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MAR 20 2008

DEPARTMENT OF
WATER RESOURCES

DISTRICT COURT
FIFTH JUDICIAL DISTRICT
STATE OF IDAHO

IN RE SRBA
CONSOLIDATED SUBCASE NO. 63-123D, 63-123F, 63-123G

REBUTTAL EXPERT REPORT

of

David B. Shaw

March 18, 2008



Lexington Hills Home Owners Association
Irrigation Water
Rebuttal Report

Opinions

1. The irrigated acreage analysis prepared by Mr. Scanlan as part of his Direct Testimony should not be relied upon.
2. The irrigation water requirement of 0.0226 cfs/acre determined in my Direct Testimony is the correct estimate of irrigation water requirement for the Lexington Hills Subdivision.

Lexington Hills Irrigated Acreage

The analysis of the number of irrigated acres in Mr. Scanlan's Direct Testimony dated March 10, 2008 was unanticipated and time did not permit a separate analysis to be included in this rebuttal report. Mr. Scanlan described the methodology he implemented to determine a number of irrigated acres within Lexington Hills Subdivision. In addition to the explanation, Mr. Scanlan provided some exhibits to help illustrate his methodology and to provide a summary table of the numbers of acres found during his investigation.

Exhibit 4 to Mr. Scanlan's testimony provided an illustration of the implementation of the photo interpretation relied upon to segregate irrigated and non-irrigated areas within the subdivision. A copy of Mr. Scanlan's Exhibit 4 is attached as Attachment 1R to this report.

Attachment 1R has four areas identified as areas 1 and 2 and areas A and B. Areas 1 and 2 are areas misidentified by Mr. Scanlan's photo interpretation. Both areas 1 and 2 are identified as non-irrigated in Mr. Scanlan's Exhibit 4, however, ground level photos 1 and 2 taken on March 11, 2008 show these areas to be turf that are irrigated. Areas A and B are shown by Mr. Scanlan to be non-irrigated but ground level photos A and B, also taken on March 11, 2008, show areas of landscaping that are irrigated. Areas A and B are, perhaps, less of an issue of misidentified photo interpretation as they are indicators that finding the total irrigated area of a subdivision like Lexington Hills is much different than determining the irrigated area of a hay field or other agricultural application.

Based upon the sole example of the photo interpretation used by Mr. Scanlan in his Exhibit 4, Mr. Scanlan's determination of irrigated acreage within the Lexington Hills Subdivision cannot be relied upon.

Lexington Hills Irrigation Water Requirement

Both Mr. Scanlan's analysis of irrigation water requirement and my own began with the recently published P_{def} (precipitation deficit) data from the University of Idaho (www.kimberly.uidaho.edu/ETIdaho/). The U of I publication provides precipitation deficit, or the net irrigation water requirement, for a variety of plants and open water at various locations around the state. There are several differences in the manner the P_{def} values were used in our separate reports¹.

The first difference is Mr. Scanlan's use of 4 stations while my analysis relied solely upon the Boise WSFO station at the Boise Airport. From an elevation standpoint, the Nampa station is the best match for the Lexington Hills Subdivision. The Boise station is about 200 feet higher in elevation, generally meaning a smaller P_{def} , but has a longer period of record than Nampa. Both Caldwell and Emmett are lower in elevation than the subdivision but the Emmett station is located adjacent to the foothills in the southeast part of the valley. This location may influence the P_{def} differently than the location of the subdivision due to the disruption of the normally prevailing winds from the west. The use of the Boise WSFO station to estimate P_{def} for the subdivision is reasonable, however, using the 4 station average does not result in a major change in P_{def} if all other parameters remain constant. The station least like the subdivision is Emmett due to the station location upwind and adjacent to the foothills.

The second difference is Mr. Scanlan's use of 3 "crops" while my analysis assumed all irrigated area was turf (lawn). Mr. Scanlan used turf, orchard with ground cover and ponds as his "crops" with 80% assumed to be turf, 18% orchard and 2% ponds. Generally, the P_{def} for orchard is larger than the P_{def} for lawn which is larger than the P_{def} for ponds. Using Mr. Scanlan's crop mix results is a slightly higher P_{def} than using turf as the only crop, however, the difference is quite small.

The third difference is Mr. Scanlan's use of the monthly mean 15 day average for the peak month and my use of the peak 20% exceedance 3 day average. Mr. Scanlan's assumptions are not supported by the facts or by the literature. Lexington Hills Subdivision is not similar to an irrigated farm field and it is unlikely within the subdivision that "... some areas are stressed by lack of water or fertilizer ..." (Scanlan, Direct Testimony, March 10, 2008, p7). Throughout the subdivision's existence there has not been an irrigation water shortage and it is not appropriate to assume "... the irrigation water requirement will exceed the available [irrigation] water and the lawns could experience some stress ..." will be an adequate water supply in the future. (ibid.) Likewise, Mr. Scanlan's assumption about the ability of the ponds to serve as a storage reservoir is contrary to my understanding of the ponds ability to serve only as storage for irrigation water delivered during the day from Farmers Union Ditch Company to be

¹ In the Direct Testimony of Mr. Roylance he continues to refer to the 1991 irrigation study of Mr. Bean as his basis for the irrigation water requirements for the Lexington Hills Subdivision. The 1991 study by Mr. Bean was based upon 1966 irrigation requirement data from the Toro Company. Those water requirement data were not current then and are not current now as reflected by both Mr. Scanlan's work and my own. Mr. Bean's 1991 work should be discounted for that reason and not be given further consideration.

depleted during the night while irrigation is at its peak.² My understanding is that multiple day storage is not available in the pond system.

As cited in my direct testimony, the design capacity for irrigation systems, and, therefore, the water supply available to those irrigation systems, has been based upon meeting the peak water demand, not the 15 day average. (ibid.) The difference is significant and the consequences for Lexington Hills Subdivision critical. The net irrigation requirement, P_{def} probably exceeded the irrigation water supply proposed by Mr. Scanlan for 8 days in 2007.

More recently, also as cited in my direct testimony, the design of irrigation systems and the required water supply has been based upon an irrigation exceedance amount rather than the peak irrigation requirement. The exceedance amount frequently used is 20% since that will provide adequate irrigation water to avoid water stress in the irrigated crop in all but 20 of 100 years. The literature cited in my direct testimony supports this method of selecting the appropriate irrigation water quantity for design and for determining the required water supply. (See also Allen, Richard G, and Clarence W. Robinson, Evapotranspiration and Consumptive Irrigation Water Requirements in Idaho, University of Idaho, 2006, Rev 2007, p41.)

The length of period for the moving average used in determining the irrigation system design and the required water supply is normally selected based upon the irrigation interval for the crop(s) to be irrigated. (Allen, p42.) The irrigation system for the Lexington Hills Subdivision was designed for irrigating every other day with an alternating schedule such that half the lots would be irrigated each day. (Bean, E. Lee, Pressurized Irrigation System Demands and Scheduling, Lexington Hills, Eagle, Idaho, Roylance and Associates, PA, November 17, 1991) Turf (lawn) tends to be shallow rooted for most varieties of turf grass and irrigation on every other day promotes shallow rooting. Frequent irrigations refill the moisture in the soil profile and roots will normally only extend to the depth necessary to find water and nutrients. Shallow rooting also minimizes the ability of the crop to use moisture from the soil reservoir. Thus, if water to meet the plants transpiration requirement is not readily available near the surface of the soil the plant will show water stress. The historical irrigation pattern and my experience with turf in the subdivision make the 3 day moving average the correct P_{def} to determine the irrigation water requirement for the subdivision.

² Farmers Union Ditch Company, Limited delivers a constant supply of irrigation water 24 hours per day and the quantity of that constant flow of irrigation water is at issue here. Water from Farmers Union is conveyed to the lower ponds in the subdivision where a portion of the water is constantly pumped through the pond system for aesthetic purposes and returns to the ponds supplied by Farmers Union. The irrigation distribution system pumps from the ponds supplied by Farmers Union as well but pumps primarily at night. During the peak irrigation season, the available storage in the ponds is depleted each night by the irrigation system and must be refilled the next day from Farmers Union so irrigation can occur during the following night.

David Shaw Experience

From 1985 to 1996 I was employed by the Idaho Department of Water Resources as the Adjudication Bureau Chief. Among my duties and responsibilities was participation in policy making, and statute and rule drafting to facilitate a “Fair, technically correct and legally sufficient process for the Snake River Basin Adjudication.” One of the major concerns that drove much of the planning was to be certain notice was adequate through all phases of the adjudication to bind all present and future water users and avoid jurisdictional challenges to the final decree. The initial notice, notice requirement to file claims to the use of water, notice of the Director’s recommendation, notice of objections, notice of responses to objections, notice of partial decrees and the whole docket sheet procedure were discussed and analyzed at length to achieve the most defensible notice process practicable in the adjudication. Deviation from any of these procedures has always been viewed as a potential threat to the integrity on the final decree in the SRBA.



Photo 1



Photo 2

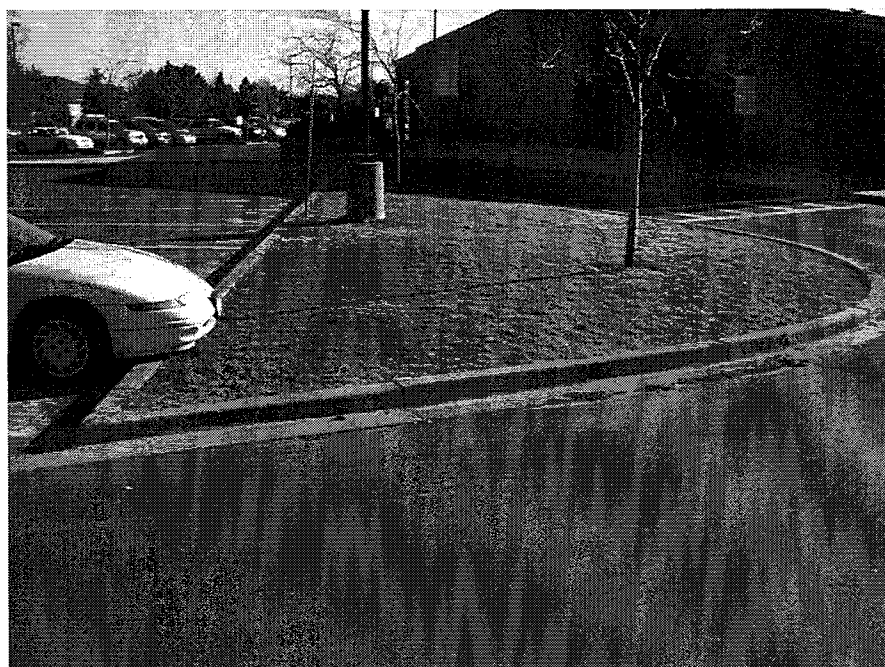


Photo A



Photo B



ATTACHMENT 2R

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PHILLIP M. BARBER

July 11, 1991

VIA MESSENGER

David R. Tuthill, Jr.
Manager, Western Regional Office
Department of Water Resources
2735 Airport Way
Boise, ID 83705

Glen Saxton, Hearing Examiner
Department of Water Resources
2735 Airport Way
Boise, ID 83705

Re: Floating Feather Hills, Inc.
Application for Permit No. 63-11413

Gentlemen:

Enclosed please find the affidavits of Charles Feast and Sherl Chapman which they executed today.

With these affidavits, we have now made our final submission relative to the hearing on Water Rights Permit No. 63-11413. These affidavits represent our response to the post-hearing submissions made by three of the protestants. We have no further submissions.

Thank you for your consideration.

Very truly yours,

Phillip M. Barber

PMB:b

Enclosures

cc: Bryce Peterson, w/enc.
Neil Wilton, w/enc,
Ms. Carol Jensen, w/enc.
Dennis Sutherland, w/enc.
Sherl Chapman, w/enc.
Charles Feast, w/enc.

AFFIDAVIT OF CHARLES FEAST, P.G.

CHARLES FEAST, being first duly sworn, deposes and says:

1. I make the following affidavit based upon my own personal knowledge and inquiries, and on the results of inquiries made under my supervision.

2. I have been retained as an expert groundwater geohydrologist by the Applicants, and in that capacity caused to be performed and supervised the pump test and related data collection, performed certain simulation and other analysis of data, developed certain projections and testified in the hearing on Permit No. 63-11413. My qualifications and the foregoing activities are fully set out in that testimony and in my report which was made a part of the record relative to that Permit. I have reviewed the post-hearing submissions of Mr. Neil Wilton, Ms. Carol Jensen and Mr. Dennis Sutherland, and there follows my conclusions concerning those submissions. I have also reviewed the affidavit of Mr. Chapman and I agree with the conclusions set out therein.

3. Carol Jensen's approach to determining irrigation diversion rates uses the same numbers and assumptions that I did on pages 55 and 56 of the report. However, Ms. Jensen suggests that irrigation diversion rates be reduced by averaging to an annual basis instead of the higher rate for a shorter period. Irrigation rates must apply to the irrigation season, thus using both my calculations and those of Mrs. Jensen's the irrigation

demand for homes is about 1.85 cfs (over a 6 month period). Irrigation of common space and schools is not included. The requested irrigation diversion of two cfs is supported and should not be reduced.

4. Dennis Sutherland expresses several concerns over my use of "speculative" terms in the report. Almost everything about the hydrogeologic profession is in a sense "speculative" in that everything happens underground and no amount of data can be collected that permits us to make absolutely unequivocal statements about natural groundwater systems. The best we can do is use our training and best judgment and experience to describe and evaluate the response of hydrogeologic systems. There is nothing I can do if my use of words which responsibly convey a professional recognition of the realities of groundwater systems analysis concerns him. It is far better to acknowledge that some uncertainty exists than to make unsupported hard conclusions. Nonetheless, in my opinion such uncertainties have been reduced to the absolute minimum by the application of best professional practice and the use of very conservative assumptions given all test and data parameters.

5. One of Mr. Sutherland's repeated concerns is over recharge to the aquifer (#1, 4, 5, 6 and 9). I identified and qualitatively described the recharge sources that are active in this aquifer system. I cannot and did not quantify the amount of recharge from each source, but based on my experience and observations during the aquifer test, irrigation seepage and

lateral inflow to the aquifer from the north and east are the two most significant sources.

6. Relative to Mr. Sutherland's concern over the "speculative" qualifiers I used with regard to recharge, I believe that my conclusions represent the product of best professional practice and any uncertainties are well within accepted limits. The basic underlying conclusion from my analysis is that even without recharge for 30 years, predicted drawdowns in the aquifer due to the proposed diversions will not significantly and negatively impact senior water rights. That conclusion was based on very conservative "worst case" assumptions and I continue to hold it.

7. My discussion that long term aquifer recharge is apparently sufficient to replenish the aquifer on an annual basis is correct. The qualifier "apparently" was used because the minimal long term monitoring data available and spot records are inconclusive, some wells show increases and some decreases in water levels. Water levels in an aquifer respond to a number of factors including natural recharge, irrigation recharge and well discharge and natural lateral discharge.

8. In addition to diversions from wells the aquifer discharge component of a water balance includes lateral flow out of the area. In this area the hydrologic gradient (slope of the water table) is to the southwest at about .007 feet per foot or about 37 feet per mile. Using the aquifer characteristics determined from the pumping test the natural lateral discharge is

700 gallons per day per linear foot (Transmissivity of 100,000 gallons per day per foot times the gradient, $100,000 \text{ gpd/ft} \times .007 = 700 \text{ gpd/ft}$). This equates to about 2500 gallons per minute flowing to the southwest across a one mile width, i.e. about the width of the Floating Feather Hills project area.

9. Stable water levels in an aquifer do not automatically indicate existing groundwater diversions balance recharge. If water levels in an aquifer are not rising or falling the combination of diversions and natural flow are in balance with recharge. As local diversions increase, less water is lost to lateral outflow. The total inflow and outflow to the aquifer remains constant and water levels remain steady.

10. In his comments 2, 3 and "Note:" on the first page and the last two complete statements on the second page, Mr. Sutherland expresses his concern and apparent confusion over the "fault" and my observation that the aquifer at the test well did not have a significant confining bed separating the "spectrum" (sic, "section") into distinct aquifers. The two features, "fault" and "confining bed," are hydrogeologically distinct as elaborated on below.

11. The geologic discontinuity to the north and northeast of the FFH project, whether it is a true structural offset (geologic fault) or a product of different environments of deposition and erosion, does exist based on evidence from geologic logs and other information. The "fault" is an essentially vertical feature bounding the aquifer on the north and east. The

hydrogeologic properties of and subsequent effect of the "fault" on the hydrogeology of the area is not known and was not used in my analysis. The discontinuity may be hydrogeologically transparent (no effect) or it may act as either a hydrogeologic conduit or as a partial barrier (higher or lower water bearing capability than the aquifer, respectively).

12. My statement that lateral flow from the north and east is a significant source of recharge is true regardless of the hydrologic properties of the "fault." Comparing the lateral flow calculation presented above and the irrigation canal loss calculation presented in the report lateral inflow to the aquifer may be more significant than canal recharge (250 gpm from canals versus 2500 gpm lateral flow).

13. My statement on page 14 regarding a "significant confining horizon" refers to the apparent absence of a thick and persistent horizontal layer having sufficiently low water transmitting properties that it separates the vertical section of the aquifer into distinct layers; it does not refer to the "fault."

14. With regard to Mr. Sutherland's summary remarks, he states the application should be turned down because it is "speculative." His reference to speculative may refer to my use of qualifiers where I couldn't better support my beliefs with actual data or he may be referring to the project. The project is not speculative in nature. I prefer "qualified remarks" instead of "speculative remarks."

15. Water levels in the wells did not return to pretest water levels. This is a true statement from the report. When the recovery test was terminated water level in the production well was within one-half foot of pretest levels after a maximum drawdown of 81 feet during the test. Figures 6 through 13 (hydrographs) provided in the report clearly show that water levels were still recovering rapidly in most wells when the recovery portion of the test was terminated.

16. It is important to reiterate that pretest water levels were falling noticeably, and that most wells had recovered above the projected water level (assuming pretest trends continued at a constant over the test period). Water level in the production well at the end of the recovery period was about 2.5 feet higher than the projected water level. The recovery data were sufficient to demonstrate the aquifer's ability to quickly recover from the withdrawal of 750 gpm for 30 days and to obtain additional insight into the hydrogeologic properties of the aquifer.

17. That the aquifer responded at the distances noted and times noted by Mr. Sutherland are true. The magnitude of the response however was very small, less than one foot after 30 days. These quick responses of very low magnitude are indicative of a highly stratified aquifer as discussed in the report.

18. This aquifer does represent a sole source of water for the area and should be protected. Protected however does not refer to refusing to allow additional diversions. Protected refers to identifying real and potential sources of aquifer contamination

located in recharge areas. Examples include: feedlots, septic tanks, fuel storage tanks, poor well construction and excessive fertilizer and agriculture chemical application, and water quality in the Farmers Union Canal.

19. Mr. Neil Wilton makes several comments, all more or less intermixed. With regard to the imbalance of recharge and discharge, I provided a detailed discussion of that in my response to Mr. Sutherland's comments. In summary, natural lateral discharge plus groundwater diversions through wells balances recharge. Excess recharge is lost to lateral flow. Increased diversions can occur without a decrease in water levels. Inflow and outflow of the aquifer appears to have remained balanced for a number of years although data is sparse. Even without recharge the projected impact from the proposed diversion is not significant to senior water rights.

20. With regard to his quotes from Mr. Baker's report about well spacing, Mr. Wilton incorrectly associated these statements with the aquifer beneath the Floating Feather Hills property. Mr. Baker was referring to the Sage Acres Subdivision area, substantially to the east.

21. Mr. Wilton suggests even diversions for the proposed domestic use could be shown to demonstrate overdrafting of the aquifer "if bias toward the low values for transmissivity and recharge." I assumed no recharge for 30 years which is as low a bias as there is. Even Mr. Wilton acknowledges that there is recharge by his comments on page 2. I also used the lowest

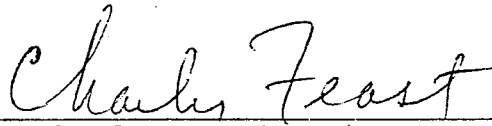
reasonable estimate for aquifer transmissivity based on my analysis of the aquifer test data. I did not use the lowest value calculated 12,000 gpd/ft (Table 1) nor the highest value (681,000 gpd/ft) for reasons stated in the report. The actual mean representative value from all analyses was 174,000 gpd/ft but I used 100,000 gpd/ft to intentionally bias the results toward the lower end. The results were the same, the proposed diversion will not significantly and negatively impact senior water rights or the aquifer itself.

21. Mr. Wilton correctly observes that the recovery portion of the test was interrupted. The recovery portion was not interrupted solely because of the reasons he gives. The recovery data began to show increasing effects of interference from other diversions and in the case of the Eichhorn well direct recharge. Primarily however the recovery portion was terminated because (1) the rapid recovery of the aquifer was demonstrated, (2) aquifer properties could be determined, (3) well owners whose cooperation made the test a success needed use of their wells again, and (4) the need to reduce and analyze the data and produce the report.

22. Mr. Wilton states that Mr. Baker and I reached materially different conclusions. Mr. Baker's report addresses the entire Eagle study area whereas my report was more specific to the proposed diversion. Mr. Baker used a different approach to approximate aquifer properties from the pump test data but his results and my results compare favorably for the time period Mr. Baker was comfortable with. I dealt much more intensively with the

pump test data and therefore was more comfortable extending predictions out in time. I knew that my results were conservative (predicted higher drawdowns) because I used conservative values and no recharge. What the exact drawdown is at a given point in time and distance does not concern me as long as the conservative estimate still does not represent a significant impact.

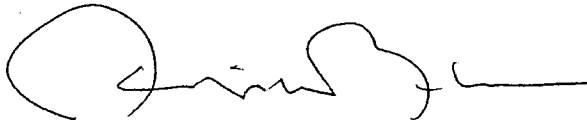
FURTHER, affiant saith not.



Charles Feast

STATE OF IDAHO)
) ss.
County of Ada)

SUBSCRIBED AND SWORN before me this 11th day of July, 1991.



Notary Public for Idaho
Residing at Boise, Ada County, Idaho
My commission expires on 1/27, 1992

AFFIDAVIT OF SHERL L. CHAPMAN

SHERL L. CHAPMAN, being first duly sworn, deposes and says:

1. I make the following affidavit based upon my own personal knowledge and inquiries, and on the results of inquiries made under my supervision.

2. I have been employed by the Applicants as a consulting ground water geologist. In that capacity I designed and supervised construction of the Applicant's test well, remained involved in the process through Mr. Feast's test, reviewed his report and testified at the hearing on the application for Permit No. 63-11413. My specific involvement as well as my qualifications are more fully set out in that testimony. I have reviewed the post hearing submissions of Mr. Neil Wilton, Ms. Carol Jensen and Mr. Dennis Sutherland, and I have set out some of my observations and opinions relative to those submissions below. I have also reviewed the affidavit of Mr. Feast and I concur in the observations and conclusions contained therein.

3. Mr. Wilton indicates that the landowners have no recourse for loss of ground water resources. The CH2M Hill study very specifically demonstrates that there will be no impact to existing ground water users and no depletion of water under existing water rights. Moreover, it is my experience that senior

water right holders do have recourse if they are injured, through both the Department of Water Resources and the legal system.

4. The Department of Water Resources has long recognized that urban irrigation for lawns and gardens is far less efficient than irrigation of cropland and has routinely issued water right licenses for diversion rates much higher than those for cropland. Idaho law, however, is clear that a measure of one's water right is limited to that water that can be applied to beneficial use. If, for some reason, water described in a permit or in an existing right is not applied to beneficial use, the unused portion of the right may be eventually lost through the process of forfeiture and abandonment. It is my opinion that this will not be the case with our project, however, because of the need for higher diversion rates for the land that will be irrigated. Any water not needed for irrigation of the properties within the project will be left in the canal for use by others in the system and will continue to provide aquifer recharge.

4. Concerning conversion of irrigation water to domestic use, the irrigation water Mr. Wilton refers to in his letter is surface water and probably inconvertible since Floating Feather does not even hold the water right but merely holds shares in the canal company over which the board of directors have control. If Mr. Wilton is referring to the irrigation component of the application which is ground water, he is correct in that Idaho law provides the mechanism for a change in nature of use. However, given the public process we have just been through and the

Department's awareness of the potential impact if the domestic withdrawal is increased significantly, a change in nature of use of this water would be extremely difficult to obtain, if not impossible. Any change in nature of use application would have to follow the normal transfer process which requires full public notice and opportunity for protest by any members of the public who feel they may be injured. This is an issue not ripe for discussion.

5. Mr. Wilton discusses a future Ground Water board. Provisions exist in Idaho law to establish a Ground Water Board to conduct investigations into allegations of interference and other injury to water right holders. The Department convened such a Ground Water Board to investigate problems in the Downey area between a Mr. Stewart and Mr. Reisner. However, the Department of Water Resources has found that process to be extremely cumbersome and not very useful in the face of today's technical problems, and It is, therefore, unlikely to be employed in this instance. I am not sure how a Ground Water Board as suggested by Mr. Wilton could help any interference issue in any event. It has been my experience that the Department would be reluctant to delegate authority to such a Board to administer water rights in the State.

6. Mr. Wilton also discussed the uncertainties in both the Baker and Feast report. I would not argue that there are not uncertainties in anyone's interpretation of the ground water resource and potential long term impacts out some 20 or 30 years. All long term projections must have some level of uncertainty

relative to the out years of the projection period, and ground water is, by its very nature, hidden and mysterious. The long projection period in the report was used at the request of the Department. Nonetheless, analysis of the ground water system, potential drawdown effects and impacts were made using the best technology available, more data than most doctorate theses have available and the depth of the expertise of many people very experienced in the hydrologic and geologic field. I am not aware of any analysis of a local aquifer that has been conducted in Idaho with more detail and concern for potential water resource development and impact.

7. Toward the bottom of page 2 of his submission Mr. Wilton seems to translate Mr. Baker's statement regarding well spacing into a statement that declines are occurring in the water table. Mr. Baker was very clear in his report that the reported well declines that have occurred primarily to the east of our project are, in fact, not aquifer depletion problems but well interference problems in that specific area because of the close spacing of domestic wells within subdivisions. This interference cannot be interpreted to be an overall water level decline or depletion of the ground water resource in the area but, in fact, poor design and placement of the domestic wells within the subdivision, demonstrating a lack of concern by subdivision owners rather than a lack of water supply. These well owners seem to be accusing the applicants of the very act they are in fact guilty of,

that is, improper design and consideration for hydrologic parameters and impacts to their neighbors.

8. Mr. Wilton's first paragraph on page 3 relates to overdrafting of the aquifer and biasing data toward the low side of transmissivity and recharge values. As I recall, the Feast report did exactly that. During my discussions with Mr. Feast, he indicated that he had purposefully used very conservative values for transmissivity, storativity and recharge and, in fact, the worst case scenario assumed no recharge at all to the aquifer system with existing levels of depletion. Even with that worst case scenario, based on these very conservative assumptions, there were no significant impacts to the ground water resource in the area.

9. Mr. Wilton also suggests Mr. Baker's and Mr. Feast's differing conclusions as a reason to reject at least a portion of our application. In fact, fairly read, the two reports did not differ significantly but were very close in their final conclusions. Looking at some of the data, it appears that the drawdown effects were within .5 feet (Feast fig. 30; Baker fig. 11), at similar distances from the production well. In the area of groundwater hydrology, this is excellent resolution. Mr. Wilton is trying to stretch the point beyond sound or credible analysis. The data were not judged as inconclusive but were carefully qualified in order to insure that professionalism was maintained. The only major difference as I recall between the two reports was that Mr. Feast did not include a section relating to monitoring

since that had been agreed to prior to the hearing by Mr. Peterson and other principles of the applicants.

Further, Affiant saith not.


SHERL L. CHAPMAN

STATE OF IDAHO)
) ss.
County of Ada)

SUBSCRIBED AND SWORN before me this 11th day of July, 1991.


Notary Public for Idaho
Residing at Boise, Ada Cnty, Idaho
My commission expires on 1/27, 1992

RECEIVED

JUN 28 1991

June 28, 1991

Protest
Floating Feather Hills, Inc.
Application No. 63-11413

Department of Water Resources
Western Regional Office

I would like to start my protest by quoting from the last paragraph of the conclusions, page 5 of the Feast report.

"The ground water resources of the Eagle area need to be better understood to allow informed decisions on water resource and water rights issues."

It appears that a large number of developments are being planned for the Eagle area which will put tremendous pressure on an already suspect water resource.

Mr. Feast after this test well study and the preparing what could be described as a book on the study chooses in his conclusion to voice his concern about the lack of knowledge of Eagle area groundwater.

I agree, and while I'm not, persay, putting down Mr. Feast, because I know his report is speculative by nature. I do want to point out that throughout his report he talks about issues in speculative terms. Examples are:

1. Page 3 Summary - "Lateral inflow from the aquifer margin to the north and east and seepage from canal and irrigation laterals are probably the most significant sources of water."
2. "There does not appear to be significant confirming horizon separating the spectrum into distinct aquifers" Page 14, Hydrogeologic-setting.
3. Page 17 - "Geographical and stratigraphical data suggest a major discontinuity bounds the aquifer on the east and north.

Note: Doesn't it appear that 2 and 3 contradict each other.

4. Page 51, bottom-recharge - "Insufficient data exist to quantify or even prioritized by magnitude the relative contributions each potential source contributes. Lateral inflow and irrigation seepage are probably the most significant sources."
5. Page 5, long term recharge - "Annual recharge is apparently sufficient to replenish the aquifer on a year to year basis.
6. Page 57, aquifer recharge - "Although not investigated during this study, canal leakage is probably a significant source of water in the

aquifer."

7. Page 73, recommendations - "of particular concern is whether the aquifer is being mined over the long duration."

8. Page 73 - "Additional aquifer tests are needed to determine the lateral and vertical variability to the aquifer."

9. Page 52 - "annual recharge is apparently sufficient to replenish the aquifer on a year to year basis."

My protest is that at best Mr. Feast's report, by his over verbiage, leans towards a lot of speculation. The issues here in the short term and especially the long term are far too serious to be determined by the information in hand and some of Mr. Feast's comments in his report (examples listed above) tend to support my concerns.

I have two additional concerns:

1. The well is set at a depth (major water draw area) to draw water at 200 feet to 265 feet while Floating Feather Hills indicates that they have cased the well at 190 feet to protect senior wells. I think it is significant that the well is set just below the levels of existing well. Page 5 - "Most of the wells in the area are 125 to 200 feet." Based on their own experts, the aquifer has a vertical down recharge. If this is so, then that fact that the well is below other wells and cased to 190 feet appears to enhance the possibility of water draining vertically down into Floating Feather Hills well, during short water supply, from existing wells and this could cause damage to senior wells in the area.

2. The assumed fault that is mentioned in this study is on page 17. There is no proof to date that this fault is there. In this report it is indicated that part of the aquifer is recharged from the north and east, page 51 and page 53, and that this lateral inflow is one of two significant sources of recharge.

If the fault were there then it would interfere with this lateral inflow from the north and east and one half of the significant recharge would be significantly reduced or stopped.

On page 14 - "There does not appear to be a significant confirming horizon separating the section into distinct aquifers"

If there were a fault, this statement would also probably not be true.

Page 3 summary - also at the end of paragraph 2 states that "probably lateral inflow from north and east is one of the most significant sources of water. Note: It says from the aquifer margins and on page 14 Feast states "it does not appear there is a

significant confining horizon separating the section into distinct aquifers." Therefore the areas of all test wells would be included in the aquifer margins and the water from the north and east would all be coming from one aquifer and water coming into the recharge from the north and east would appear to not be impeded by a fault. If one of these two recharges did not exist you would, it appears, have a very serious problem with the assumed recharge of this aquifer.

Summary

I think that there is, even after this test, still many serious questions about the water supply in this area and that water from a new well to supply approximately 900 new homes based on what is known today is still speculative and that this permit should be turned down.

On page 27 it is indicated that eleven days after the test "water levels in some wells had not fully returned to pretest levels" and it should be noted that the canal water had returned during the test - a significant source of recharge.

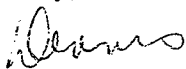
Page 52 - wells as far away as 2500 and 3700 feet responded within 100 to 150 minutes of pumping.

Page 74 - "This aquifer represents a sole water supply for this area. Recharge areas should be identified and be protected."

I agree and that is why I am protesting, I am trying to protect this water supply as Mr. Feast has charged us to do.

Thank you for your time and consideration - it is most appreciated.

Sincerely,



Dennis Sutherland

cc: Phil Barber

RECEIVED

JUN 27 1991

File — Jun, 26, 1991

1 of 3

Department of Water Resources
Western Regional Office

✓ and Glenn Saxton, P.E., Hearing Officer
David Tuthill, Jr., P.E., Western Region Mgr.
Department of Water Resources
2735 Airport Way
Boise, Idaho, 83705

JUN 21 1991

Dear Sirs,

Reference is made to your ruling at the June 12, 1991 hearing concerning application for permit No. 63-11413 in the name of Floating Feather Hills Inc. and Treasure Valley Village, to allow comments until June 28, 1991, on Hydrogeology Report "Results of the 30 Day Pumping Test and Aquifer Analysis." I wish to submit the following comment.

On pages 55 and 56 of the above captioned report, Mr. Feast uses a total of 1000 homes, with 500 homes relying on potable water for irrigation every other day for 6 months, using 10 gallons per minute, 8 hours a day.

Therefore, using this data:

1000 homes total

500 homes irrigated by potable water well

alternate day sprinkling = $\frac{500}{2} = 250$ homes

250 homes x 10 gallons per min. annually =

2500 gallons per minute annually

6 months basis = $\frac{2500}{2} = 1250$ g.p.m.

$$\frac{1250 \text{ g.p.m.}}{450 \text{ g.p.m./C.F.S.}} = \frac{2.78 \text{ C.F.S.}}{24 \text{ hrs.}}$$

$$\frac{2.78 \text{ C.F.S. / 24 hrs.}}{3 \text{ (8 hr. basis)}} = 0.926 \text{ C.F.S. for}$$

6 months, 8 hrs. per day on alternate day sprinkling for 500 homes.

In conclusion, using Mr. Feasts' estimating data which was used for the basis for his recommendations, the application for permit as shown in

Appendix I, and the above calculations, the amount for irrigation water of 2.0 CFS should be reduced to 0.926 CFS.

Very Truly Yours,

Carol Jensen

3045 Floating Feather Rd.
Eagle, Idaho
83616

C.C. Philip Barber, Atty.

MEETING HELD ON MAY 30, 1991

SUBJECT: WATER HEARING SCHEDULED FOR 6/12/91 WITH DEPARTMENT
OF WATER RESOURCES.

ATTENDED BY: BILL PARDEW
KEITH STOKES
BRYCE PETERSON
DUANE STUECKLE
SHERL CHAPMAN
DENNIS WHITMORE
CHUCK FEAST
RICH HORMACHEA
DAVE ROYLANCE
PHIL BARBER
STACEY DAWSON

TIME AND PLACE OF HEARING:

The hearing will be held at the Hall of Mirrors. There will be a "major" hearing at 10:00 A.M. and a "minor" hearing at 7:00 P.M.

NOTE: WE HAVE AN OPPORTUNITY FOR APPEAL, BUT WE HAVE NO CHANCE TO ADD ANYTHING AFTER THE FIRST HEARING.

REPRESENTING ATTORNEY:

Phil Barber will be representing all persons listed above involved in the hearing.

HEARING OFFICER:

The hearing officer will be Glen Saxton.

PRESENTATION AT THE HEARING SHOULD INCLUDE THE FOLLOWING AND THE FOLLOWING SPEAKERS:

DAVE ROYLANCE - Should discuss the project and explain exactly why we want this water. He should have an exhibit map that shows the 4 diversion points.

SHERL CHAPMAN - Should explain the construction of the well.

CHUCK FEAST - Should explain his tests and data.

BILL PARDEW - Should make a brief statement as to the tests he conducted. His statement should have a positive impact on our case.

MONITORING WELL:

Per Phil Barber, a monitoring well will MOST LIKELY be a requirement. We should negotiate in advance, before the hearing, and try to come to a decision. We can amend the application before or during the hearing if necessary.

A monitoring well can be a setback, but can also be an advantage.

We need to let them know what our pumping rate is going to be.

EFFECT ON NEIGHBORS, WELLS, ETC.:

Basically, we drew down water on all wells. However, it was a minimal impact.

HOLGATE - 4'
CARSON - 2 1/2'
EAGLE HILLS - 1'

We had the biggest impact on ICORN WELL. However, this well is worn out. If we have to fix it, we will.

IRRIGATION WATER:

Our restrictions, as to what we can use for irrigation, will most likely be on the permit.

We would like to keep the irrigation water on the property.

ACTIONS THAT NEED RATIFIED:

We need to get all maps, exhibits, etc. together and meet with the Department of Water to decide if we need anything else.

Need Gurke's map added to our subdivision map.

Phil Barber will meet with Spencer Woods, Geologist and discuss matters with him before the hearing.

PER CHUCK FEAST, Steve Baker, Geologist, has a report for us. Chuck feels it will have little impact on our case.

Dave Tuthill agreed to letting us put in a 4" (or 6") well.

Chuck will give his report to Dave Tuthill on Monday.

Dave Roylance, Chuck Feast and Sherl Chapman will meet with Dave Tuthill sometime next week.

THERE WILL BE ANOTHER MEETING ON 6/6/91 @ 3:30 AT HOMCO, INC.

MEETING HELD ON 6/6/91 @ 3:00 P.M.

SUBJECT: WATER HEARING SCHEDULED FOR 6/12/91 WITH DEPARTMENT
OF WATER RESOURCES.

ATTENDED BY: PHIL BARBER
SHERL CHAPMAN
DAVE ROYLANCE
BRYCE PETERSON
DENNIS WHITMORE
HARVEY NEEF
CHUCK FEAST
STACEY DAWSON

TIME AND PLACE OF HEARING:

The hearing will be held at the Hall of Mirrors. There will be a "major" hearing at 10:00 A.M. and a "minor" hearing at 7:00 P.M.

ACTIONS TO BE RATIFIED:

Phil Barber wants us to schedule a meeting with Dave Tuthill and Steve Baker before the hearing so they can tell us what they foresee happening.

Stacey will call Dave Tuthill first thing Monday morning and try to set up an appointment for 1:00 P.M. with Dave Tuthill. Steve Baker, Chuck Feast, Sherl Chapman, Phil Barber and Dave Roylance.

Steve Baker should have his report to us tomorrow, Friday, June 7, 1991.

MONITORING WELL:

Tuthill indicated that there will definitely be a request for a monitoring well. Dave Roylance suggested we propose the Hormaechea well.

PLANNING ZONE COMMISSION:

Required we run a dry line out to Floating Feather Hills for the future possibility of community tie-in.

ORDER AND TEXT OF TESTIMONY:

Phil wants the testimony to proceed in the following manner:

DAVE ROYLANCE - He will do a physical layout to include where the land is, where the diversion points are, how long the project will last, etc.

SHERL CHAPMAN - He will explain the design and construction of the well, what he did and why he did it.

CHUCK FEAST - He will explain his tests and data in complete form.

BILL PARDEW - He will explain the tests he made and the date he collected.

Bryce feels Bill has done a great job on the PR work with the community.

BRYCE PETERSON-- If needed, will summarize our case. Will make aware the fact that all our projects have been through the process, and everything we've submitted to the city has been approved.

Also, we will make every effort to retain all surface water on our property.

ATTACHMENT 3R

MINUTES OF THE ORGANIZATION MEETING OF BOARD OF DIRECTORS

OF

LEXINGTON HILLS, HOMEOWNERS' ASSOCIATION, INC.

The organization meeting of the Board of Directors of Lexington Hills Homeowners' Association, Inc., an Idaho nonprofit corporation, was held at 2417 Bank Drive, #101, Boise, Idaho 83705 on the 8th day of April, 1992, pursuant to Waiver of Notice signed by the Directors.

The meeting was attended by Bryce L. Peterson, Duane H. Stueckle, Dennis J. Whitmore, Dave Royland and Bert Bradley. The following actions and resolutions were unanimously approved:

APPOINTMENT OF MEETING OFFICERS:

Bryce L. Peterson served as Chairman of the meeting and Duane H. Stueckle was chosen Secretary of the meeting.

WAIVER OF NOTICE:

A Waiver of Notice of the meeting as signed by the Directors of the Corporation is annexed to the Minutes of the meeting.

CERTIFICATE OF INCORPORATION:

The Certificate of Incorporation for the Corporation was presented as issued by the Secretary of State of Idaho, showing the due incorporation of the Corporation under the laws of that State as of February 28, 1992.

It was resolved that the Secretary of the meeting be directed to cause a copy of the Articles of Incorporation and a copy of the Certificate of Incorporation issued by the Idaho Secretary of State to be appended to and made a part of the minutes of this meeting.

BYLAWS:

A form of Bylaws was presented for the management of the business affairs and property of the Corporation. The following resolution was duly adopted:

RESOLVED, that the Bylaws of the Corporation in the form presented at the organizational meeting of the Board of Directors hereby are approved and adopted in all respects as the

Bylaws of the Corporation, and that the Secretary of the Corporation is authorized and directed to certify and record the same in the Minute Book of the Corporation.

ELECTION OF OFFICERS.

The following persons were successfully elected to the respective offices:

<u>Name</u>	<u>Office</u>
Bryce L. Peterson	President
Duane H. Stueckle	Vice President and Secretary
Dennis J. Whitmore	Treasurer and Assistant Secretary

BOOKS AND RECORDS; PAYMENT OF EXPENSES:

The following resolution was duly adopted regarding procurement of books and records and payment of expenses:

RESOLVED, that the Treasurer of the Corporation be, and hereby is, authorized and directed to procure all necessary books, books of account and membership books necessary or appropriate in connection with the business of the Corporation, and to pay all charges and expenses incident to or arising out of the organization of the Corporation.

DESIGNATION OF DEPOSITORY:

The following resolution was duly adopted relating to designation of a depository for corporate funds:

ORDERED AND RESOLVED, that the following officers of the Corporation, namely: Bryce L. Peterson, Duane H. Stueckle and Dennis J. Whitmore are authorized for and in behalf of the Corporation and in its name to:

(1) Deposit all or any part of the monies and funds of said Corporation in its corporate name with Washington Federal Savings and Loan, with branch offices in Boise, Idaho, in one or more commercial or checking accounts, or one or more savings accounts, or both and/or in any other class or form of account or deposit, including certificates of deposit and cashier's checks, all on such terms and conditions as the person making the deposit may agree with said bank.

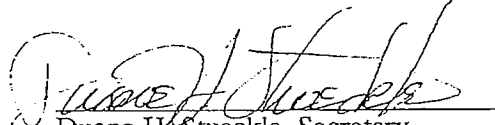
(2) To assign, endorse and/or guarantee, in writing or by stamp or otherwise, and on such terms and conditions as the person so acting may agree with said bank, all checks, drafts, bills of exchange, certificates of deposit, cashier's checks and other orders for the payment of money, payable to or belonging to the Corporation, and to deliver the same to said bank for deposit as aforesaid, or for collection, negotiation, or in exchange for money and said bank is authorized and directed to accept all instrument so assigned, endorsed or guaranteed.

(3) To sign checks and orders for the payment of money withdrawing funds so deposited, and that said bank shall be and it is hereby authorized to honor and pay any checks so drawn, when so signed, whether such checks be payable to the order of the officer signing them, or any of the officers of this Corporation in their individual capacities, or not, and whether they are deposited to the individual credit of the officer signing them, or to the individual credit or any of the officers of this Corporation, or not.

BE IT FURTHER ORDERED AND RESOLVED, that this resolution remain in full force and effect until notice in writing is given said bank to the contrary and that the Secretary of this Corporation certify to said bank under his name and the seal of the Corporation, the foregoing resolution as evidence of the authority herein granted, and to the fact that there are no provisions of the Articles of Incorporation or Bylaws conflicting herewith.

OTHER BUSINESS:

There being no further business to come before the meeting, the same was adjourned.


Duane H. Stueckle, Secretary

APPROVED:


Bryce L. Peterson, President

WAIVER OF NOTICE OF ORGANIZATIONAL MEETING OF DIRECTORS

of

LEXINGTON HILLS HOMEOWNERS ASSOCIATION, INC.

WE, the undersigned, being all of the Directors of the Corporation, hereby agree and consent that the Organizational meeting of Directors of the Corporation be held on the date and time and at the place designated hereunder, and do hereby waive all notice whatsoever of such meeting and of any adjournment or adjournments thereof.

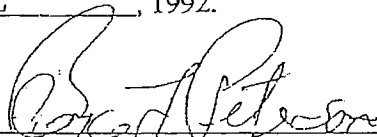
We do further agree and consent that any and all lawful business may be transacted at such meeting or at any adjournment or adjournments thereof as may be deemed advisable by any director present thereat. Any business transacted at such meeting or at any adjournment or adjournments thereof shall be as valid and legal and of the same force and effect as if such meeting or adjourned meeting were held after notice.

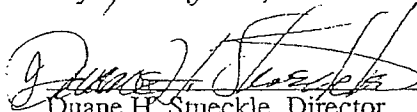
Place of Meeting: 1815 E. STONEYBROOK DRIVE, EAGLE, ID 83616

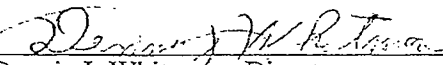
Date of Meeting: APRIL 8, 1992

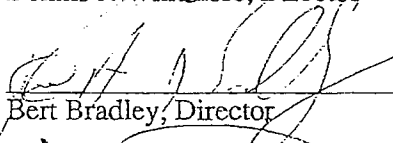
Time of Meeting: 3:30 P.M.

DATED this 8th day of APRIL, 1992.


Bryce L. Peterson, Director


Duane H. Stueckle, Director


Dennis J. Whitmore, Director


Bert Bradley, Director


Dave Roylance, Director