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LEGAL ASPECTS OF URBAN RUNOFF DEVELOPMENT

by

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The development of alternative water supplies is usually accompanied by a myriad of legal questions. In a water competitive area such as the Santa Cruz River basin where cities, farmers and mines are competing for the same supply, any new developments could be subject to legal challenge. Events of recent years bear this out. In a number of challenges culminating in 1976, Tucson's rights to import water from the Marana and Sahuarita-Continental Critical Groundwater Areas have been limited.[1] At present the city is also facing difficulties with the Pima County government over sewage effluent ownership. The potential for urban runoff development in the Tucson area could also give us reason to foresee future litigation between the city and appropriators on the Santa Cruz and its tributaries.

While legal expertise is generally available to city water planners, it is still necessary for them to gain insight into how the law and hydrology differ in their approach to resolving water supply problems, particularly the question of ownership. This study will look into how water law and its strictures may impose on the development of urban runoff in the metropolitan Tucson area.

Hydrology and law are fundamentally different disciplines. These differences are therefore manifest in their approach to the problem of water rights. More basic is their divergence in the interpretation and application of the principles of the hydrologic cycle.

As viewed by scientists, the hydrologic cycle is a continuous process of mass transport, of water moving through different states of energy, place, and time. Distinctions between the various phases of the cycle (precipitation, runoff, groundwater, etc.) are made for the purposes of classification and study (Piper-Thomas, Templer). The basic principles remain the transitory nature of each phase and the interplay and interrelation within the cycle (Dolson). In recognition of this fact, the trend among water resources planners has been to integrate the various physical phases of the water cycle into uniform watershed plans.

Water law, on the other hand, is concerned with defining "in absolute terms the extent to which an individual may enjoy a right to water or the use of water" (Piper-Thomas). To achieve this end, case law and statutory law sought to compartmentalize the different phases of water into permanent legal categories. These categories may be based on real or supposed physical differences (Templer). Furthermore, case law cannot always recognize the interrelation between the various phases because the majority of cases deal with litigants competing for one category of water. The difficulty of correlating legal classification of waters to hydrologic reality becomes apparent when we turn to the phenomena of urgan runoff and the question of its ownership.

In hydrology runoff, or surface runoff, may be classified as water which is flowing from the point where it first reaches the earth as precipitation until it evapotranspires, infiltrates into the ground, or enters a channel and mingles with other waters. The law, however, does not recognize runoff as a legal classification. Instead, a number of distinct and exclusive categories are applied depending on the specific state of the water.

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[1] Jarvis v. State Land Dept., 104 Ariz. 527 (1969)I, 106 Ariz. 506 (1970)II, 113 Ariz. 230 (1976) III. Farmers Inv. Co. v. Pima Mining Co., 111 Ariz. 56 (1974), Farmers Inv. Co. v. State Land Dept., Anaconda (and other mines) and City of Tucson, 113 Ariz. 520 (1976).

Water which is flowing over the land (i.e., sheet flow) and has not reached a defined channel is called "diffused surface water" or just "surface water." When the water reaches a defined channel it becomes part of the stream and in Arizona falls under the category of waters that are subject to appropriation. Diffused surface waters are not subject to appropriation even if they are tributary to a stream (Hutchins 1974). A third legal category, "developed waters," may also be applied to urban runoff.

The urban planner is therefore faced with the task of correlating three distinct rules of law to the development of this single source of water. The first rule is that of appropriation. In this regard the Arizona Water Code states: "The waters of all sources, flowing in streams, canyons, ravines or other natural channels...belong to the public and are subject to appropriation."[2] The courts have further defined the term "channels" to include small arroyos of intermittent flows of water such as found throughout Tucson.[3]

The second rule is that of diffuse surface waters and is distinct from the law of watercourses. At present Arizona has not decided the question of ownership. It may be inferred from a case dealing with flood waters that a landowner has unrestricted use of diffused surface waters on his land, even to the detriment of others.[4] With the exception of two states, Utah and Colorado, all states permit the landowner to reasonably divert and utilize diffused surface waters on his land.[5] Utah and Colorado hold that all waters tributary to a stream, including diffused waters, are subject to downstream appropriation (Ginsburg 1968).

The third legal designation that may be applied is that of developed waters. Developed waters are "new waters which prior to the work of the developer were not part of the source of supply, but are added to a stream or other source or area by artificial means" (Hutchins 1974). In this regard, the City of Tucson may have a legitimate claim to the new water created by urbanization and large-scale land development that has been taking place (Holub). The city's claim to runoff water under the developed water doctrine could not include waters found in the arroyos and other waters which have historically become part of appropriated streamflow.

The brief descriptions given of the three doctrines should not detract from the complexity of the problem of urban runoff development. In the application of any of these doctrines a number of complex questions of fact would have to be answered. What are the legal boundaries of the very small and shallow arroyos that are typical of Tucson? At what point do waters cease to be diffused and become part of a stream? One intriguing question is whether streets which have specifically been designed to serve as stormwater drains should be defined as channels subject to appropriation.

It becomes evident that one doctrine cannot be relied upon to secure all rights to runoff. It would also be a monumental legal task to integrate the three doctrines in one court case. There are alternatives, however, to judicial means of obtaining title to urban runoff. Briefly, the legislature may create a special category "urban runoff," specifically for the exclusive use of cities. The legislature could also adopt the Colorado rule that all tributary waters are part of a stream and subject to appropriation (Holub).

While only the problem of ownership has received attention, this is not to say that the planner's problems are over when ownership is resolved. There are also legal constraints on water use. Rights to underground storage, contamination of groundwater supplies, liability, and state and federal restrictions on water quality and use are a few of the legal issues that would have to be faced before a plan for beneficial urban runoff could be a source of water for fulfilling future obligations by the city or state to the Indians.

To prevent courtroom setbacks and delays of urban runoff development, it would be advisable for planners to be aware of the legal issues involved and to have an understanding of the philosophy and principles of the "lawyer's paradise and logician's nightmare" known as water law (Thomas 1955).

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[2]Ariz. Rev. Stat. Ann. Section 45-101(A)(1956).

[3]England v. Ally Ong. Hing, 105 Ariz. 65(1969), City of Globe v. Shute, 22 Ariz. 280(1921).

[4]Southern Pacific Co. v. Proebstel 61 Ariz. 412(1944).

[5]See in general Hutchins 1974, C. Davis, and Malloney et al.

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