An Outline of Highway Drainage Law

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•A FEW hours research into the law of the various states concerning interferences with waters occasioned by highway construction and maintenance will convince anyone that a complete analysis is beyond the scope of a paper of this length. Three general classifications of waters are encountered: surface waters, watercourses and subterranean waters. The law relating to each is a field in itself. In addition to the basic case law doctrines relating to waters, there is considerable statutory law and various rules of liability applicable to state highway departments. The application of the law to various factual situations encountered in highway construction often presents a problem. Considerable litigation has arison out of claims for damages by reason of interference with waters by highway construction, and this author believes that a major research project on the subject would be worthwhile. Such a project would result in a volume of considerable size and should be the product of a number of attorneys working over a period of several months.

The purpose of this paper will be merely to outline the legal principles governing drainage and waters as they may be affected by highway construction and maintenance and to point out the various rules applicable in different jurisdictions with the hope that such an outline and citations may serve as something of a springboard for a more complete study of the subject matter.

LIABILITY OF STATE HIGHWAY AUTHORITIES AND REMEDIES OF INJURED PARTIES

Generally speaking, when one private individual unlawfully interferes with water, whether it be surface waters, watercourse or subterranean waters, it is held to be a tort.[1] The doctrines of negligence, trespass and nuisance have all been applied and in some instances recovery has been had on the theory of implied contract.[2] Generally, the injured party is entitled to an abatement of the interference through injunctive relief and for damages to the time of abatement.[3] However, where the interference is by a governmental agency having the power of eminent domain, such as a state highway department, different rules and remedies generally apply. In some instances, it has been held that the state acting in its governmental capacity, even though the interference would be actionable between private parties, is immune from liability.[4] There have also been instances of the state being held liable in tort in the same manner as private owners. This liability, however, is generally limited to states in which sovereign immunity has been waived, either by legislation or court decision.[5]

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[1] Hunter v. Mobile, 244 Ala. 318, 137 So.2d 656 (1943).

[2] Mayer v. Studer and M. Co., 66 N.D. 190, 262 N.W. 925 (1935), and Hunter v. Mobile, supra.

[3] Partial Injunction: Jones v. Kelly Trust Co., 179 Ark. 857, 18 S.W.2d 356 (1929); People v. Hauley, 207 Cal. 395, 279 Pac. 136 (1929); Rogers v. Gibson, 267 Ky. 32, 101 S.W.2d 200 (1937); Stevens v. Rockport Granite Co., 216 Mass. 486, 104 N.E. 371 (1914). Total Injunction: Adams v. Snouffer, 88 Ohio App. 79, 87 N.E.2d 484 (1949); Alonso v. Hills, 95 Cal.App.2d 778, 214 P.2d 50 (1950); See also 93 CUS, Waters, Sec. 146.

[4] Hawks v. Walsh, 177 Okla. 564, 61 P.2d 1109 (1936).

[5] SHC v. Horn, 187 Okla. 605, 105 P.2d 234 (1940); Tracewell v. Wood County Court, 58 W.Va. 283, 52 S.E. 185 (1905); Milhous v. S.H. Dept., 194 S.C. 33, 8 S.E.2d 852 (1940).

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In the majority of states, liability for interference with waters arises from the action being classified as a taking or damaging under eminent domain.[6] In many of these cases, language such as "nuisance", "negligence", and "trespass" are used; however, the action is held ultimately to be a taking or damaging and the remedy just compensation. Generally, where the interference would be actionable between private parties, it constitutes a taking or damaging, however, it has been held that a public agency may be liable even though there would be no liability between private parties.[7] The owner is not entitled to injunctive relief or abatement but is entitled to just compensation for the permanent taking of the right to continue the interference and the state agency acquires the right to continue the flooding, diversion, ponding, or other interference with the waters.[8] In addition, where there is an actual physical taking, water damage is generally to be considered as an element of damage to the remainder.[9] In order to determine a highway department's liability with respect to interference with waters, it is necessary to examine the basic law of that state concerning liability for interference with the various categories of waters. It is realized that in many instances states may have statutes which have a particular bearing on highway drainage, however, these instances will be dealt with only as reflected by the cases.

SURFACE WATERS

In order to deal with the problems raised by the disposition of surface water drainage, American courts have adopted two positions which, in their extreme forms, are completely opposed. One group holds what has come to be known as the "common enemy" or "common law" doctrine. This doctrine briefly holds that each landowner is entitled to take any desired action on his own land to dispose of surface water without liability for damage to his neighbors.[10] The other group follows the rule of the civil law which holds that adjoining landowners are entitled to have the normal course

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[6] Reardon v. San Francisco, 66 Cal. 492, 6 Pac. 317 (1885); Logan Co. v. Adler, 69 Colo. 290, 296, 194 Pac. 621 (1920); Gwinnett Co. v. Allen, 56 Ga.App. 756, 194 S.E. 38 (1937); Covington v. Parsons, 258 Ky. 22, 79 S.W.2d 353 (1935); Gledhill v. State, 123 Neb. 726, 243 N.W. 909 (1932); Okla. SHC v. Horn, 187 Okla. 605, 105 P.2d 234 (1940); Milhous v. S.H. Dept., supra; State v. Hale, 136 Tex. 29, 146 S.W.2d 731 (1941); Nichols on Eminent Domain, Sec. 6.23 (3); 18 Am.Jur., Eminent Domain, Sec. 134; Braswell v. SHC, 108 S.E.2d 912.

[7] Milhous v. S.H. Dept., 194 S.C. 33, 8 S.E.2d 852 (1940); Colusa & H.R. Co. v. Leonard, 176 Cal. 109, 167 Pac. 878 (1917).

[8] U.S. v. Crest, 243 U.S. 316, 61 Led. 76, 37 Sup.Ct. 380 at 385 (1916): stating that "Where the damage is so affected by highway purposes to amount to a taking, and the owner is not entirely deprived of the enjoyment of his land, the fee will stay in the landowner, but upon the payment of the judgment by the state, a flowage easement to the land will pass to the public authority." Braswell v. SHC, supra.

[9] Braswell v. S.H. and Public Works Comm., 108 S.E.2d 912 (N.C., 1959); Bennett v. County of Eaton, 65 N.W.2d 798 (Mich., 1954); Swank v. Plat County, 40 S.W.2d 863 (Neb., 1950).

[10] Tuscon v. Dunseath, 15 Ariz. 355, 139 Pac. 177 (1914); Turner v. Smith, 217 Ark. 441, 231 S.W.2d 110 (1950); Tide-Water Oil Sales Corp. v. Shimelman, 114 Conn. 182, 158 Atl. 229 (1932); U.S. v. Shapiro, Inc., 92 App.D.C. 91, 202 F.2d 459 (1953); Hamilton v. County of Hawaii, 40 Hawaii 193 (1953); Gwinn v. Myers, 234 Ind. 560, 129 N.E.2d 225 (1955); Goering v. Schrag, 167 Kan. 499, 207 P.2d 391 (1949) as to urban land; Greeley v. Maine Cent. R. Co., 53 Me. 200 (1865); Miller v. Darby, 143 N.E.2d 816 (Mass., 1957); Palmer v. Massengill, 214 Miss. 379, 58 So.2d 918 (1952); Happy v. Kenton, 362 Mo. 1156, 247 S.W.2d 698 (1952); O'Hare v. Johnson, 116 Mont., 410, 153 P.2d 888 (1944); Snyder v. Platte Valley Public Power & Irrig. Dist., 144 Neb. 308, 13 N.W.2d 160 (1944); Bennett v. Cupina, 253 N.Y. 436 171 N.E. 698 (1930); Henderson v. Hines, 48 N.D. 152, 183 N.W. 531 (1921); Lundsford v. Stewart, 95 Ohio App. 383, 120 N.E.2d 136 (1953) as to urban areas; King v. Cade, 205 Okla. 666, 240 P.2d 88 (1951); Chamberlain v. Ciaffoni, 373 Pa. 430, 96 A.2d 140 (1953) as to urban property; Deason v. Southern Railroad Co., 142 S.C. 328, 140 S.E. 575 (1957); Mason v. Lamb, 189 Va. 348, 53 S.E.2d 7 (1949); DeRuwe v. Morrison, 28 Wash.2d 797, 184 P.2d 273 (1947); Lamm v. Milwaukee 85 N.W.2d 349 (Wis., 1957).

of natural drainage maintained with the lower owner bound to accept and dispose of the water which naturally comes to his land from above.[11]

Each doctrine has both advantages and disadvantages and has generally been modified to some extent to minimize the disadvantages. In addition, a few jurisdictions have abandoned both of the traditional rules and have adopted a rule of "reasonable use" under which the landowner in dealing with surface waters is entitled to take such steps as are reasonable in the light of all the circumstances.

The common enemy doctrine has the advantage of permitting the free improvement of property with the disadvantage that it is likely to promote drainage contests. The civil law doctrine, on the other hand, although it avoids such contests, has a tendency to preclude proper improvement of property.

Common Law Rule or Common Enemy Doctrine

In its extreme form, the common enemy doctrine or common law rule holds that as an incident to his right to use his own property as he pleases, each landowner has an unqualified right by operations on his own land to fend off surface waters as he sees fit without concern for the consequences to other landowners who have the duty and right to protect themselves in the same manner. The doctrine appears to have had its inception in Massachusetts. One of the leading cases was Gannon v. Hargadon[12] which held that the defendant had a right to alter ruts on his property in such a manner that surface water was diverted to plaintiff's property. The court held that the right of a landowner to occupy and improve his property by changing the surface or putting structures thereon was not restricted or modified by the fact that the land was so situated that the improvement would cause surface water either to stand in unusual quantities on adjacent land or pass onto and over the other lands in greater quantities or in other directions than the water was accustomed to flow, and that it was immaterial whether the result of defendant's act was to prevent the water from coming on his land at all or to turn it off in a new course after it had entered.

The original common enemy doctrine has been considerably qualified in more recent decisions and it is unlikely that any court today would apply it in its original form. However, it appears to be the basis of decisions in many jurisdictions.[13]

Probably the most common modification of the common enemy doctrine is that the action taken by the property owner must be without malice or negligence.[14] Other jurisdictions have stated that the action must not unreasonably or unnecessarily injure the neighbor's land.[15] At least one jurisdiction has modified the rule so that the owner

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[11] Kay-Noojin Dev. Co. v. Hackett, 253 Ala. 588, 45 So.2d 792 (1950); So. Pac. Co. v. Proebstel, 61 Ariz. 412, 150 P.2d 81 (1944); Kallens v. Orange Co., 129 Cal.App.2d 255, 276 P.2d 886 (1954); Rinzler v. Folsom, 209 Ga. 549, 74 S.E.2d 661 (1953); Loosli v. Heseman, 66 Idaho 469, 162 P.2d 393 (1945); Turkey v. Arnold, 384 Ill. 158, 51 N.E.2d 176 (1943); Cundiff v. Kopseiker, 245 Iowa 179, 61 N.W.2d 443 (1953); Goering v. Schrag, supra; Gott v. Franklin, 307 Ky. 466, 211 S.W.2d 680 (1948); Elam v. Cortinas, 219 La. 406, 53 So.2d 146 (1951); Kennedy-Chamberlain Dev. Co. v. Shure, 212 Md. 369, 129 A.2d 142 (1957); Bennett v. Eaton Co., 340 Mich. 330, 65 N.W.2d 794 (1954); Palmer v. Massengill, supra.; Martinez v. Cook, 56 N.Mex. 343, 244 P.2d 134 (1952); Johnson v. Winston-Salem, 239 N.C. 697, 81 S.E.2d 153 (1954); Lunsford v. Stewart, supra.; Garrett v. Haworth, 183 Okla. 569, 83 P.2d 822 (1938); Wellman v. Kelly & Harrison, 197 Ore. 553, 252 P.2d 816 (1953); Lucas v. Ford, 363 Pa. 153, 69 A.2d 114 (1949) as to rural areas; Kougi v. Curry, 73 S.D. 427, 44 N.W.2d 114 (1950); Slatten v. Mitchell, 22 Tenn.App. 547, 124 S.W.2d 310 (1932); Blocher v. McArthur 303 S.W.2d 529 (Tex. Civ. App., 1957); Beard v. Murphy, 37 Vt. 99, 86 Am.Dec. 693 (1864).

[12] 92 Mass. (10 Allen) 106, 87 Am.Dec. 625 (1865).

[13] Note footnote 11, supra.

[14] O'Hare v. Johnson, supra.

[15] Synder v. Platte Valley Public Power & Irrig. Dist., supra; Turner v. Smith, supra.

interfering with the drainage may not cause a nuisance.[16] The language "wantonly, unnecessarily, or carelessly and in bad faith" has also been used.[17]

Damming Back Water.—A situation which can arise in highway construction, but which is generally avoided by the installation of adequate culverts, is the construction of a fill so as to dam back and cast on the upper owner surface water which would normally drain down and across his land. The common enemy doctrine in its unmodified form authorizes this action without liability.[18] Under various modifications of the common enemy doctrine, the right to dam against surface waters has been substantially limited. It has been held that if the damming is unnecessary (i.e., a different method may be employed at no greater expense), liability may be incurred by the damming and casting waters on the upper owner.[19] It has also been held that the casting back or damming of waters must be reasonable and with due regard for the rights of others.[20] It has also been limited in that a landowner has no right to obstruct a natural watercourse.[21] However, watercourses will subsequently be treated separately. In some cases with regard to surface water, watercourse has been broadly defined to mean any ditch, swale or gully carrying surface water.

Augmenting Natural Drainage.—Under the common enemy or common law doctrine, even as modified, there seems to be little doubt that an owner of upper land acting in the reasonable use of his property and without negligence may augment the flow of surface waters to the land below, either by increasing the volume or by changing the mode of flow.[22] Apparently under the common law or common enemy rule, property owners may both accelerate and divert the flow of surface waters.

Collecting and Discharging Water.—It has usually been held that the traditional common enemy rule states that an upper landowner ordinarily has no right to artificially collect surface waters and discharge them in a mass on the lower proprietor to the latter's damage.[23] This is certainly so where there is any negligence involved in the concentration and discharge of surface waters.[24] It appears that in this area the common enemy and civil law rules are most alike. A number of common enemy doctrine jurisdictions or modifications thereof have held that the collection, concentration and discharge of surface waters on a lower owner is unlawful.[25]

Civil Law Rule

Completely opposed to the common enemy or common law rule is the extreme civil law rule which recognizes a natural servitude of natural drainage as between adjoining lands so that the lower owner must accept the surface water which naturally drains onto his land, but on the other hand, the upper owner can do nothing to change the natural system of drainage so as to increase the natural burden.[26] The reason this rule is called the civil law rule is that it apparently had its inception in the Roman law. The basis for the rule is that those purchasing or otherwise acquiring land should accept it subject to the burdens of natural drainage and is founded on the fact that water runs downhill.

The rule has the advantage that a property owner's rights are predictable. Its tendency to inhibit the development and improvement of land is its greatest drawback. As with the common enemy or common law rule, the basic rule has been greatly modified;

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[16] Deeson v. Southern Railroad Co., supra; Garmoney v. Southern Railroad Co., 152 S.C. 205, 149 S.E. 765 (1929).
[17] Mason v. Land, 189 Va. 348, 53 S.E.2d 7, 12 A.L.R.2d 1332 (1949).
[18] Watts v. Evansville NT. C. and N.R. Co., 191 Ind. 27, 129 N.E. 315 (1920).
[19] Holeman v. Richardson, 115 Miss. 169, 76 So. 136 (1917).
[20] Haskins v. Felder, 270 P.2d 960 (Okla., 1954).
[21] Capes v. Barger, 1123 Ind.App. 212, 109 N.E.2d 725 (1953).
[22] Callins v. Orange Co., 129 Cal.App.2d 255, 276 P.2d 886 (1954).
[23] Routka v. Rzegocki, 132 Conn. 319, 43 A.2d 658 (1945).
[24] Bussell v. McClellan, 155 Neb. 875, 54 N.W.2d 81 (1952).
[25] Ricenbaw v. Kraus, 157 Neb. 723, 61 N.W.2d 350 (1953).
[26] Annot., Surface waters, drainage, etc., 59 A.L.R.2d 429.

however, it appears to serve as a foundation for surface drainage law in a number of jurisdictions.[27]

Because under a strict interpretation of the civil law rule, almost any use of property is likely to cause a change in the natural drainage which may cause damage to an adjoining owner, the courts have shown considerable tendency to modify the rule in some respects so as to permit a reasonable use of land. A number of jurisdictions have accepted the modification of reasonable use and have avoided liability where the use was reasonable and where there was no negligence involved.[28]

Even the states adhering more strictly to the rule have modified it to the extent that water may be accelerated but not diverted.[29]

Acceleration and diversion are probably the two most common problems arising out of highway construction. The paving of a road naturally accelerates the flow of water, and it is difficult to construct highways so that all water continues to flow in the same direction without the introduction of new drainage areas. Some jurisdictions have modified the civil law rule even to the extent of adopting the common law rule as to urban property.[30]

Damming Back Water.—The civil law rule, at least before modification, appears to forbid the lower owner from damming back the natural flow of surface water.[31] This seems to follow, of course, from the theory that the lower owner must accept the surface water naturally flowing on him. However, it appears that a lower owner has the right to dam back water or artificial drainage which has been unlawfully thrown upon him.[32] In addition, it has been held that a governmental agency in constructing public improvements might validly exercise police power to obstruct such flow without making compensation and that the construction of improvements along a stream for the purpose of flood control was within the police power.[33]

An exception to the rule that the damming back of water may not be tolerated under the civil law rule has been applied where the damming back is occasioned by the change or establishment of a grade of a street by a municipality.[34] This is particularly so where there is no negligence in the construction of the street. However, it is not the universal rule and a number of cases hold a municipality liable for interfering with the flow of surface water by grading a street.[35]

Augmenting Natural Drainage.—The rule appears to be generally that under the civil law natural drainage may be augmented as the rule is now modified. In other words, surface waters may be accelerated and increased in volume so long as no additional areas are tapped from which surface waters otherwise would not have flowed.[36] This tapping of additional watershed areas is generally referred to as a diversion and is generally prohibited in civil law jurisdictions. It has also been held that an upper proprietor may drain his land into a natural watercourse without liability to a lower proprietor for resulting damages, although the effect is to throw the surface water in somewhat increased volumes on the lower owner.[37] Several jurisdictions have held that an upper proprietor must act with reasonable consideration for the rights of the lower landowner and not cause unusual or unreasonable amounts of water to be emptied

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[27] Note the cases in footnote 11.

[28] Monarten v. Jet, 12 La. 501, 32 Am.Dec. 120 (1838); Ratcliff v. Indian Hills Acres, Inc., 93 Ohio App. 231, 113 N.E.2d 30 (1952).

[29] Braswell v. SHC, 250 N.C. 508, 108 S.E.2d 912.

[30] Timmons v. Clayton, 222 Ark. 327, 259 S.W.2d 501 (1953).

[31] Turner v. Hopper, 83 Cal.App.2d 215, 188 P.2d 257 (1948).

[32] Hancock v. Stull, 206 Md. 117, 110 A.2d 522)1955).

[33] O'Hara v. L. A. County Flood Control District, 19 Cal.2d 61, 119 P.2d 23 (1941).

[34] Hume v. Des Moines, 146 Iowa 624, 28 A.L.R. (NS) 126, 125 N.W. 846 (1910); Globe v. Marino, 23 Ariz. 124, 202 Pac. 230 (1921).

[35] McNinch v. Columbia, 128 S.C. 54, 122 S.E. 403 (1924); Jeffersonville v. Myers, 2 Ind.App. 532, 28 N.E. 999 (1891); Milhous v. S.H. Dept., supra; Reardon v. San Francisco, 66 Cal. 492, 6 Pac. 317 (1885).

[36] Callins v. Orange Co., 129 Cal.App.2d 255, 276 P.2d 886 (1954).

[37] Holeman v. Richardson, 115 Miss. 169, 76 So. 136 (1917).

on the lower land.[38] Generally, surface waters may be accelerated but not diverted. By diverted, it is generally meant additional watersheds tapped or drained on the lower owner or surface water discharged on the owner at a different point from that which it was previously discharged.

Collecting and Discharging Water.—The civil law rule here appears to be generally consistent with the common law or common enemy rule in that a property owner may not artifically collect surface waters and discharge them in mass on the lower proprietor to the latter's damage.[39] In other words, an upper landowner in the proper improvement of his land may, to some extent, augment or concentrate the natural drainage but he may not gather the surface waters artifically and dump them on the property below to its injury. It has been held that not only the amount of water caused to flow on the lower land, but the manner of collection and release and the intermittent increase in volume or destructive force or its direction to a more vulnerable point of invasion are important.[40]

Rule of Reasonable Use

A few jurisdictions, recognizing the undesirability of applying either the common enemy doctrine or the civil law rule in its rigid or extreme form, have evolved a rule of reasonable use which attempts to determine the rights of the parties with respect to the disposition of surface waters by an assessment of all the relevant factors.[41] Such an approach has flexibility and avoids the harsh results which may be reached under extreme application of the other rules. The rights of the parties are ordinarily regarded as involving issues of fact for the jury, and the predictability of liability is generally poor.

The reasonable use rule may be stated as follows: "Where the interference with surface waters results in an invasion of a neighbor's interest in the use and enjoyment of his land, an action may lie where the invasion, if unintentional, was negligent, reckless or ultrahazardous, or, if intentional, where the invasion was unreasonable on weighing the gravity of the harm caused against the utility of the conduct complained of."[42] Other jurisdictions have reached the rule of reasonable use by progressive modification of the common enemy doctrine. In some cases, the civil law or common enemy doctrine have been so substantially modified, although not expressly rejected, as to approach the rule of reasonable use.[43]

WATERCOURSES

A body of law has evolved concerning watercourse which is of concern to highway engineers and lawyers because it is often necessary to bridge streams, change channels and in some way either interfere with or alter such watercourses. Watercourses are divided into two types—natural and artificial.

Natural Watercourses

"The term watercourse is frequently defined as a stream of water flowing in a definite direction or course in a bed with banks." This definition is for most purposes sufficient but a too strict adherence to it has caused confusion in some cases. A some-

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[38] Levine v. Salem, 191 Ore. 182, 229 P.2d 255 (1951); Lucas v. Ford, 263 Pa. 153, 69 A.2d 114 (1949); Turner v. Hopper, supra; Studer v. Dashner, 242 Iowa 1340, 49 N.W.2d 859 (1951); Wallace v. Snyder, 310 Ky. 17, 219 S.W.2d 977 (1949).

[39] Rudker v. Rzegocki, supra; Tide Water Oil Sales Corp. v. Shimelman, 114 Conn. 182, 158 Atl. 229 (1932); Ricenbaw v. Cross, supra.

[40] Ricenbaw v. Cross, supra; Phillips v. Chesson, 231 N.C. 566, 58 S.E.2d 343 (1950); Martin v. Jett, supra.

[41] Restatement of Torts, Sec. 833.

[42] Restatement of Torts, Sec. 833; Bassett v. Salisbury Manfg. Co., 43 N.H. 569, 82 Am.Dec. 179, (1862).

[43] Bush v. Rochester, 191 Minn. 591, 255 N.W. 256 (1934); Henderson v. Tulahan, 226 Minn. 163, 32 N.W.2d 286 (1948); Johnson v. Agrabeck, 247 Minn. 432, 77 N.W.2d 539 (1956); Hopler v. Morris Hills Regional Dist., 45 N.J.Super. 409, 133 A.2d 336 (1957); Whitman v. Farney, 181 Md. 652, 31 A.2d 630 (1943); Lunsford v. Stewart, supra.

what similar definition of a watercourse is a channel with banks and bed and running water. According to another definition, the distinguishing characteristic of a watercourse is the existence of a stream of water flowing for such a length of time that its existence will furnish the advantages usually attendant on streams of water. It is a condition created by a stream having a well-defined and substantial existence.[44] The term watercourse is applied only to inland streams. Watercourses as herein considered should be distinguished from natural channels or drainways for the drainage of surface waters. Various rights are attached to watercourses, and interference therewith by highway departments may give rise to complaint. As we have seen, certain immunity may attach to governmental agencies in the change of grade and construction of highways with regard to surface waters. However, it appears with regard to watercourses that a highway department stands on the same footing as a private property owner.[45]

In addition to interference with the flow of water so as to throw it on another property, the general principle of the law of water (subject to certain exceptions and modifications) that a riparian proprietor has the right to have the water of the stream flow by or through his premises in its natural mode, course and volume, should be considered.[46]

Channel Change.—A landowner (and a state highway department would stand on the same footing as a landowner) has the right to divert or change the course of a stream flowing through his land provided he returns it to its original or natural channel before it reaches the land of the lower owner.[47] The right to change the course of superabundant water is no less certain than the right to change to course of an ordinary stream.[48] One who changes the course of a stream must do so in such manner as not to injure or interfere unduly with the rights of the adjoining property owners, either above or below or on the opposite side of the stream. Thus, he must not by changing the direction of the flow of the stream so increase or diminish its velocity as to cause damage to the land of the adjoining property owners or impair their rightful use of the stream, nor can he make any change or division of the stream although on his own land which would cause the washing of mud and debris on the land of his neighbor.[49] Without regard to negligence, the riparian owner, who diverts the waters of a natural stream from its accustomed channel and causes them to flow on the lands of another owner, is liable for resulting damages.[50] Also, one may not alter the channel of the stream so as to accelerate the flow and injure an adjoining property.[51] One who, for his own purposes, changes the course of a stream must use due care to provide the stream with a new channel of sufficient capacity to carry off, not only the ordinary flow of water, but also such high waters as may be reasonably anticipated.[52]

Deflection of Current.—One cannot interfere with the flow of a stream so as to deflect the current and cast it directly against the banks of a lower owner resulting in the

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[44] Chicago, R.I. and P.R. Co. v. Groves, 20 Okla. 101, 93 Pac. 755; Simmons v. Winters, 21 Ore. 35, 27 Pac. 7.

[45] 25 Am.Jur. Highways, Section 91.

[46] United States v. Crest, 243 U.S. 316, 61 L.Ed. 746, 37 Sup. Ct. 380; Cole v. Bradford, 52 Ga.App. 854, 184 S.E. 901; Straton v. Mt. Hermon Boys School, 216 Mass. 83, 103 N.E. 87; Townsend v. McDonald, 12 N.Y. 381, 64 Am.Dec. 508.

[47] Cook v. Seaboard Air Line R. Co., 107 Va. 32, 57 S.E.564; Mentone Irrig. Co. v. Redlands Electric Light & P. Co., 155 Cal. 323, 100 Pac. 1082; Dillings v. Murray, 6 Ind. 324, 63 Am.Dec. 385; Missouri P.R. Co. v. Keys, 55 Kan. 205, 40 Pac. 275.

[48] Cook v. Seaboard Air Line R. Co., supra.

[49] Kay v. Kirk, 76 Md. 41, 24 Atl. 326; Atchinson, T. & S.F.R. Co. v. Hadley, 168 Okla. 588, 35 P.2d 463.

[50] McKee v. Nebraska Gas & E. Co., 110 Neb. 137, 193 N.W. 106; Hartshorn v. Chaddock, 135 N.Y. 116, 31 N.E. 997.

[51] Mullen v. Lake Drummond Canal & Water Co., 130 N.C. 496, 41 S.E. 1027; Mentone Irrig. Co. v. Redlands Electric Light & P. Co., 155 Cal. 323, 100 Pac. 1082; Gilson v. Delaware & H. Canal Co., 65 Vt. 213, 26 Atl. 70.

[52] Willson v. Boise City, 20 Idaho 133, 117 Pac. 115; Garrett v. Beers, 97 Kan. 255, 155 Pac. 2.

washing away or destruction of a portion of his land.[53] Liability for deflecting a current to the injury of a lower proprietor may be incurred by the construction of a bridge or pier in the river. The injury, however, must be one that could reasonably have been foreseen.[54]

Acceleration.—Generally an upper owner has no right to accelerate the flow or current of a natural watercourse or to increase the volume to the injury of a lower owner.[55] The rule has been applied where the acceleration is caused by deepening the channel or removing natural obstructions therefrom. There are cases to the contrary, however, that hold that a stream may be accelerated or the volume increased if improvements are reasonably necessary for the utilization and enjoyment of riparian rights in the stream or for the protection of the owner's property.[56] The right to construct and maintain embankments and structures in and along watercourses to facilitate their use is generally subject to the paramount right of riparian owners to have the stream flow in its natural mode and manner without undue acceleration or increase in volume.

Obstruction and Detention.—As already seen, a riparian owner has the right annexed to his land to have the water of a stream flow to and from his land as it usually flows so far as is consistent with the right of other owners to make a reasonable use of such water. It follows that the obstruction of the natural flow of a stream is always done at the risk of being answerable in damages to an owner who sustains a loss thereby. An upper owner has no right unreasonably to interrupt or to retard the natural flow of water to the injury of lower owners,[57] nor has a lower owner the right to throw the water back on the upper owners unless he has acquired the right to do so by grant, license, prescription, prior appropriation or an exercise of the power of eminent domain.[58] The obstruction of a natural stream in such manner or to such extent as to infringe on the rights of others or to injure their property has frequently been held to constitute a nuisance.[59]

Liability for the obstruction of a stream by debris or drift may arise from the placing or leaving of such debris in or along the stream or from the erection and maintenance of structures causing an accumulation of such debris or otherwise interfering with the flow of the stream.[60] One who erects in the stream such a structure which will likely result in damage to another is chargeable with negligence and if the current of the stream becomes so obstructed by reason of such structure being washed down that the water therein is diverted from its ordinary channel and destroys the property of another, the person erecting the structure will be liable in damages.

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[53] Fowler v. Wood, 73 Kan. 511, 85 Pac. 763; Morton v. Oregon Short Line R. Co., 48 Ore. 444, 87 Pac. 151.

[54] De Baker v. Southern California R. Co., 106 Cal. 257, 39 Pac. 610; Lehigh Bridge Co. v. Lehigh Coal & Nav. Co., 4 Rawle (Pa.) 8, Am.Dec. 111.

[55] Stein v. Burden, 29 Ala. 127, 65 Am.Dec. 394; Grant v. Kuglar, 81 Ga. 637, 8 S.E. 878; Kamm v. Normand, 50 Ore. 9, 91 Pac. 448; Jones v. Conn., 39 Ore. 30, 64 Pac. 855, 65 Pac. 1068.

[56] San Gabriel Valley Country Club v. Los Angeles County, 182 Cal. 392, 188 Pac. 554, holding that the right to hasten the drainage along a watercourse is not limited to the natural capacity of the stream so as to entitled a lower riparian owner to damages in case his land is flooded by the increased flow of the water.

[57] Parker v. Griswold, 17 Conn. 288, 42 Am.Dec. 739; O'Connell v. East Tennessee, V. & G. R. Co., 87 Ga. 246, 13 S.E. 489; Evans v. Merriweather, 4 Ill. 492, 38 Am.Dec. 106; Whitney v. Wheeler Cotton Mills, 151 Mass. 396, 24 N.E. 774; Clinton v. Myers, 46 N.Y. 511, 7 Am.Rep. 373; Rhodes v. Whitehead, 27 Tex. 304, 84 Am.Dec. 631.

[58] Kroeger v. Twin Buttes R. Co., 13 Ariz. 348, 114 Pac. 553; Parker v. Griswold, supra; Grant v. Kiglar, 81 Ga. 637, 8 S.E. 878; Heith v. Williams, 25 Me. 209, 43 Am.Dec. 265; Mullen v. Lake Drummond Canal & Water Co., supra; Davis v. Fuller, 12 Vt. 178, 36 Am.Dec. 334; Rhodes v. Whitehead, supra.

[59] Farris v. Dudley, 78 Ala. 124, 56 Am.Rep. 24; Ogletree v. McQuaggs, 67 Ala. 580, 42 Am.Rep. 112; Baltzeger v. Carolina Midland R. Co., 54 S.C. 243, 32 S.E. 358; Mohr v. Gault, 10 Wis. 513, 78 Am.Dec. 687.

[60] Goble v. Louisville & N.R. Co., 187 Ga. 243, 200 S.E. 259; Williams v. Columbus Producing Co., 80 W.Va. 683, 93 S.E. 809.

Artificial Waterways

Artificial watercourses are just what the name implies—watercourses which are man-made and not natural. They cover such a wide variety of conduits (canals, drains, sewers, irrigation ditches, waterworks, flumes, etc.) that it is difficult to make any general statement concerning them. However, it might be said that they are generally constructed under some particular property right (easement, for example), and each will require examination on its own merits. Under certain circumstances, an artificial watercourse may take on the aspects of a natural watercourse, and where this occurs, the same principles apply.[61]

SUBTERRANEAN WATERS

Subterranean waters are generally divided into two classes—percolating waters and flowing streams. Generally unknown and undiscoverable streams are governed by the same rules as those applied in the case of percolating waters.[62] Underground bodies or accumulations of water other than flowing streams, such as reservoirs or artesian basins, are generally classified and treated as percolating waters.[63]

Percolating Waters

Percolating waters in the strict sense of the word are generally defined as those which ooze, seep, filter or percolate through the ground under the surface without a definite channel.[64] The term has also been used in a more comprehensive sense as including veins, riverlets or other streams which flow in a course that is uncertain or unknown and not discoverable from the surface without excavation for that purpose, as well as other underground accumulations such as lakes and artesian basins. As with surface water, two rules have developed with regard to the diversion or interference with percolating waters. These are the so-called "English" or "common law" rule and the "American" or "correlative rights" rule.

English Rule.—In England where the question first arose, the view was taken that the ownership and control of land applied to and included the percolating waters therein and consequently that any obstruction or diversion thereof by the owner or occupant of land incident to the use thereof to the injury of an adjoining or neighbor owner or occupant was at least in the absence of negligence or malice not actionable at law. This rule was followed in many of the earlier cases in this country and probably still prevails in a majority of jurisdictions.[65] The rule, in its extreme, is stated in Pixley v. Clark,[66] as follows:

> An owner of the soil may divert percolating water, consume or cut it off, with impunity. It is the same as land, and cannot be distinguished in law from land. So the owner of the land is the absolute owner of the soil and of percolating water, which is a part, and not different from, the soil. No action lies against the owner for interfering with or destroying percolating or circulating water under the earth's surface.

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[61] 66 Am. Jur., Waters, Sec. 151.

[62] Subterranean Waters, 29 A.L.R. 1357.

[63] Ibid.

[64] Subterranean Waters, 29 A.L.R.2d 1357 and 1358, Sec. 3.

[65] Roath v. Driscoll, 20 Conn. 533, 52 Am.Dec. 352 (1850); Saddler v. Lee, 66 Ga. 45, 42 Am.Rep. 62 (1880); Edwards v. Haeger, 180 Ill. 99, 54 N.E. 176 (1889); New Albany & S.R. Co. v. Peterson, 14 Ind. 112, 77 Am.Dec. 60 (1860); Chesley v. King, 74 Me. 164, 43 Am.Rep. 569 (1882); Western Maryland R. Co. v. Martin, 110 Md. 554, 73 Atl. 267 (1909); Greenleaf v. Francis, 18 Pick 117 (Mass., 1836); Schenk v. Ann Arbor, 196 Mich. 75, 163 N.W. 109 (1917); Mosier v. Caldwell, 7 Nev. 363 (1872); Pixley v. Clark, 35 N.Y. 520, 91 Am.Dec. 72 (1866). But note: Forbell v. New York, 164 N.Y. 522, 58 N.E. 644 (1900); Frazier v. Brown, 12 Ohio St. 294 (1861); Zimmerman v. Union Paving Co., 335 Pa. 319, 6 A.2d 901 (1939); Tennessee Electric Power Co. v. Van Dodson, 14 Tenn. App. 54 (1931); Houston & T.C.R. Co. v. East, 98 Tex. 146, 81 S.W. 279 (1904); Herriman Irrig. Co. v. Keel, 25 Utah 96, 69 Pac. 719 (1902); White River Chair Co. v. Connecticut River Power Co., 105 Vt. 24, 162 Atl. 859 (1932); Huber v. Merkel, 117 Wis. 355, 94 N.W. 354 (1903).

[66] 35 N.Y. 520, 91 Am.Dec. 72 (1866).

American Rule.—In other jurisdictions in this country, a different view has been taken.[67] This rule is known as the doctrine of correlative rights or the American rule and imposes on the English rule the limitation or qualification that in order to be immune from liability for the obstruction or diversion, the activity or conduct must be a reasonable exercise of a proprietary right. The rule has been well stated in Cason v. Florida Power Company, [68] as follows: "The property rights relative to the passage of waters that naturally percolate through the land of one owner to and through the land of another owner are correlative; and each landowner is restricted to a reasonable use of his property as it affects subsurface waters passing to or from the land of another." Under this rule what is a reasonable use, as with the reasonable use surface water rule, is ordinarily a mixed question of law and fact to be submitted to the jury under instructions of the court.[69]

Under the doctrine of correlative rights or the American rule, the owner or occupant of land is not precluded from utilizing it for any lawful and proper purpose for which it is adapted without liability for incidental interference with the water, but he is required to exercise his rights in such a way that he does not unreasonably or unnecessarily obstruct or divert water to the injury of neighboring owners.

In California, however, the doctrine has been caried to the extent of imposing liability for any interference which deprives another of his equitable share of the water even in the reasonable use of one's own land.[70]

The question of injuries to springs and wells by the use of explosives in highway construction often arises. In some jurisdictions, liability must be predicated on the negligent use of explosives;[71] however, in a number of instances, liability is predicated on the use of explosives in the absence of negligence on the theory that it is an ultrahazardous activity.[72]

Underground Streams

Subterranean waters which flow in a fixed or definite channel are for many purposes classified and characterized as streams as distinguished from percolating waters, although, as previously pointed out, percolating water is sometimes used in a comprehensive sense as including streams, the course or existence of which is unascertainable from surface indications.

The question of liability for obstruction and diversion of a subterranean stream by the use of one's own property depends primarily upon whether the existence or course of the streams are known or ascertainable from surface indications. If they are ascertainable, liability is determined ordinarily by the rules applicable in the case of

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[67] O'Leary v. Herbert, 5 Cal.2d 416, 55 P.2d 834 (1936); Sloss-Sheffield Steel & Iron Co. v. Wilkes, 231 Ala. 511, 165 So. 764 (1936); Labruzzo v. Atlantic Dredging & Constr. Co., 54 So.2d 673 (Fla., 1951); Barclay v. Abraham, 121 Iowa 619, 96 N.W. 1080 (1903); Sycamore Coal Company v. Stanley, 292 Ky. 168, 166 S.W.2d 293 (1942); Stillwater Co. v. Farmer, 89 Minn. 58, 93 N.W. 907 (1903); Ryan v. Quinlan, 45 Mont. 521, 124 Pac. 512 (1912); Swett v. Cutts, 50 N.H. 439, 9 Am.Rep. 276 (1870); Meeker v. East Orange, 77 N.J.L.J. 623, 74 Atl. 379 (1909); Forbell v. New York, supra; Rouse v. Kinston, 188 N.C. 1, 123 S.E. 482 (1924); Canada v. Shawnee, 179 Okla. 53, 64 P.2d 674 (1936); Couch v. Clinchfield Coal Corp., 148 Va. 455, 139 S.E. 314 (1927); Evans v. Seattle, 182 Wash. 450, 47 P.2d 984 (1935); Drummond v. White Oak Fuel Co., 104 W.Va. 368, 140 S.E. 57 (1927).

[68] 74 Fla. 1, 76 So. 535 (1917).

[69] Bassett v. Salisbury Mfg. Co., 43 N.H. 569, 82 Am.Dec. 179 (1862).

[70] Evans v. Seattle, 182 Wash. 450, 47 P.2d 984 (1935); O'Leary v. Herbert, 5 Cal.2d 416, 55 P.2d 834 (1936); Eckle v. Springfield Tunnel & Development Co., 87 Cal.App. 617, 262 Pac. 425 (1927).

[71] McGeorge v. Henry, 193 Ark. 443, 101 S.W.2d 440 (1937); Ingram v. Great Lakes Pipe Line Co., 153 S.W.2d 547 (Mo.App., 1941); Dellinger v. Skelley Oil Co., (1951 Tex.Civ.App.) 236 S.W.2d 675.

[72] Richard v. Kaufman, 47 F.Supp. 337 (D.C. Pa., 1942); Patrick v. Smith, 75 Wash. 407, 134 Pac. 1076 (1913).

surface streams;[73] but if unknown or unascertainable, by the rules applicable in the case of percolating waters.[74] As a general rule, when one discovers the existence or location of an underground stream while making an excavation, liability for any injurious obstruction or diversion of the stream by acts done thereafter depends upon whether or not such acts were reasonable under the peculiar and particular circumstances.[75]

OCEAN AND TIDEWATERS

One final category of waters which we have not dealt with is that of ocean and tidewaters. There seems to be very little law on interferences, obstruction, or diversion of ocean waters, probably because the constructions of man have little effect upon the tides. There is, however, at least one North Carolina case[76] dealing with this subject in which it was alleged that the Highway Commission constructed a highway on a fill near the coast and that during a hurricane waters from the ocean overflowed the land and the highway acted as a dam causing flooding of certain properties. Upon a demurrer, the court held that the property owner had stated a cause of action and, applying the civil law rule, equated ocean waters, which had escaped, to surface waters. This is a somewhat peculiar holding in that the civil law rule grew partially out of the fact that surface waters naturally flow downhill. This, of course, is not the case with hurricane wind driven ocean waters.

In conclusion, the author recognizes that this is a very generalized summary of the law relating to waters and considerable work needs to be done, particularly in relation to statutory laws of the various jurisdictions, the remedies of injured owners, and the peculiar immunities and liabilities of highway departments; however, it is hoped that it will serve some useful purpose.

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[73] Tampa Waterworks Co. v. Cline, 37 Fla. 586, 20 So. 780 (1896); Sadler v. Lee. 66 Ga. 45, 42 Am.Rep. 62 (1880); Wyandot Club v. Sells, 6 Ohio N.P. 64, 9 Ohio Dec.N.P. 106 (1898); Hayes v. Adams, 109 Ore. 51, 218 Pac. 933 (1923); Clinchfield Coal Corp v. Compton, 148 Va. 437, 139 S.E. 308 (1927).

[74] Labruzzo v. Atlantic Dredging & Constr. Co., supra; Sycamore Coal Co. v. Stanley, 292 Ky. 168, 166 S.W.2d 293 (1942); Vanderbilt v. State, 159 Misc. 586, 288 N.Y.S. 554 (1936); Halderman v. Bruckhart, 45 Pa. 514, 84 Am.Dec. 511 (1863).

[75] Labruzzo v. Atlantic Dredging & Constr. Co., supra.

[76] Midgett v. North Carolina State Highway Comm'n., 260 N.C. 241, 132 S.E.2d. 599 (1963).