

### **Problem: Diffuse Surface Water**

The following problem is intended to test and refine your understanding of the mode of analysis described and defended by Professor Polinsky and tempered by the insights summarized by Professors Jolls, Sunstein, and Thaler.

The facts are adapted from Yonadi v. Homestead Country Homes, 35 N.J. Super. 514, 114 A.2d 564 (App. Div. 1955). The question you should try to answer, in the context of each of the variations of the problem described below, is what legal rule or rules pertaining to the dumping of water on neighbors' land would induce the parties to behave in a manner that promotes economic efficiency.

"[Yonadi] owns a [farm] located on the south side of Allaire Road, Spring Lake Heights, [New Jersey]. The tract ... lying across the road on the north side, consisting of 40 acres, [is owned by Homestead Country Homes. The tract was] farming land until 1950, but since then [Homestead] has erected on it 169 houses. Generally speaking, the natural drainage of the land is southerly, passing from [Homestead's] tract through ditches and a swale [traversing Yonadi's farm], and so eventually to the Atlantic Ocean. There was testimony that the run-off from improved residential areas, such as the development here with its catch basins and sub-surface drains, is about 3 and a half times that coming from the more absorbent soil of the farm land formerly there. In times of heavy rain, excess water has produced flood conditions on [Yonadi's] property."

#### **Variation #1**

Assume the following additional facts: Yonadi and the managers of Homestead Homes are on good terms and know that: (1) the excess run-off has reduced the amount of crops that Yonadi can grow on the farm, thereby diminishing by \$25,000 the present value of the profit the farm could yield in the future; (2) to build on Yonadi's land a culvert, which would channel the excess water into the ocean and thus enable Yonadi to grow as many crops as before, would cost \$10,000; (3) to install dry wells in the development, thereby making the land once again permeable and reducing the volume of run-off to its original level, would cost \$15,000; (4) the market value of the farm without the excess water is \$200,000.

#### **Variation #2**

Same as above, except that: Yonadi and the managers of Homestead dislike each other. To negotiate a rearrangement of whatever entitlements are established by the pertinent legal rule would cost both parties considerable time and money. Litigation would also be expensive.

**Variation #3**

Same as above, except that Homestead could eliminate the excess spill by using a natural drainage field on its land at a cost of \$5000.

**Variation #4**

Instead of only one farm, ten farms lie between Homestead's land and the Atlantic Ocean. The excess run-off from the development passes across each farm in turn before it spills into the sea. The market value of each farm, and the impairment of its profitability caused by the run-off, are identical to those of Yonadi's farm. Building (connecting) culverts on each farm would cost an average of \$10,000 per farm. Installing a dry-well system on the development, which would eliminate the run-off, would cost \$80,000. Litigation would cost: \$5000 for each farmer; \$2000 per suit for Homestead; \$5000 per suit for society.

**Variation #5**

Same as above, except that a dry-well system would cost \$120,000.

**Variation #6**

Same as variation #4, except that the costs of individual culverts and of a dry-well system are unknown.

**Variation #7**

Same as variation #4, except that culverts would cost \$10,000 each; a dry-well system would cost \$100,000. In addition, each of the 10 farmers knows that he could sell his farm to either of two people:

(1) A prospective farmer would pay \$200,000 for his farm if it were not exposed to the excess run-off or \$190,000 for the farm in its present, exposed condition.

(2) A second developer would pay \$195,000 for the farm regardless of whether it is exposed to run-off from the Homestead property. (Because the second developer anticipates having to install a drainage system in any event, he doesn't care whether the land comes with or without a culvert.)

None of the farmers has any emotional attachment to his land. 10,000 residents of the town in which the tract are located like farms and don't like developments and would be willing to pay an average of \$10 each to prevent the conversion of the farms into another development.

**Variation #8**

Same as above except that the townfolk are indifferent. However, 25 persons who own homes in the near vicinity of the farms all oppose the conversion of the tracts into a development. Each of those 25 neighbors would respond as follows to these questions:

Q: How much would you pay to prevent the conversion of the farms into a residential area?

A: \$1000

Q: If I told you that you already have the legal right to block the conversion of the farms into a development, how much money would you demand in return for relinquishment of that right?

A: \$10,000