

December 14, 1981

Mr. Will J. Hancock
Business Manager
Hawaii Preparatory Academy
Kamuela, HI 96743

Dear Mr. Hancock:

Variance Application (V81-33)
Height Limits Restrictions
TMK: 5-5-01:33, South Kohala

After reviewing your application and the information submitted in behalf of it, the Planning Director by this letter hereby certifies the approval of your variance request to construct a 55-foot high wind energy unit (windmill) in lieu of the maximum allowable 45-foot height in a Residential zoned district.

The approval is based on the following:

1. An unusual circumstance applies to the subject property which does not generally apply to similar surrounding properties. The terrain is sharply sloping, and the prevailing wind direction is predominantly from the top of the hill, flowing downhill. The windbreak stand of trees mauka (and north) of the receiving structure (dwelling) interrupt the windflow where it is swept upward. Because of the sloping terrain, a site for the wind tower closer to the dwelling would require an even taller tower height in order for the blades of the windmill to effectively generate sufficient power, by "catching" the clear flow. Further, a tower placed outside the trees in a relatively clear space would still have to extend higher to receive the smoother windflow because of the presence of the trees. To remove the trees would have the negative effect of losing the windbreak and destroying one of the more visually attractive and natural elements of the area. Wind energy units are completely dependent upon the flow and

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constant speed of the wind to operate, and a clear zone above tree tops or other obstructions is needed for the unit's blades to function effectively. (Reference on file: "A Siting Handbook for Small Wind Energy Conversion Systems" - U.S Dept. of Energy March, 1980.)

The applicant intends to use the power generated by the windmill to supply the headmaster's dwelling's electrical demands. The facility must be sited relatively close to the existing structure for efficiency purposes, and thus alternate locations throughout the subject property are limited. If the subject terrain were level, smooth and 'unobstructed', the necessary height calculation would have determined that the present maximum 45-foot height would suffice.

2. This set of circumstances (topography, trees and localized wind patterns) exist to a degree which would not permit the establishing of an alternate energy system (the windmill) on the subject property without exceeding the district height limit of forty-five (45) feet. With the continuing local and national emphasis on utilizing alternate energy sources, the denial of this request would thus interfere with the most efficient manner of developing the subject property.
3. Due to the special circumstances involved with this request, approval of the Variance will not constitute a grant of special privilege inconsistent with limitations upon other properties under identical district classifications.
4. Approval of the Variance request would be consistent with the County General Plan and with local and national goals which encourage the development and use of alternate energy sources. Its approval will also be compatible with the district purposes which allow for low density residential use. In this particular case, the height request would not infringe upon existing or potential development rights of surrounding properties, which are currently open pasture for cattle grazing, and agricultural density, (A-1a and A-40a) residential uses.

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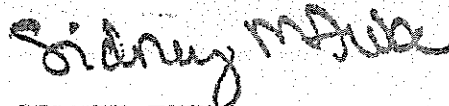
This variance request is approved subject to the following conditions:

1. Precise siting of the windmill tower shall conform with the site plan submitted with the Variance application.
2. Plans and construction of the total structure must be approved by structural engineer or architect registered in the State of Hawaii.
3. The applicant shall obtain and comply with Part 77 of the Federal Aviation Regulations (14 C.F.R. Part 77) pursuant to Section 1101 of the Federal Aviation Act of 1958 as amended prior to obtaining a building permit.
4. The applicant shall submit plans for the proposed development and obtain a building permit for the structure within one year of the date of this letter.
5. Granting of this Variance request does not construe or imply the County's preserving for the applicant any upwind easement by restricting, in whole or in part, future development on other properties in the vicinity.
6. The applicant shall comply with all other applicable State and County rules, regulations and requirements.

Should any of the foregoing conditions not be met, the Variance Approval may be deemed null and void.

If you have any questions on this matter, please feel free to contact us at 961-8288.

Sincerely,



SIDNEY FUKU
Planning Director

DT:gs

cc: John Crouch
Public Works

bcc: Masa Onuma