington State Department of Health; therefore, general public comments were not taken. Members of the public with comments regarding this appeal not listed on the agenda were instructed to contact either the Appellant or Proponent to request their comments be included.

Board of Health Members present: Wm. L. McDowell, Chairman, William F. Thorn, Vice-Chair; Mike Shelton, Member; Holly Schoenknecht, Member; and Patricia A. Cohen, Member. Also present were: Captain John E. Tracy, MSC, USN, Ex-Officio Member, and Roger S. Case, M.D., Executive Secretary, Board of Health.

The audience consisted of approximately 35 people.

Chairman McDowell reviewed the order of business:

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| 1) Review of Appeal Process | Chair, Board of Health | |
| 2.) Staff report presentation | Health Department Staff | |
| 3) Appellant arguments | W. Scott Railton | |
| 4) Proponent arguments | Richard J. Langabeer | |
| 5) Questions from the Board | | |
| 6) Executive session to allow Board deliberation (if necessary); RCW | | 42.30.140 (2) |
| 7) Return to open session to announce decision, or continue the hearing | | |
| 8) Adjourn | | |

The Chair recessed the meeting for approximately 10 minutes to allow an opportunity for Board members to read the Memorandum faxed this morning from Mr. Railton on behalf of the appellants, to Board of Health members McDowell, Shelton and Thorn. On resuming the meeting, the Chairman reviewed conduct of this appeal hearing:

As mentioned in the introduction of the agenda this is an appeal hearing not a public hearing. Members of the public will not be recognized to speak unless they are part of the appellant or proponent presentations.

The order of business is listed on the agenda. As reflected in the Board of Health's Appeal Procedures, cross-examination by presenters is not part of our hearing.

Generally the Board will listen to each side of the argument, ask questions, as the Board deems appropriate, and make its decision based on those presentations and other submitted evidence. It is our hope that presenters will be thorough but brief and on topic.

Issues not part of the Island County Health Department recommendation being appealed or outside of Board of Health duties shall not be raised as part of this appeal. Such issues are beyond the jurisdiction of the Board of Health and need to be appealed to the appropriate authority.

STAFF REPORT PRESENTATION - Health Department Staff

Island County Health Department Staff:

Tim McDonald, Health Services Director
Keith Higman, Environmental Health Director
Douglas Kelly, Hydrogeologist

Tim McDonald confirmed that Health Department staff presentation would closely follow the Staff Report dated November 27, 2000, for PRD 343/96, proposed Phase III Larger On-Site Sewage System (LOSS), Appeal of Recommendation – Maple Grove Beach Water Association (MGBWA). Copy provided for the record. The property

is located off North Camano Drive,

on North Camano Island, Assessor's Parcel Number R23223-318-2080, located in the northwest quarter of Section 23, Township 32 North, Range 02E, W.M. (Exhibit 3). Project site is located in-between North Camano Drive and Maple Heights Road to the north. The appeal under ICC 8.09.120 is an appeal of the decision the ICHD to move forward with the process and planning involved in the proposed LOSS proposed to serve Brentwood III. The ICHD recommendation is to the Island County Planning Department for determination of adequacy for sewage disposal and to the Washington State Department of Health (WDOH) who has the permitting authority for this type sewage system. In the 20 years he worked for the ICHD, Mr. McDonald could not recall a decision that the ICHD staff had put more work, technical expertise or more effort in.

Keith Higman provided an overview of staff review of the project, highlighting key points:

- On January, 2000 the Health Department received a hydrogeologic report from Pacific Groundwater Group in support of the development of a LOSS designed for about 14,400 gallons of residential effluent per day to serve lots in both Phase 1 and III of the Brentwood PRD. The hydrogeology report detailed a review of the localized groundwater system beneath the LOSS and in association with a well field on a neighboring property and laid some of the ground work for which became the basis of the proposal.
- Applicant proposed to mitigate groundwater impacts from the effluent by installing Aerobic Treatment Units as pre-treatment devices for each residence proposing to connect to the LOSS. ATUs can serve to denitrify the effluent before it eventually goes to the drainfield.
- ICHD review authority is found in ICC 8.09.097, the section dealing with groundwater resources and groundwater resource protection. Aside from the City of Oak Harbor and NAS Whidbey, the remainder of the County utilizes groundwater as its drinking water source. Any project that has a potential to contaminate groundwater resources is reviewed by the Health Department to identify what those contamination potentials are and if there is a potential, the Health Officer has the duty of assigning and definition mitigation to mitigate those impacts and in doing so applies the standard all known, available and reasonable methods of prevention, control and treatment (AKART). The AKART standard changes with increases in technology.
- On April 4, 2000, the ICHD commented on the hydrogeologic report identifying some concerns primarily focused on perceived vulnerability of the localized groundwater scenario around the LOSS. Immediately neighboring the property is a fairly shallow well field serving a small community of about 34 connections. The ICHD divided acceptance of the project into two proposed options:
 - Option 1: identify an alternative water source for MGBWA to allow the project to continue;
 - Option 2: if there could not be that provision of water to the community, the proponent would be required to do a risk assessment.
- In August of 2000 ICHD received a risk assessment in support of Option 2, which received formal review and comment. Island County found that the level of risk identified by the risk assessment was an acceptable level of risk, yet was concerned about the vulnerability of the situation. Comments issued by the ICHD following receipt of the risk assessment were that the Department would be looking for the provision of an alternative water source as a preferred option. In lieu of the two parties being able to come together and decide how best to do that, that under Option 2 ICHD comments for recommending and approval would include additional mitigation over and above the pre-treatment using ATU's, including: installation of monitoring wells; reservation of water system capacity within the combined water system for which the project proponents have an interest; and bonding to provide the County with an appropriate level of financial backing such that if the project were found to have a deleterious impact on the groundwater resource there would be financial resources available so one or more mitigation measures could be imposed to alleviate those impacts. Mitigation measures could include the provision of water, application of additional treatment to the LOSS, or potentially the treatment of the contaminated groundwater.
- The decision to move forward has not involved ICHD's final decision on a monitoring plan, acceptable bond or the determination that the combined water system has adequate capacity to serve in case the mitigation would be

required. Those are decisions forthcoming.

- On September 1, 2000 the Board of Health received the appeal by MGBWA of the decision the ICHD made in support of a recommendation for approval based upon mitigation or the provision of water. The appeal was based upon the potential for adverse and significant impacts to the groundwater resources MGBWA relies upon for groundwater
- Although the appeal raises questions about SEPA compliance, and issues have also been raised about slope stability down slope from the LOSS, the ICHD, Board of Health and Health Officer do not have authority over the SEPA process or issues related to slope stability.

Doug Kelly explained the studies on which current decisions are based.

Pointed out the MGBWA well field location as shown on a map of the area displayed during the presentation, on Assessor's Parcel Number R23223-332-2330 immediately adjacent to the east property line of the subject parcel. And showed the proposed location of the Brentwood drainfield on the parcel immediately to the West, and an existing large on-site system to the South operated by Rocky Point. The well field consists of three wells at depths of 66, 68, and deeper not currently connected to the system.

A hydrogeologic assessment presented in January by Pacific Groundwater Group. A schematic block diagram was displayed showing the drainfield and location on the well fields and the stratigraphy immediately underlying the drainfield was also displayed. Immediately underlying the drainfield is a sequence of sands and gravels and silts: 7-15' of unsaturated sand and gravel immediately under the drainfield; and a silt layer that lies beneath that; underlying that is another sand and gravel layer that comprises Aquifer D. The silt layer slopes to the NE; the gradients in Aquifer D are to the NW.

The original risk assessment used a mixing model to calculate the impacts of the drainfield on the underlying aquifer. Effluent from the drainfield will percolate down through the unsaturated zone and at some point percolate through the silt and land in the underlying aquifer and mix with the waters of that aquifer. Depending on the quantity of water flowing underneath the drainfield in that aquifer and the concentration of volumes of effluent coming down, the post mixing concentration and therefore the impacts to the drainfield can be calculated.

Pacific Groundwater Group in their hydrogeologic assessment came up with a mixing model and predicted the impact to the underlying aquifer to be 1.6 milligrams per liter nitrate increase. Showed on the display map a septic system with some impact to the aquifer; nitrate values in the well field currently are in the area of 4 milligrams per liter; the maximum contaminant level (MCL) set forth by the US EPA for nitrates is 10 milligrams per liter. AKART was used to evaluate the proposal. AKART has been defined in the case of septic systems by the Washington State Department of Ecology (DOE) – and cannot in total increase to above 10. The hydrogeologic report talks about soil pits dug on the drainfield property to evaluate the soils. The silt layer was identified and the slope to the NE.

Mr. Kelly went over his comments from his letter of April 4, 2000, noting a number of questions that arose pertaining to the application (refer to Exhibit 8). As a result of that review was the July 26, 2000 risk assessment produced by Pacific Groundwater Group (Exhibit 11) to evaluate other potential pathways and other potential contaminants of concern. They were also asked to evaluate a range of perimeters and were asked to look at a long list of contaminants, which resulted in the finding that chloride and nitrates were the most critical contaminants of concern.

Pacific Groundwater Group came up with some estimated values for conductivity of the silt layer and the transmissivity of the underlying aquifer. Expected values for both the silt layer and the aquifer were multiplied by 5, then divided by 5 to do a sensitivity analysis on those perimeters.

He used the map he showed the direction the gradients are flowing, the direction the Pacific Groundwater Group reported in their document, and Mr. Kelly submitted there actually was a range to that, that not only is that not known precisely but it will vary during the year. Based on that the PGG came up with a capture zone – in the expected case travels roughly 8 feet behind the well, five times smaller than expected. Looking at the underlying silt layer, depending on conductivity of the silt, the effluent can either pass directly down through the silt layer and not

be transported down dip or if the silt is less conductive then it will take a wider area to get rid of that amount of water and it starts to expand down slope on the silt layer.

He then used a diagram to show some of the different capture zones and several different amounts of down dip flow. The expected case is that all the effluent will migrate vertically downward through the drainfield footprint and transported down gradient within the aquifer and that the capture zone of the well field don't overlap. Under the expected case he sees zero effluent being captured by the well field.

Sensitivity analysis looked at all the ranges of possible perimeters. Charts were used to show high, medium and low Aquitard conductivity; also high, expected and low aquifer transmissivity. This ends up with a total of 9 possibilities. The expected case is no water being captured by the well field from the drainfield; therefore no impacts and in 7 out of 9 possible cases there is no water being captured by the well field and no impacts to the well field. In the low Aquitard conductivity case where there is some transport down gradient, if the aquifer has the transmissivity expected, would end up with .3 milligram per liter increase in nitrates at the well field.

Graphs showed expected nitrate concentration. Two numbers resulted: one representing expected concentrations coming out of the drainfield and the worst case scenario. In the case of a

low Aquitard conductivity and expected aquifer transmissivity there is a .3 milligram per liter increase in nitrates at the well field or if the system is not running as expected .5 milligram per liter increase at the well field. In the extreme case of the aquifer being 5 times less transmissive than expected, and the Aquitard being 5 times less transmissive than expected, the expected increase is 1.8 milligrams per liter of nitrates at the well field, and a maximum of 2.9 if the drainfield is not working as expected. Of the total 36 possible combinations AKART is met for 35.

Based on that, the ICHD felt there was a reasonable enough chance they could make the system work to allow them to move forward. Moving forward does not mean that the ICHD has given approval to the system; rather that they can move forward with design of a monitoring network that will go in-between the well field and the drainfield. To catch any impacts that could potentially hit the well field before ending up on the well field property [still 100' away from the well field]. In preliminary approval of this stage, ICHD will require design mitigation measures in the case of failure at that point of compliance.

One of the remedies put forth is that Brentwood must reserve water system capacity from both an engineering design standpoint and from a water right perspective from DOE for the life of the drainfield. However, at that point in time the County cannot force Maple Grove Beach to take their water; therefore, the applicant has to come up with other mitigating measures and the necessary bonding to take any of these into account if that situation arose.

Mr. Higman summarized on behalf of the Island County Health Department:

ICC Chapter 8 requires that the Health Officer review projects and define potential for impacts. Staff have done that through the requirements for both the hydrogeologic review and a risk assessment, and feel an adequate job has been done of identifying and mitigating the potential for impacts. ICHD feels a very complete and thorough review of the project has been done, and that there is a very high degree of protection of public health.

The existing Rocky Point drainfield to the south of Maple Grove Beach well field was installed in the mid Eighties and there is no pre-treatment on that drainfield, and at the time, there was no monitoring of the water quality surrounding that drainfield, nor any professional oversight of that system.

The Health Department recommends that the Board of Health uphold the Island County Health Department decision and deny the appeal.

Appellant Arguments - W. Scott Railton

Scott Railton, Law Firm of Barcott & Christopherson, Mt. Vernon, representing Maple Grove Beach Water Association, commented that in addition, Gordon Rue, on behalf of the MGBWA residents in attendance today, would

also be speaking. Those attending from MGBWA stood to indicate the number in attendance interested in this matter to show the strong concern on the project, attending on a Monday afternoon, a work day and having traveled from Camano Island to Coupeville [approximately 25 + or - stood up].

The appeal letter to the Board of Health dated 8/31/00] was for an appeal and a request for clarification, believing that Mr. Kelly's Memo concerning the recommendation of the LOSS begs several questions of the Maple Grove residents, creating as many doubts as it answered questions. With regard to issues noted by the Chairman that are outside the scope of the Board of Health's jurisdiction, Mr. Railton stated those issues are addressed in his memorandum and are issues of concern, and wanted to reserve the right if needed to examine that issue later.

Using an overhead projector, Mr. Railton outlined Maple Grove's position:

- Option 1 is preferred. Maple Grove will negotiate for a new water source, at reasonable terms.
- Option 2 is too vague and creates unnecessary risk for Maple Grove. Option 2 allows the proponent to go forward, but should things go wrong, Option 1 may be again required. Thus, to be fair to Maple Grove, details must be determined, in advance, as to how and under what conditions water will be reserved and supplied, should the need arise. It would be inappropriate and perhaps capricious to move forward on Option 2 without first addressing these issues.
- Notice of all meetings, decisions, and the like should be given to all; homeowners whose lives and assets could be affected by the proposed drainfield.

Negotiations have stalled, and it unclear at this time if negotiations are out of the question concerning a secondary water source. With option 2, if something goes wrong with the septic field and nitrate levels go above accepted levels their interpretation of the memorandum is that Brentwood would need to supply water on terms that are unknown at this time.

Maple Grove feels there are several unresolved issues concerning how that water would be provided and they need to have a say in the exact terms of what is the insurance policy. Unresolved issues under Option 2 include numerous items as far as what will the terms be for the supply of water if things go wrong; how will the bond be calculated; and who will oversee the monitoring plan [list compiled of some of the questions that the residents of Maple Grove have raised is included with Mr. Railton's memorandum and exhibits].

They do not argue that many measures have been taken to protect Maple Grove's interest and concept but down the road Maple Grove does not want to be stuck in the awkward position of having to negotiate while their water is polluted. The last thing the residents of Maple Grove want to see is the quality of their water diminish. It is clear from the risk assessment that the LOSS will affect Maple Grove's water system. One of the issues in the original negotiations never addressed was how would a surcharge be calculated.

An overhead was displayed to show comments from Doug Kelly in his two memorandums (Exhibit 8 and Exhibit 12). Noteworthy that the 1.6 mg N/l increase is 80% of the way toward surpassing AKART standards. He understands that 5.0 mg N/l creates an alarm rate of some sort with ICHD. As predicted, it will go up to 5.6 here. ICHD twice before in both those memorandums and other presentations said they distinctly prefer an Option 1 arrangement be worked out.

Another overhead provided a quote from Mr. Kelly's April 4th memorandum as follows:

"Experience tells us that surrounding a public water supply well field with Large On-Site Systems is not a good idea. This is especially true if the well field utilizes a shallow aquifer system where the stratigraphy offers little protection from surficial contaminants."

Mr. Railton was of the opinion that the Board of Health should take serious note of the ICHD's own statements and concerns in this matter. There is a moratorium currently on hookups for the system already in place adjacent to the septic field. Applicant in their brief noted that the two situations are not comparable. Although he did not argue that there's a major difference between the aerobic units being proposed here. But there is cause for concern on the part of Maple Grove since many things can go afoul when it comes to a septic system. Mr. Railton saw a potential for a taking in acting this way if the Board were to approve the decision without at least examining what Maple Grove's water rights are and how they might potentially affected with this contingency plan if things go wrong.

Gordon Rue, Camano Island, member of the Maple Grove Beach Water Association, provided background from over the last 20-25 years in their effort to successfully provide a safe and adequate quantity of water for that community. A number of wells have been drilled, most dry; there have been problems achieving an adequate quantity of water. The well site is not the ideal site but at the time it was chosen, Maple Grove was in the position of having to truck in 10,000 gallons of water at a time into their holding tank. In the last year MGBWA has become increasingly concerned over degradation of water quality as a result of the Rocky Point drainfield [Bayshore Terrace] (pointed out the location on the map displayed). That system is contaminating their water supply.

Mr. Rue read a letter dated 4/7/00 from Keith Higman to Lisa Brown, WSDOH, indicating the HD's position on MG system and the way it has been contaminated by Rocky Point drainfield

"Island County Health Department is very concerned about the information presented herein. It would appear from our hydrogeologic assessment that the LOSS is contributing to a significant increase in nitrates within the Maple Grove Beach Water Association well field. Although the current levels do not exceed DOH drinking water standards, they do exceed anti degradation policy standards established by the Department of Ecology and are nearing the state action level."

In addition because nitrates is used as an indicator perimeter there are also concerns that other contaminants may be present. From a public health and resource protection perspective this is unacceptable. By this letter we are requesting that the State Department of Health address these issues immediately with the owner of the LOSS".

Mr. Rue pointed out that was unacceptable without adding any other contaminants to it; it is already outside the perimeters. Maple Grove's concerns with regard to placing a second LOSS are justified. While the final approval and permitting of the proposed Brentwood drainfield is to be done by the State Department of Health, the two options provide more questions than they answer. First and foremost is the question whether water actually is available to Maple Grove under either Option 1 or Option 2.

Each of the two systems has a design capacity of 14,400 gallons per day of effluent which is equivalent to 18,000 flushes a day going into the two drainfields immediately adjacent to Maple Grove well site.

Mr. Rue advised that he talked with Jim Nilson, PE, Regional Engineer, NW Drinking Water Operations, WSDOH, last Thursday, and Mr. Nilson sent an e-mail reply Friday to Mr. Rue and Keith Higman:

“I have begun to review the submittal from Combined Water System. The submittal is a revised Water System Plan, which proposes to use the CWS’s existing sources to serve water to the Maple Grove Beach Water System. At this time, I’m not prepared to say whether the proposal is acceptable. There are a number of issues that I will need to clarify with the engineer. I think that it is best that I don’t make any other comments until I get more information.”.

It appears that for this whole process to go forward under either option assumes water is available and it may not be because the State has not ruled. Other specifics of the ICHD’s recommendation regarding bonding, mitigation plans and details of the water reservation plans have not been available for Maple Grove to review and the Association should not be excluded from the public process. Full disclosure should be made prior to moving on to the State level. Assuming at some point approval is received from the State for Combined Water System to supply water to Maple Grove in the form of Option 1 is what Maple Grove would like to see. Option 1 is recognized by the ICHD and WSDOH has the preferred means of mitigating the impact of the Brentwood LOSS on their water supply. Option 2 is a safety net to protect the water supply should contaminant levels fall below the standards, but details are absent; therefore, Option 2 is not acceptable to MGBWA Mr. Rue asked that the MGBWA appeal be upheld.

Proponent Arguments - Richard J. Langabeer

Richard Langabeer, Attorney, Langabeer, Tull & Lee, P.S., Bellingham, spoke on behalf of the proponent of the LOSS. Proponents were present in the audience:

Dr. R. Lee & Judy Harmon
Camano Island, WA 98292

Karl and Darlyne Krieg
Camano Island, WA. 98292

The Harmons and Kriegs have formed a general partnership called Sea-Air Land Development. Mr. Langabeer briefed the Board on others present to provide comment:

Charles Ellingson, a hydrogeologist with Pacific Groundwater, was present. The Firm includes Mark Utting, hydrogeologist who worked on the hydrogeologic assessment performed in January. Both Mr. Utting and Mr. Ellingson worked on the risk assessment. The risk assessment is an essential overview of the analysis of the effect of this system and the lack of any affect or impact of this system on Aquifer D and particularly the Maple Grove well field.

Present as well was Greg Kane from Fakkema & Kingma, Oak Harbor, the project engineer for Brentwood. Brentwood now is an approximately 86 lot subdivision approved for 106 lots with Division 1 having received PRD approval and Division 2 receiving final PRD approval; and Division 3 pending outcome of the LOSS system. The LOSS system covers lots in Division 1 already received PRD approval and lots in Division 3 that has not yet received PRD approval. The existing LOSS system approved by the State of Washington and Island County covers Division #2. Mr. Kane will provide comment and insight as to the availability of water Mr. Kane submitted in January, 2000. Mr. Langabeer’s submittals include a letter to DOE and DOH of a revised water system plan whereby the Combined Water System had set aside and had available 5.6 gallons per minute that would have been available to serve Maple Grove Water System. The water plan has been revised and increased so that there is 8.9 gallons per minute, and that is what Mr. Nilson is reviewing.

Tom Cleverdon, P.E., Fakkema & Kingma, Oak Harbor, formerly of Datum Pacific, the person who ushered through the LOSS system number one locally and through the state and in the process of ushering through this system.

Mr. Langabeer addressed what he believed was the issue before the Board today, which is whether or not the decision of the Island County Health Department in stating that this project is able to proceed because there is not the likelihood of unacceptable risks. One of the conditions being placed on the project is monitoring. With this type system there is further pre-treatment of water that can actually put into the drainfield site effluent that is below drinking water standards. Now there is being proposed that the effluent that goes into the drainfield site is going to be at or below drinking water standards, 10 mg N/l. And added to that can be additional pre-treatment where the effluent will go through further treatment process before it goes into the drainfield if that is necessary.

He acknowledged concern and comparison with this system to the Rocky Point system [Bayshore Terrace] but pointed out that the Rocky Point system was installed in 1984 and one of the tremendous differences between that system and this system aside from technological advances is that there was no pre-treatment with that system. The Brentwood system has the individual pre-treatment systems at each and every lot.

He “walked” through items from his written submittal to show the oversight and management of the LOSS, and submitted and reviewed for the record Design Standards for LOSS systems, referred to in the Staff Report. Under the applicable statute governing LOSS systems, WAC 246.272.08.001, the 1993 amended in 1994 special design standards and conditions for operation of large on-site systems as adopted jointly by WSDOH and DOE. The standards and conditions have been adopted and it is through the application of those standards that the system has gone forward.

A requirement as part of this is submittal of an outline and go into detail how each of the ATU units, the drainfield LOSS system, will be managed, maintained and paid for. An operation and maintenance manual has to be provided to the State for acceptance and approval. Even though this has moved beyond pre-design the engineering report has been submitted to the State; the plans and specifications submitted to the State; the maintenance and operation manual has been submitted. All of the package of documents are in review by the State [Richard Benson].

Although not at issue today, Mr. Langabeer pointed out that as part of Brentwood the applicant provided an addendum to the protective and restrictive covenants [Exhibit 5E]. The covenants are recorded against each and every lot subject to the system. Each property owner and each subsequent property owners buys subject to those covenants. Covenants provide that the Brentwood Association has the full responsibility for the management, operation, maintenance, etc. of the LOSS pursuant to this addendum, regulation or order of the SWDOH or the ICHD.

The permit is renewable every year. If there are problems Island County and/or the State can include conditions under which the permit will be renewed, and it is Brentwood’s responsibility to fulfill those conditions. The Homeowners Association is allowed to enter into agreements with Holmes Harbor Sewer District or any other municipal entity, levy and impose and collect, and enforce conditions of rates, fees or charges that are set forth for the operation and maintenance of the system, and enter into any agreements for the maintenance of the systems. Until 90% of all the lots are sold, it is the developer that are the Brentwood Homeowners Association.

Mr. Langabeer’s written submission included attached Exhibit 5D requirements for connection to the system outlining in detail what takes place. The water service agreement was included as Exhibit 5C, spelling out that the property owner agrees to comply with the terms and conditions of Brentwood CCR’s and Addendum’s thereto, etc. The State requires a municipal oversight agreement, and included in the submittal is Exhibit 5B, an agreement with Holmes Harbor, a municipal sewer district. The proponent has paid a \$5,000 sign up fee and an additional \$5,000 reserve account. The oversight agreement provides that Holmes Harbor has the authority to step in and take over the operation and management of the system and assess the people if Brentwood Homeowners Associated failed to do that. The proponent went with Option 2 as a result of negotiations with MGBWA. A meeting was held with two representatives of the MGBWA in March. Option 1 would have been preferred and would have been instantaneous approval, dealing with a reserve capacity of 5.6 gallons per minute based on 9 additional residential connections at 800 gallons per day when the actual use is lower than that by Maple Grove, so that would equate to service their 34 connections. As a result of the reduction of number of lots in Brentwood and options to buy those water connections there are now 16 available which is what caused the revised plan to go to WSDOH, and provides 8.9 gallons per minute, an available supply.

Mr. Langabeer and Mr. Kane contacted representatives from Maple Grove to let them know about the 8.9 gallons and willingness to discuss and negotiate, but the reply was that Maple Grove wanted a well on the proponent’s property, put in by the proponent, produce 23 gallons per minute, proponent hook it to the Maple Grove water system and get the water rights approved from the state to transfer water rights. Therefore, the proponent proceeded under Option 2.

Proponent is prepared to bond and provide bonding and an overview of additional technology and monitoring. Those are not issues before the Board of Health today. A monitoring plan has been submitted for Mr. Kelly’s review. A

reserve of water can be set aside. The Combined Water System is a unique situation between Rocky Points Heights and Brentwood where each Association has their own water system. Rocky Point Heights has 96 connections; Brentwood has 106 down to 86. There is an adequate reserve of water. With regard to the water it is Proponents position that the issue is not whether we should be supplying water under Option 1 or 2, rather to show the Board that with the condition that staff

has recommended in conjunction of the approval to go ahead, they have the ability to supply that water.

Charles Ellingson gave a quick overview with regard to several of the documents referenced today provided by Pacific Groundwater documents. Pacific Groundwater submitted the risk assessment and it was his understanding that the County reviewed and accepted those findings. He confirmed Doug Kelly's understanding of those documents as accurate with minor exceptions:

- silt layer overlies the layer from which the Maple Grove wells draw water and Pacific Groundwater's calculations were then designed to figure out which way the water would go, on top of that silt layer or straight down.
- Pacific Groundwater's calculations are that the effluent would go straight down and completely miss the capture zone of the Maple Grove well fields.

Mr. Ellingson then reviewed the findings of the risk assessment:

- nitrate and chloride are the worst case chemicals; standards of the state and county are good standards used in general
- effluent will probably go straight down through the Aquitard into Aquifer D and completely miss the capture zones of those wells
- calculations indicate that the concentrations in the wells would not increase under the expected conditions nor for most conditions evaluated to accommodate uncertainty.
- Doug Kelly's examples of the mg/l were actually the seasonal maximums used. Winter time concentrations would be about half of that.
- With regard the proximity of the well fields and drainfields, proponents have gone beyond generalities with a lot of work put into a site specific analysis.

Tom Cleverdon, formerly with Datum Pacific who did the design for the LOSS, now with Fakkema & Kingma, addressed materials handed to the Board, a cover sheet with two handouts, to give an idea of the two units being considered for this project, one called a whitewater nutri-clear system, the other Advantex Treatment System made by a Northwest Company Aranco. Both units have been described as aerobic treatment units.

Testing of the Whitewater System has shown effluent level of 7.2 mg/l or 81% total nitrogen removal;

Aranco provided information from 11 test sites at residences in Alaska, showing average concentration coming out of those units to be 8 mg/l or 84% removal rate.

There are a number of technologies that can be installed on site at the drainfield site that would be in addition to the individual units. An old technology is a recirculating sand filter and will probably reduce nitrogen by about half. There are rotating biological contractors [a number are installed in Oak Harbor] as treatment units. The Aranco units that are proposed for the individual homes are currently being used as one of these additional treatment units in a the town of Starbuck in Eastern Washington [refer to handouts]. The Town of Starbuck system was designed for 20,000 gallons per day for 93 homes, and are averaging 7,000 gallons per day effluent. The proposed unit and the Robb unit are designed for a peak flow 14,400 per day, but the average daily flow is much less than that – predicted

not to be any more than 7,200 gallons per day.

Greg Kane, Fakkema & Kingma, provided hand outs to show the proposal to supply water to the MGBWA in the event of a failure of the LOSS. During negotiations with MGBWA discussions were 5.6 gallon per minute supply (8,000 gallons per day), now increased to 8.9 (12,800 gallons per day). Analyzing what kind of water use MGBWA had and reviewed data from 1998 and 1999, showed the peak month was 3400 per day. Engineers looked at three analogous systems which are allowed by the SDOH. The observed high demand pattern is shown on the first sheet of the handout; the lighter bars show the demand pattern that would be likely in a community such as Maple Grove when fully occupied. The second sheet of the handout was a schematic of the Combined Water System. The Combined Water System has two reservoirs, one very large 128,000 gallons, the other 27,000 gallons; that capacity will provide the emergency storage required by the State DOH. Intent is that the Combined Water System provided overall umbrella for holding emergency storage and that the Maple Grove Beach reservoir be transferred from its dual use as emergency storage and peaking storage to peaking storage entirely. The peak day scenario has been tripled as a factor of safety [darker bars on the handout].

Questions from the Board

Frequency and monitoring of monitoring wells; identification of trigger levels in the monitoring wells at which point action would be taken to preclude a problem progressing on to the Maple Grove well.

Mr. Kelly responded that frequency and monitoring of the monitoring wells at this point had not been established. With conditions stipulated to date as far as monitoring, bonding and reserving of water capacity, he was very comfortable with the fact that any kind of problems could be mitigated that might come along without posing unnecessary risk to the water system. He has not had a chance to review the proposal but he probably would require quarterly monitoring which is typical.

The ICHD requires monitoring on top of the silt layer. Based on the modeling that Pacific Groundwater Group has done, that is the only avenue that it could be perceived that leachate would make its way to the well field. As far as the impact to that well field because if any water is contributed to that well field from this drainfield it will be a very small portion of that water and enforcing AKART at that point of compliance will be a very conservative and safe way of protecting the well field.

Mr. Kelly and Mr. Higman held a public meeting for Maple Grove to inform them what had gone on to date.

Are there any monitoring wells on the Rocky Point system?

Mr. Kelly commented that one could argue that the MGBWA wells are monitoring wells for the Rocky Point system. There is a singular monitoring well [pointed to the location on the map].

Differentiating impacts on Maple Grove wells between the two different drainfields.

Mr. Kelly explained there were two pathways. One is in the saturated aquifer to which these wells are screened; the other is what is currently not a saturated zone above the silt. All the modeling that has been done says that no water will go from Aquifer D underlying this well field back upgradient from the drainfield to the well field. The only possible pathway will be on the silt layer that is currently dry. Reference to the preferred option as being Option 1, a new water source for Maple Grove, is because they are already in harms way. He did not expect in any way for this new drainfield to negatively impact them but would still prefer for the win-win situation to find a new water source for them. Brentwood drainfield is down stream from their wells and Rocky Point is up stream.

Mr. Higman added that ICHD was currently in process in conjunction with the WDOH to evaluate more thoroughly the impacts that Rocky Point is having on the well serving Maple Grove Beach. The action level for nitrates is 5. At 5 the WDOH begins to take a closer look. The Rocky Point drainfield and problems that may or may not be caused by the drainfield as a separate issue.

Has the State DOH addressed the adequate drinking water issue:

It was Mr. Langabeer's understanding that Jim Nilson is currently reviewing the revised water system plan that allows for 8.9 gallons of water per minute based on the 16 connections. The monitoring plan has been submitted.

Water system if it ever has to be used because monitoring at some point in time indicates there is a problem - there would not be a cut off to Maple Grove if there was a lack of water for 4 or 5 days? DOE Water Rights.

Greg Kane answered that the proposal was there would be a line extended over to Maple Grove storage tank. Maple Grove would be restricted to 8.9 gallons per minute. Maple Grove could take out 8.9 gallons per minute for 24 hours, but not more than that. The WSDOH design manual allows for mass balance analyses which allows over-size storage tank to act as a shock absorber when demand is greater than supply. Using analogous systems showed on a peak month over 300 gallons for each service for every day; they are proposing to supply Maple Grove with 376 gallons every day of the year per service. The proposal is 12,800 gallons per day which is equivalent to 16 shares of the Combined Water System – take that and put it in a “safe”. The water right currently held by Maple Grove is 10.2 acre feet per year. The WSDOE method allocates .3 acre feet per year per house. The proposal is to supply water for 34 services to match that equivalent water right.

Mr. Railton believed the Combined Water System is not the focus of the appeal. However, he noted that four years' ago there was an application by Maple Grove for a well and the State required 17 gallons per minute with a 40,000 gallon tank.

Mr. Higman clarified that a water right issued by DOE specifies an instantaneous demand, allocation and a yearly allocation. It is not a good thing to compare and use 23 gallons a minute versus 8.9 gallons a minute because they may not be analogous. The 8.9 gallons per minute is continuous flow 24 hours a day for a year; the water right Maple Grove holds for 23 gallons a minute is limited in how long that 23 gallons a minute could pump.

Mr. Kelly added that the proposal does not hinge on the whole water system supplement. The ICHD made clear its conditions for approval to this point that neither the Health Department nor Brentwood can force Maple Grove to take that water offer. The Department is requiring that Brentwood supply other mitigating measures and bonding for those mitigating measures in case that the water offer does not work.

AKART standard – further explanation.

AKART standard as noted by Mr. Kelly was defined for nitrate such that any project cannot cause more than a 2 mg/l increase in groundwater concentrations and the overall net cannot exceed the drinking water standards of 10.

Sensitivity Analysis – typically 100% increase-why 500% increase?

Mr. Kelly clarified that actually was a bit low, and he would have preferred to see about 1000% only because groundwater perimeters vary over about 13 orders of magnitude. However, the fact that the average picked were right on where he would expect. The sensitivity analysis still points to the same conclusions, that in almost all scenarios it is okay. Under the one scenario that is not okay it still meets the standards, and monitoring will make sure it does not exceed standards.

A 500% + or – variation on the transmissivity is probably a good variation, but the problem is that it is silt and very difficult to derive vertical transmissivities on confining units. That is why monitoring will be required on top of that silt even though predictions are that no flow will occur.

Review confidence in what some of the engineering studies have done – core drillings to assure flow direction away from the well field; and confidence there will be no reversal of that.

The tougher question to answer according to Mr. Kelly was the vertical conductivity of the silt, which could provide an avenue for effluent to head back towards the well field. Seismic activity would probably increase the

vertical conductivity. The capture zones as calculated at the 5 times lower transmissivity than what pump testing shows still does not capture anything from that well field so he had pretty good confidence in those numbers.

Further Review Regarding Administrative Oversight

Mr. Langabeer confirmed that Holmes Harbor is a municipal body, a sewer district, and Proponents have contracted with Holmes Harbor. There is a \$5,000 reserve account set up paid directly to Holmes Harbor, per system for a total of \$10,000 they will be holding. The protective restrictive covenants provide that Holmes Harbor can step in and take over the management of the system, operate and maintain the system and comply with all of the terms and conditions of ICHD and WSDOH imposed on this system.

Comments and Discussion.

Chairman McDowell indicated that Appellant's request to reserve rights to further appeal, the Board of Health cannot extend any rights over that which this Board does not control such as SEPA.

Executive Session

The Board went into Executive session at 5:00 p.m. to allow Board deliberation as is allowed under RCW 42.30.140 (2). The open public session resumed at 5:25 p.m.

Board Action:

Mr. Shelton moved that the Board of Health deny the appeal and accept staff recommendation, and that the Board adopt Findings of Fact supporting that recommendation at the Regular meeting of the Island County Board of Health on December 18, 2000. Motion, seconded by Ms. Cohen, carried unanimously.

Mr. Shelton also indicated the Board's desire that Health Department staff prepare the Findings and provide a copy of same to Board members to review one week in advance of the December 18 Board of Health meeting.

There being no further business to come before the Board of Health, meeting adjourned at 5:25 p.m. The Board will meet next in Special on December 5, 2000, beginning at 5:00 p.m., Whidbey General Hospital, for a combined joint annual meeting with the Community Health Advisory Board (CHAB) and the Camano Health Advisory Team (CHAT). The next regular meeting is scheduled for December 18, 2000 at 5:00 p.m.

Submitted by: Roger S. Case, M.D., Executive Secretary, Board of Health

Approved this 18th day of December, 2000.

Island County Board of Health
Island County, Washington
William F. Thorn, for
Wm. L. McDowell, Chairman