

Costs and Legal Issues of Reserving Water Supply Sites for Future Use

by L. Leon Geyer and Leonard A. Shabman

Even in inflationary times, reserving a water supply site now for future use may be more expensive than securing it later. Some of this cost can be offset, however, if the site can earn income through an interim use.

A water system has many ways to secure a site, but only one is certain: fee simple purchase. All other tools, including eminent domain, require additional legislative authority or the cooperation of individuals and governments.

Introduction

In any geographic area there are only a few sites suitable for development of water reservoirs or maintenance as a relatively undeveloped drainage basin to ensure streamflows of adequate quantity and quality. If these sites are not subject to control by a water supply system, they may be developed for residential or commercial use. As a result, the suggestion often is made that water supply sites should be reserved from development to assure their availability in the future. This suggestion has been made most recently by the State Water Study Commission of the Virginia General Assembly.¹

The argument made in support of water supply site reservation is that the costs of acquiring such sites will be prohibitive in the future because of rising land prices and the cost of reversing development which may occur at the site. However, this argument may not be universally applied to all situations, and each water system manager must assess the wisdom of site reservation in terms of the individual system's situation. If a decision to reserve a water supply site is reached, a number of options exist, some of which require land use control. However, land use control rests on cooperation among local governments and the appropriate legislative authority. Such conditions do not always exist. Also, it is not certain that site reservation for future water supplies

would be defined by the courts as a legitimate use of eminent domain.

The next section of this paper suggests some general guidelines for assessing when current spending for site reservation to avoid future costs can be justified. Then, the discussion turns to a review of the options available for reserving such sites. Particular attention is paid to the use of land use controls that seek to reserve sites without incurring full costs.

Cost Considerations

Water system managers act on behalf of current and future customers. A decision to spend money to reserve a site, therefore, must be evaluated using the same criteria that these customers would choose for spending their own money. The customers seek to have a safe and dependable water supply at the lowest cost over time. Thus, the challenge to the water system manager is to spend no more than is necessary to assure that in each year system capacity is in balance with quantity of water demanded. Site reservation before it is needed to meet demand growth means that costs are incurred today for water supply capacity not needed until the future; that is, site reservation is a case of developing excess capacity in the water system. Development of excess capacity in the present period may be justified as a way to avoid higher costs for such capacity in the future. However, a simple comparison of current versus future costs is not appropriate for making this determination.

Comparing Costs over Time

Current costs for site reservation cannot be compared with future site acquisition costs. Rather, from the perspective of the current time period, a dollar spent at a future date has a lower value (present value) than a dollar spent today. This value difference arises from the accounting process of "discounting." The logic of

discounting is illustrated by the following example: If offered a dollar one year from now or a dollar today, a person would take the dollar today. The dollar today could be invested at interest and in a year be worth more than a dollar. Conversely, a future dollar will be less valuable than a dollar today, and the rate at which the future dollar will be discounted to its present value is the rate of interest at which a current dollar could be invested.

The message of the discounting argument for site reservation is straightforward. Expectations of high future land prices and/or high costs of reversing site development do not dictate that the least-cost development plan is to purchase all expected future water supply sites today. Only if the expected rate of cost increase exceeds the rate of interest will the lowest present value of costs be served by site reservation.

General Inflation

In a period of general inflation all costs will be expected to rise over time, including land and construction costs for water systems. On the other hand, water system customers' (and water systems') rising costs are often matched by incomes which rise with general inflation. When incomes rise at the same rate as costs, then "real" costs are unchanged.

In the past 10 years, construction and land costs have risen dramatically. This fact has been used to support an argument for developing excess capacity today in water systems while such capacity is relatively inexpensive. However, although construction costs in Virginia have risen by approximately 225 percent during the last 10 years, personal income in Virginia has also risen by approximately 225 percent.² Therefore, real construction costs have not risen over the period. Although no data are available on water supply site costs, an analysis of land purchases for parks in Virginia is available. In many respects, park lands and water supply sites are similar in setting and character. Prices paid for park lands rose less than the rise in personal income during the period 1967-1980.³ Before purchasing land sites early to avoid higher future costs, the expected relationship of future income to future costs should be examined to determine whether "real" costs are expected to increase.

Substitutes

Water supply sites are few. As such, reserving them from development to avoid future high costs of reversing development may be considered. However, justifying reservation of a site must be based upon more than just the costs of reversing development at that site; also, substitutes for the site need to be considered. Substitutes include not only other sites, but also the possibilities of cooperation in a regional water system, water conservation, and groundwater development. As the number of substitutes increases and/or

the expected future cost of substitutes is low, reservation of any specific site will be less justified.

Returns to Reserved Sites

Site reservation costs may be offset by benefits derived from uses that can be made of the land prior to reservoir construction. Alternatives include the use of the site as a park or leasing the land back to the private sector for agricultural use. The present value of the returns from any of these interim uses of the land are offsets to the present value of the real costs of land reservation. Also, if the land is not used for a water supply in the future, it could be sold back into private ownership.

Other Considerations

Acquiring a site now may face less political opposition than at some future date. In the future, the land may be partially developed or have greater development potential, resulting in landowner opposition to its taking for public use. If such is the case, early acquisition may be justified. However, there may be limits on local funds available for site reservation and on allowable bonded debt to finance early land purchase. Finally, there may be a public reluctance to permit government to participate in "land speculation." These considerations may mitigate against site reservation.

Options for Land Reservation

Options for site reservation fall into two categories: full reservation and partial reservation. Full reservation requires the water authority to take full ownership of the site before its expected use. Partial reservation restricts site development so that at the time of future use acquisition costs and costs of development (such as the removal of buildings) would be lower than without partial reservation. Partial reservation must always be followed at some future date by full reservation. Partial reservation offers no guarantee that development will not pre-empt the site. *Table 1* lists options available for full and partial reservation.

Legislative Authority

Public institutions may only exercise power and authority granted to them by the state. The right to take property by eminent domain, the right to contract, the use of zoning, and the power of the purse are the tools available to water systems to secure site reservation. The water system can exercise some of the authority alone, and other tools can or must be used by other units of government.

The law provides the water system with authority "to acquire, purchase, lease as lessee, construct, reconstruct, improve, extend, operate and maintain any water system . . . [and] to acquire by gift, purchase or the exercise of the right of eminent domain lands or rights in land or water rights in connection" with land.⁴ Authority for the water system "to enter into contracts" with public and private entities "providing for or relating to the furnishing or services and facilities of any water system" is provided for by statute.⁵ Other governmental bodies may "transfer jurisdiction, . . . lease, lend, grant or convey" property to the water system authority.⁶ Water systems may enter upon and use public lands

and highways in the construction, improvement, maintenance, or operation of a water system. However, it needs the concurrence of the State Corporation Commission to condemn property belonging to another public entity that possesses the power of eminent domain. The State Corporation Commission must certify that a public necessity or convenience is involved.⁷ In addition to the above restriction on the use of eminent domain by a water system, the code prohibits outright the condemnation of certain state institutions, universities, and cemeteries.⁸

TABLE 1
Options for Site Reservation

Full Reservation Requiring Compensation
Eminent Domain Fee Simple Purchase Receipt of Donated Land
Partial Reservation Requiring Compensation
Purchase of Development Rights
Purchase of Easements
Option to Purchase
Lease of Site
Partial Reservation Not Requiring Compensation
Zoning (Use of State's Police Power)
Planning Options
1. Location of Public Utilities, Roads, etc.
2. Location of Subdivisions
3. Use-Value Taxation

Frequently, a desirable site will be outside the political jurisdiction served by the water system. Therefore, acquisition of this site for water supply purposes will require negotiations not only with landowners but also with other political jurisdictions. This need arises from provisions in Virginia law requiring counties and municipalities to obtain permission before developing water supply facilities in a second jurisdiction. Even though denial of such permission is subject to review by a special court, this legislative provision can be a significant obstacle to plans for site reservation, even if by fee simple purchase.⁹ Eminent domain, contracts, and purchase are tools the water system can generally use on its own initiative.

Zoning regulations find their authority in the state's exercise of police power. Zoning is undertaken to promote the public welfare. Police power and public welfare are broadly defined by the courts. Zoning authority is delegated by the state legislature to local units of government. Water systems do not have zoning authority in their own right. Therefore, the appropriate unit of local government, such as the board of supervisors or the council of a city or town, would have to exercise the police power on behalf of and for the benefit of the water system. Zoning is a tool, which requires coordinated action with the appropriate unit of government.

Full Reservation

The most direct method of site reservation is fee simple purchase. Provided funds are available, fee simple purchase assures that the site will be available to the water authority for future use. Current capital funds can be used, or bonds can be sold to raise revenue for the water system. If the land is unavailable for purchase, fee simple title for immediate use can be acquired through the exercise of eminent domain by the water system or local governing unit. Private property may be taken for public use only after just compensation has been made.¹⁰ It is not necessary that the public use be of benefit to the entire public or even a large part of it. It must be one in which the public has an interest, and the terms and manner of its use must be within the control of the state, independent of the rights of the private owner of the property condemned.

The authority of the legislature to confer the power of eminent domain upon a subordinate governmental body is limited by the constitutional requirement that private property may be condemned only for a public use.¹¹ The condemnation of private property is for a permissible public use if the planned use of the property directly and primarily promotes the health, safety, or welfare of the public.

Generally, whether a taking is for a public purpose or not is a judicial question, reviewable by the courts. Where the public purpose is established, the necessity or expediency is a legislative question which is often delegated to the condemning authority. Such authority may exercise a large amount of discretion in carrying out its activities under the legislative mandate. This discretion is reviewable by the courts only if it is arbitrarily or capriciously exercised or where there is manifest fraud.¹² The necessity of taking the property as shown by adequate record has to be prepared by the condemning agency. Otherwise, an aggrieved landowner might successfully attack the condemnation. Action by a condemnor, subject to judicial review, must not be arbitrary and capricious.¹³ The power of eminent domain may not be used for condemnation of land in excess of the needs for public purposes, uses, or benefits.¹⁴

The use of eminent domain to acquire property for immediate use is clearly authorized by statute and prior Virginia cases. The validity of appropriation of property for anticipated future use by eminent domain has not been, to our knowledge, litigated in Virginia. While in almost every instance there is a time interval between condemnation and use, use of the condemned property is normally undertaken within the immediate future. "Future use" in this article exceeds that envisioned by the word "immediate" and generally can be said to be in excess of the period required for normal planning and preparation.

Government entities in other jurisdictions have sought to acquire by eminent domain property for which they have no plans for present use, but which they intend to

utilize at some definite or indefinite future time. This move is often motivated by pressures as to the availability of land and the seemingly ever-increasing spiral of the value of real property. Moreover, land use planning maybe made more effective and less disruptive where future needs can be anticipated and property acquired ahead of time. An example would be the acquisition of extra land around an airport to provide for future expansion of runway facilities or the acquisition of a reservoir site before it is developed in an incompatible way.

Weighed against the economy and planning advantage of the government's present condemnation of land for future use are the interests of the landowner. If an economic gain accrues to the condemnor, then it is possible that the landowner suffers an economic loss. In addition, whether intangible or tangible, the owner generally has an interest in retaining possession of the property for as long as possible.

Of most significance for future site reservation is that a noncooperative landowner could challenge the taking of his land by eminent domain, arguing, for example, that site reservation 25 years into the future was speculation and not a valid public use. Courts generally feel free to interfere with an eminent domain proceeding to prevent an abuse of legislative discretion resulting from an attempt to appropriate land in disregard of the possible necessity for its use. Under statutory or constitutional provisions, courts have generally held that property may not be condemned which is not necessary for the public use for which it is intended. This would mitigate against condemnation of property which would be in excess of present and future need.

In the context of the "necessity" requirement or in the context of a "public purpose," a number of courts in other jurisdictions have expressly or implicitly taken the position that where a condemnation meets the other criteria or requirements, condemnation for a future use is permissible so long as the *future use is planned* to be made within a *reasonable time*. The courts have not defined a reasonable time in terms of years. Rather, the time factor has been a matter of the specificity of definiteness of the future plans. It must be a part of a definite land realistic) plan. The absence of such plans has sometimes, but not inevitably, resulted in the invalidation of appropriations of property by use of eminent domain for future uses.

A party seeking to block the appropriation of property for future use will attempt to prove that the condemnor's determination of necessity involved fraud, bad faith, or abuse of discretion. Where landowners have been successful in stopping eminent domain for future use, it has been shown by the landowner that the intended use for the condemned property is so remote in time and speculative in nature as to render the condemnor's determination of necessity an abuse of discretion.¹⁵

On the other hand, expected use of the property within a specific period of time has been important in cases in other jurisdictions favoring current appropriations for

future use. A specified number of years may be helpful but has not been controlling in all cases. When time has been specified but necessity not proven, the appropriating agency has lost its case.

How the Virginia courts would rule on the issue of present condemnation or appropriation for future use is indeterminable. Certainly, preparation of a well-thought-out plan would be a minimum requirement for success. Site reservation in excess of the number or area needed to fulfill the requirements of a realistic plan are likely to be deemed speculative. The necessity of the appropriation must be obvious.

Another challenge might come if the reservation time for the future were greater than the years remaining in the water authority's charter.¹⁶

Any agency contemplating the use of eminent domain to acquire property for a future use should accumulate material establishing the necessity of the appropriation. The agency should develop plans showing the property devoted to a specific public use within a reasonable period of time. The condemnor's determination of necessity will be enhanced if made on the basis of fairly anticipated needs. An impartial, factual plan would have a better chance of success than an overly optimistic growth plan. Future site reservation specifically authorized by specific legislation might also have a better chance of being judicially sustained than future site reservation undertaken under an agency's general legislative authority.

Donation or gift of land would be a third but highly unlikely source of land for site reservation. Pressure for land donation could be placed on a developer as a condition for a part of his site approval plan. This would require cooperation from other local governmental units. And of course, donation of land from other local governmental units would also be a source of land.

Land acquired by purchase, condemnation, or donation could be leased back to original owners or leased to other compatible users until developed as part of the water system. Examples include lease-back of agricultural and forested lands for a continuation of the same use until the site is needed. Site leasing to a sister governmental unit for use as a park or other compatible use would also be a lower-cost way to preserve a site. The recovered rents would help defray the acquisition cost. Park use for a period of years might reduce the political opposition to early site reservation through acquisition or eminent domain. Lease-back or land use as a park might weaken the case for current condemnation for future use. Fee simple purchase and the grant of a life lease or lease for x number of years to current landowners might be an attractive way to preserve future site selection. The indeterminate length of a life estate, however, limits the practical use of this tool.

Partial Reservation Requiring Compensation

The purchase of transferrable development rights and easements requires present compensation but at less than full value of fee simple purchase. Once the development of the site is certain, additional compensation to obtain fee simple title would be required. The use of transferrable development rights requires legislative authorization. The Virginia Code does not now provide such authority. If water systems are interested in having this type of tool available, then legislative approval should be sought.

The option to purchase is another device to consider. An option to purchase is a contract where a potential seller agrees to sell specific property at a specified price within a specified time to a buyer if the buyer chooses to complete the deal. Because the seller is bound and the buyer is not, the buyer must compensate the seller for this option to purchase the property. Because few sellers would be willing to restrict their option to sell for a long period of time, or to do so only for a large sum, this option would not be practical in most cases. Further, the failure to exercise the option to purchase by the buyer results in a loss of the money to the governmental unit.

A long-term lease could be entered into with a landowner to secure the preservation of a compatible land use. A long-term lease similar to an easement or restriction on the land's use is seemingly authorized by the Virginia Code.¹⁷ However, eventual water system use of the land would require fee simple purchase. Unless a sublease of farm land or sale of timber from timberland or other profitable use of the land could be found, the lease could be an expensive approach for partial reservation. A lease with an option to purchase might be an alternative to use. The terms of the purchase, including a method to evaluate future value of the land in question, could be spelled out in the lease/option to purchase agreement.

Partial Reservation Not Requiring Compensation

As outlined earlier, site reservation using the zoning tool would require the cooperation of the appropriate local legislative body. This may not be a problem with your local board of supervisors or city government. But, an attempt to secure cooperation of an adjoining unit of local government is fraught with political pitfalls. The Code of Virginia suggests that local governments plan for the future development of communities. The law provides for facilitating "the provision of adequate . . . water [supply] "as a permissible purpose of zoning ordinances."¹⁸ In one case, a request to rezone a tract of land consistently zoned residential for 37 years was denied by the local legislative authority. The area was part of a long-planned-for park. The court upheld the local legislature on general welfare grounds.¹⁹ The

length of time that the plan was on the public record was undoubtedly important.

However, any attempt today to restrict the land use of property by zoning to assure compatible use of the property for possible future water system site needs would be tenuous at best. An uncooperative property owner is likely to challenge your actions. Virginia courts have generally been unsympathetic to site reservation through the state's exercise of the police power of zoning. The court has never sustained the zoning action of a local legislature when the zoning action was justified principally in terms of its connection to implement a plan for the orderly and economical provision of public facilities.

Courts in other jurisdictions have found that zoning ordinances enacted ostensibly to regulate land usage in the public interest may result in depressed or limited property values. Since this works to reduce the acquisition costs of a future condemnor, courts in other jurisdictions have generally declared such ordinances unconstitutional and void. Absent further definitive legislative language, the use of zoning as a tool of site preservation is risky at best. Water system managers have a right and an obligation to participate in the local zoning and planning process, but they should not depend on it to meet site reservation objectives.

Planning tools other than zoning can be used to promote site reservation. Most of these administrative actions require cooperation from other units of government and/or private individuals. As the cooperation is voluntary and subject to other political and economic pressures, the use of these tools is limited. Local planning agencies can help plan and encourage subdivision development away from the area of site reservation. The location of water mains, sewage and storm lines by public utilities, and road improvements can be used to direct development away from a site reservation area.

Use-value taxation for agricultural and forestal districts is another tool, which could be used to encourage favorable land site reservation. Use-value taxation requires that the appropriate unit of government pass enabling legislation. The local assessing official must determine that the land qualified for use-value taxation after the owner of the land has voluntarily filed an application requesting use-value taxation. This tool can be used to encourage a landowner's compatible use of the land in such areas as forested or agricultural lands.

Conclusions

When land costs are expected to rise over time, the argument is often made that the costs of *not* reserving a site are large. However, if careful consideration is given to discounting, changes in real rather than inflationary costs, and the availability and cost of substitutes for a site, the costs of not reserving a site may be smaller than they appear at first. On the other hand, land purchase for future use may be financially justified if a return could be earned from the land through an interim

use and if the expectation is that the land will have a high resale value.

To reduce and completely remove uncertainty of site reservation, there is one simple tool available-fee simple purchase. The effective use of other tools requires additional legislative authority (for example, purchase of development rights), cooperation of a variety of individuals and adjoining governments (for example, local planning tools such as zoning, use value taxation), and complicated legal arrangements (for example, option to purchase, easements, and leases). Even the use of eminent domain to secure future or long-term site reservation may be subject to legal challenge. All partial site reservation tools not requiring compensation should be pursued. However, they provide little certainty of successful site reservation. They can help but should not be taken as false security.

Leon Geyer and Leonard Shabman are assistant and associate professor, respectively, in the Department of Agricultural Economics at Virginia Tech. This paper was presented at a conference, "Development and Management of Water Facilities in Small Communities," in Blacksburg on September 24, 1981, Support for this work was provided by the Office of Water Research and Technology, U.S. Department of the Interior.

6-a2:17

Footnotes

1. Virginia State Water Study Commission, *Report of the State Water Commission to the Governor and the General Assembly of Virginia, 1980*.
2. *Engineering News Record*, March 20, 1980, and U.S. Department of Commerce, *Statistical Abstract of the United States, 1980*, Washington D.C.
3. Reid Ostrander, "An Economic Analysis of Virginia's Outdoor Recreation Planning." Unpublished M. S. thesis, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1981.
4. Va. Code Ann, secs. 15.1-250(f) and 15.1-335.
5. *Ibid.*, sec. 15.1-1250(j).
6. *Ibid.*, sec. 15.1-1250(m).
7. *Ibid.*, sec. 25-233.
8. *Ibid.*, sec. 25-466.
9. *Ibid.* sec. 15,1-37
10. *Ibid.*, Constitution, Art. I, Sec 11.
11. *Manpower v. Housing Authority*, 176 Va. 426, 11 SE 2d 732, 740 (1940).
12. *Stewart v. Fugate*, 212 Va. 689, 187 SE 2d 156 (1972).
13. *Kricorian v. Chesapeake and Potomac Tel. Co.*, 217 Va 284, 227 SE 2d 725 (1976).
14. *Richmond v. Carneal*, 129 Va. 388, 106 SE 403 (1921).
15. *Phoenix v. McCullough*, 24 Ariz. App. 109, 536 p. 2d.230 (1975).
16. *Va. Code Ann.*, sec. 15.1-1250(a).
17. *Ibid.*, sec. 15.1-1250(f).
18. *Ibid.*, sec. 15.1-4277.
19. *Southern Railway v. City of Richmond*, 205 Va.699, 139 SE 2d 82.

Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, sex, handicap, age, veteran status, national origin, religion, or political affiliation. Anyone having questions concerning discrimination should contact the Equal Opportunity/Affirmative Action Office.

Water Center Special Reports

Special Reports still in print are available at no charge. Those out of print, which must be photocopied, are available at the cost of \$1.50, with a check or money order accompanying the request.

No. 1

Recommendations for Improving Water Resources Management in Virginia
William R. Walker, William E. Cox
Published April 1976 (free)

No. 2

Expanded Alternatives for Water Supply in Southeastern Virginia
William B. Anderson, William E. Cox,
Leonard A. Shabman
Published April 1978 (free)

No. 3

Impact of the 1977 Clean Water Act Amendments on Industrial Dischargers
John Quarles
Published May 1978 (free)

No. 4

National Water Quality Goals: An Overview of the 1977 Clean Water Act Amendments
from *Environment Reporter*
Published May 1978 (\$1.50)

No. 5

Federal Water Policy Initiatives: An Evaluation of Presidential Recommendations to Congress
Warren Viessman, Jr.
Published October 1978 (free)

No. 6

A Comparison of the 1977 Water Policy Review and the 1978 Federal Water Policy Proposals
Warren Viessman, Jr.
Published November 1978 (\$1.50)

No. 7

Virginia Water Law: A Functional Analysis with Respect to Quantity Management
William E. Cox, William R. Walker
Published February 1979 (\$1.50)

**Virginia Water Resources Research Center Virginia
Polytechnic Institute and State University
10 Sandy Hall (0444)
Blacksburg, Virginia 24061**

No. 8

Mercury Contamination in Virginia Waters: History, Issues, and Options
Contains an article from *Science* with additional narrative and notes by the Water Center staff
Published March 1979 (free)

No. 9

Nonpoint Pollution Control: Best Management Practices Recommended for Virginia
Clara B. Cox
Published November 1979 (free)

No. 10

Public Recreational Rights on Virginia's Inland Streams
William E. Cox
Published January 1980 (free)

No. 11

Water Resources Council Revisions of Its 1973 "Principles and Standards"
Margaret S. Hrezo
Published August 1980 (free)

No. 12

From Cropland to Concrete: The Urbanization of Farmland in Virginia
Margaret S. Hrezo
Published October 1980 (free)

No. 13

Virginia's Most Important Water-Related Problems
Clara B. Cox
Published August 1981 (free)

No. 14

Norfolk vs. Suffolk: Proposed Agreement Leaves Important Issues Unsettled
Margaret S. Hrezo
Published November 1981 (free)

**Non-Profit Org.
BULK MAILING
U.S. POSTAGE
PAID
Blacksburg, Va.
Permit No. 28**