

STATE OF VERMONT
ENVIRONMENTAL COURT

In re: Appeal of
Stuart L. Richards

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Docket No. 236-12-99 Vtec

Decision and Order

Appellant appealed from a decision of the Zoning Board of Adjustment (ZBA) of the Town of Norwich, granting a permit to Paul Nowicki for the construction of a single-family residence at 84 Elm Street. Appellant is represented by John D. Hansen, Esq.; Appellee-Applicant Paul Nowicki is represented by Laura O'Connor, Esq. and John C. Candon, Esq.; the Town of Norwich is represented by its Zoning Administrator, Phil Dechert, who is not an attorney. Sixteen neighbors have entered their appearance individually as interested parties in opposition to the grant of the permit.

We determined on summary judgment that Parcel 2 may be developed as a separate residential lot from Parcel 1. The remaining question in this appeal was whether the sewage system designed and permitted for Parcel 2 will violate the performance standards of the Norwich Zoning Regulations regarding "objectionable odor." An evidentiary hearing was held on that issue before Merideth Wright, Environmental Judge, who also took a site visit alone, by agreement of the parties. The parties were given the opportunity to submit written requests for findings and memoranda of law, and made arguments on the record at the close of the hearing. Upon consideration of the evidence, the site visit, and the proposed findings and arguments, the Court finds and concludes as follows.

Appellee-Applicant seeks to develop so-called Parcel 2, consisting of approximately 24,000 square feet, with a two-bedroom house, a garage, and an innovative on-site sewage disposal system. The parcel of land slopes steeply down from the road and driveway down towards Blood Brook, an elevation difference of eighteen feet, and slopes more gently down towards Appellant's property. The driveway leads to Appellant's house;

Appellant's land lies to the north and west of Appellee-Applicant's land and is also bounded by Blood Brook.

The house has been constructed on a slab on a terrace midway down the slope of Parcel 2. A stone wall and steps form the downhill edge of the terrace, a portion of which was filled above the native soil. The uphill edge of the terrace was excavated several feet into the existing hillside, the concrete foundation of the building was constructed on the slab, and the hillside was backfilled against the uphill side of the house foundation.

Because of the steeply sloping topography, the limited size of the parcel, and the fact that the portion by the brook is subject to inundation, Appellee-Applicant has installed an "Eljen In-Drain" sewage disposal system on the upper portion of the property, higher in elevation than the house, and near the driveway serving Appellant's property. This system has been approved. At the time of trial, the parties were litigating that approval in another forum; nevertheless, its approval is not at issue in the present appeal. The sole question in the present appeal is whether this system will violate the performance standards of §6.1 of the Norwich Zoning Regulations, which require that "there shall be no objectionable odors," defined in §5.24 as "odors which because of persistence or character would be considered offensive in a particular location by a reasonable person."

Odors do not escape from a household septic tank or sewage disposal system if the septage remains within the system or underground while it is undergoing treatment. Odors can escape from or be generated within a failed household sewage disposal system, if the system becomes clogged or inundated so that septage reaches the surface of the ground before it has been adequately treated.

The sewage disposal system proposed for Appellee-Applicant's parcel consists of a conventional septic tank, a pump station to pump the septage up to the Eljen In-Drain system, and the Eljen system itself, installed over a 6" layer of sand over the existing soil. We consider each component of the system in turn.

The most offensive odor in a household sewage system is found in the septic tank, where the solids in the sewage accumulate. In the septic tank, 95% or more of the solids in household sewage will settle out. The tank will need to be pumped out approximately every two years, a procedure which exposes the potential for odors in the neighborhood during an approximately 15 minute period that the tank is open. That type, duration and

frequency of odor from septic tank pumping is typical of that to be expected in a residential neighborhood, and would not constitute “offensive odor” under the regulations. The remaining liquid after the solids have settled will be pumped uphill to the Eljen In-Drain system. The pump station is a sealed component of the system not open to the outside environment. It is equipped with an alarm to advise the residents of high liquid levels in the pump chamber, which might signify a pump failure.

The Eljen In-Drain system consists of modular, replaceable component blocks (“cells”) of synthetic materials which provide a large surface area for the growth of the mat of organic growth that provides the actual biological treatment of septage which would otherwise occur within the area of a conventional leach field or mound system. At least fifty of these systems installed in the conditions of northern New England (Vermont, New Hampshire and Maine) have functioned well over time. Approximately six are installed and functioning within the Town of Norwich. A failure of the system can result if a treatment cell becomes blocked by excess solids. Unlike a conventional leach field, a failed treatment cell can be removed and replaced within a few hours. The septage in the leach field does not contain the solid materials as in the septic tank, and is not as highly offensive in odor as is the contents of the septic tank. If a cell should need replacement as a one-time event, the odor that would be released during its replacement would not be so persistent or offensive in character as to constitute “offensive odor” under the regulations.

The system is designed so that the liquid flows down through the system, into and through the sand layer, and into and through the native soils, flowing under the slab of the house and reaching groundwater only after it has been acceptably treated by the system, the sand filter, and its passage through the native soils. Appellant’s hydrogeologist analyzed the probable groundwater flow and behavior of the system under rainfall conditions, and concluded that the rear wall of the house foundation (concrete retaining wall) will block the flow of the treated effluent in the ground, so that it will pond in behind that wall and flow around the side of the house, and could reach the surface having received insufficient treatment. If the Eljen system becomes inundated it will not function as designed. However, that conclusion was based on the erroneous assumption that the foundation was excavated into the existing ground level. In fact, the ground was raised at the downslope side of the house to create the flat terrace, prior to the pouring of the slab

and the pouring of the rear concrete wall, and the material excavated behind the rear wall was backfilled and replaced. Based on the evidence, we conclude that the Eljen system is reasonably likely to function as designed, and to provide an adequate degree of treatment of the household sewage, so that no offensive odor will be produced.

Furthermore, if in the future the Eljen sewage disposal system for this parcel does not work as designed, so that sewage surfaces on the property or the system becomes saturated or inundated so that it does not provide sufficient treatment, resulting in persistent and offensive odors, then at that time it will violate the odor performance standard of §6.1. Appellee-Applicant assumes the risk that if the system fails to function as designed, the residential use of the building may have to be discontinued until or unless the system or a replacement system can be made to work.

Based on the foregoing, it is hereby ORDERED and ADJUDGED that the appeal is denied; Appellee-Applicant's permit is hereby granted.

Done at Barre, Vermont, this 29th day of December, 2000.

Merideth Wright
Environmental Judge