Water and Growth

Toward a Stronger Connection Between Water Supply and Land Use in Southeastern Pennsylvania

10,000 FRIENDS of Pennsylvania

Full Report

INTRODUCTION

The impacts of land development on water quality and quantity are well established. As new roads, homes, and businesses are built where none existed before, the amount of impervious cover goes up, along with the amount of stormwater runoff carrying pollutants into rivers and streams and increasing the chance of floods. The amount of water that can percolate through the soil to feed groundwater flows and replenish aquifers is altered as well. Both water quality and quantity may be diminished as a result.[1]

The paradox is that an adequate supply of high-quality water is essential for land development. In southeastern Pennsylvania, there are 210 public systems and thousands of small private community systems and individual wells that supply water to a growing number of homes and businesses throughout the region. What are the impacts of this water supply network on land use?

The premise of this study is that a sound land and water strategy – one adhering to widely accepted smart growth principles[2]—would include policies and incentives that direct development to areas where water supply infrastructure already exists, focus on protecting and maintaining the existing infrastructure, and reduce the need to expand the infrastructure to accommodate new development. It would also seek to protect water resources by encouraging coordination between water supply, sewage treatment, and stormwater systems in the recognition that all affect the health of watersheds.

This is the second phase of a two-part study designed to promote smart growth policies for water and sewer infrastructure. The first phase on sewage facilities and land development was published in 2005.[3] The study was undertaken as part of 10,000 Friends of Pennsylvania's ongoing effort to examine state policies in relation to land use and development. The goal of this effort is to build consensus around policy recommendations that promote sound land use practices at all levels of government and target state infrastructure and economic development spending in and around older developed communities and in newer centers of suburban growth where development makes sense.

Over the past 50 years, Pennsylvania's older cities and towns have suffered from loss of population and economic activity, while new development continues to spread into once-rural areas. Whether intended or not, state policies and programs are partly responsible for stimulating growth in exurban and rural areas at the cost of existing older communities and the expense of all Pennsylvanians. The availability of infrastructure, such as water, sewer, roads, public transit, etc., is one of many factors to consider in analyzing regional growth patterns. *Water and Growth* is an in-depth look at policies and practices related to just one of these factors—water service.

Water and Growth examines water franchises and service areas in southeastern Pennsylvania and their capacity to serve the population and future growth of the region in relation to current development trends. The study looks at the potential of state policies to allow water infrastructure to facilitate development and whether local land use practices and a demand for new homes

[1] See the following resources for a full discussion of water impacts related to land development: *Protecting Water Resources with Smart Growth,* US EPA, May 2004; *Paving Our Way to Water Shortages: How Sprawl Aggravates Drought*, American Rivers, Natural Resources Defense Council, and Smart Growth America, August 2002; *Water and Smart Growth: The Impacts of Sprawl on Aquatic Ecosystems* Funders' Network For Smart Growth and Livable Communities, 2002; *Protecting Water Resources with Higher-Density Development*, US EPA, January 2006; and *Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies*, US EPA, January 2006.

[2] See http://www.smartgrowth.org/about/default.asp and http://www.epa.gov/smartgrowth/about_sg.htm.

[3] *Sewage Facilities and Land Development: An Analysis of Sewage Facilities Planning and Permitting in Relation to Land Use Planning and Development in Southeastern Pennsylvania*, 10,000 Friends of Pennsylvania, Copyright © 2005.

and businesses force water infrastructure to expand. *Water and Growth* highlights the fact that in Pennsylvania, as in places across the nation, maintaining adequate water supplies with new infrastructure and accommodating population and economic growth through land development are inextricably bound, yet state government agencies persist in regulating water and land as if they are distinct—as if these two, naturally interrelated resources can be regulated separately, vying for protection under the law.[4] *Water and Growth* explores whether Pennsylvania state water law can better recognize the relationship between water supply and land use and whether land use law can be used more effectively to determine the pace and direction of growth and the infrastructure needed to support it. Finally, *Water and Growth* explores how to integrate land use and infrastructure placement through sound planning and regulation. Although this report focuses primarily on water supply infrastructure, it also touches on related topics, such as water quality and stormwater regulation, to highlight the importance of managing water resources in an integrated fashion.

SOUTHEASTERN PENNSYLVANIA IN DETAIL

Pennsylvania led the nation by building the country's first piped drinking water system in Philadelphia in 1802. Communities around the country followed suit, adding wastewater pipes and centralized wastewater treatment plants over time, so that much of the nation's water infrastructure was constructed in the 1950s. That was over 50 years ago and these water systems are fast approaching their useful life expectancy.[5]

But while parts of the system are aging, additional water service is needed to meet the demands of new residents farther out. Pennsylvania is now one of the slowest growing states in the nation, ranking 48th in population growth in the 1990s and 47th in employment growth between 1992 and 2002.[6] Yet in southeastern Pennsylvania, the pressure from new land development and the need for new infrastructure to support it remains. From 1990 to 2000, the City of Philadelphia lost 4 percent of its population, while the suburban counties received a 9 percent gain. People and businesses are migrating outward, vacating homes and neighborhoods closer to the central city.[7] As older cities and boroughs struggle to manage decaying water systems with less people available to buy into the services,[8] developing areas demand reliable new water systems to serve both new and existing residents. When groundwater resources become stressed and individual on-lot systems fail, public water services expand to resolve the problems. Since its inception two centuries ago, the Philadelphia regional public water system has expanded tremendously to meet these needs.

For this study, the Delaware Valley Regional Planning Commission (DVRPC) "followed the pipes" and gathered geographic and tabular data on the 210 public water systems in southeastern Pennsylvania in 2003, including municipal authorities, municipal water systems, and private water utilities providing public service (see "Water Purveyors"). DVRPC used the information to

[4] Craig Anthony (Tony) Arnold et.al., *Wet Growth: Should Water Law Control Land Use?*, Arnold, ed., Chapter 1, "Introduction: Integrating Water Controls and Land Use Controls: New Ideas and Old Obstacles," Environmental Law Institute, Copyright © 2005, p. 33.

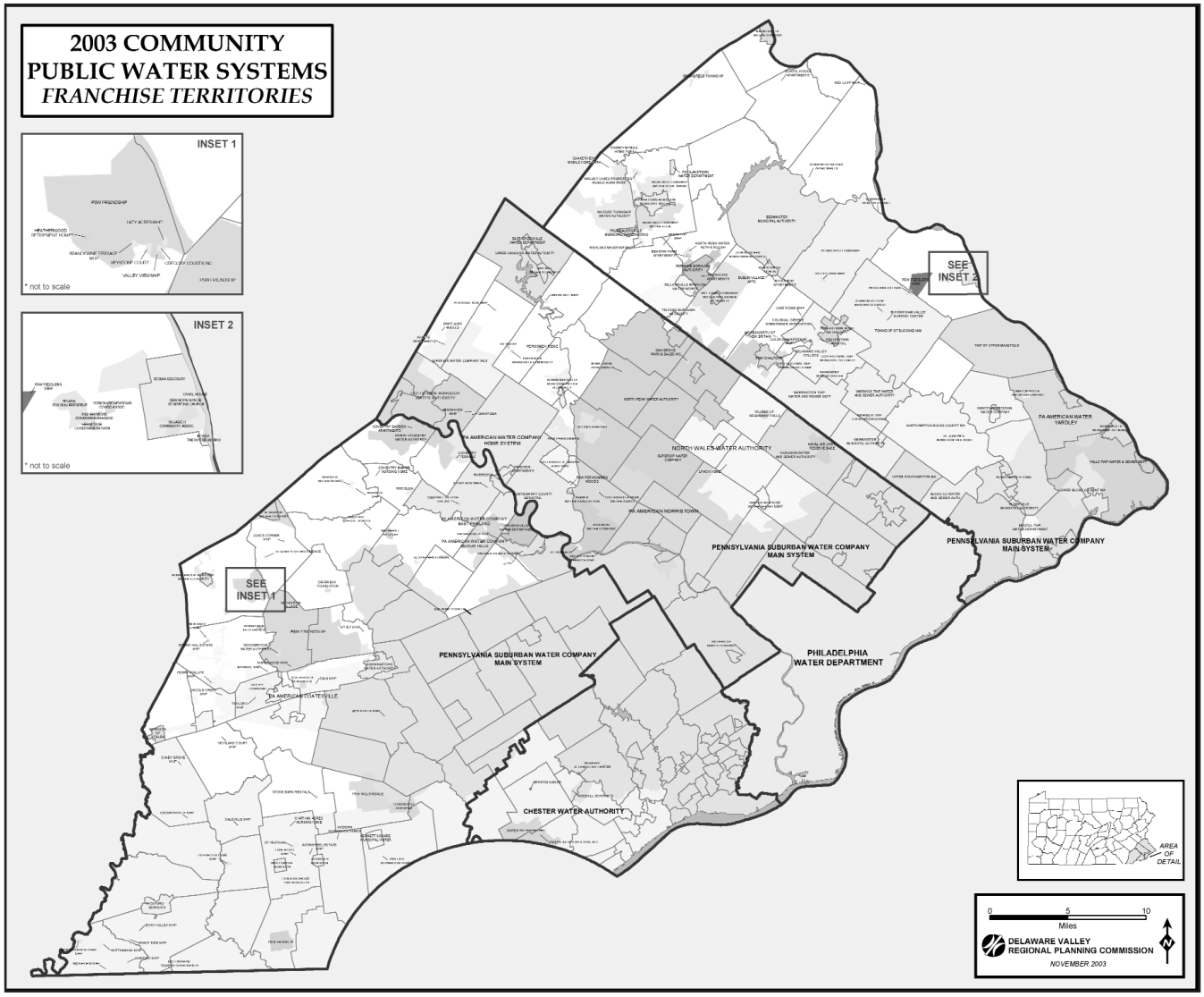
[5] Autumn Hanna, *Banking on the Future: Investing in Smart Water Strategies for Pennsylvania and the Nation*, Taxpayers for Common Sense, July 2005, pp. 8–9.

[6] *Back to Prosperity—A Competitive Agenda for Renewing Pennsylvania*, The Brookings Institution Center on Urban and Metropolitan Policy, 2003, pp. 21 and 39.

[7] Ibid, p. 38.

[8] Hanna, *Banking on the Future, p. 10*.

Figure 1: 2003 Community Public Water Systems—Franchise Territories



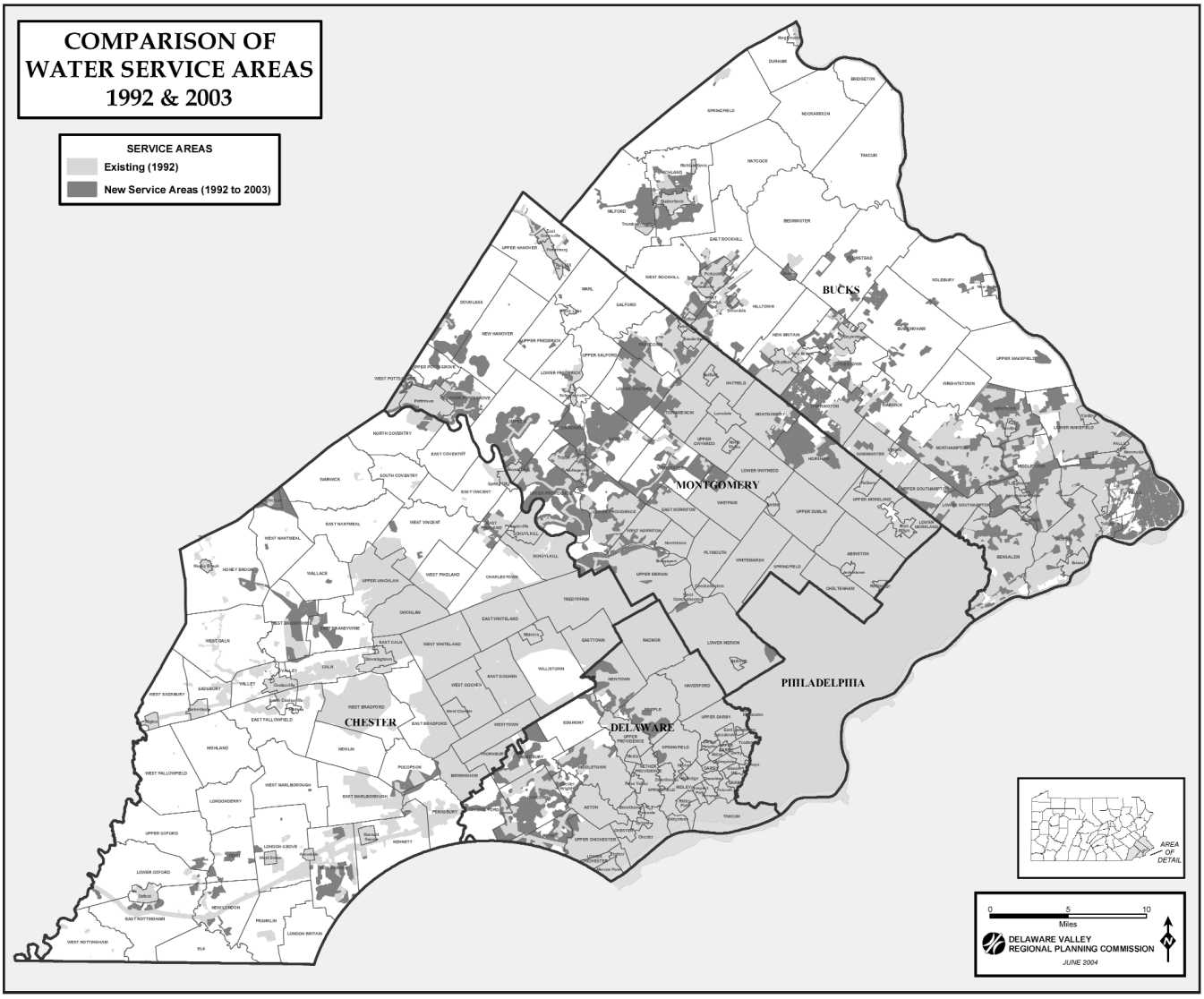
determine water franchise and service areas (see Figure 1), capacities for delivery, population served, and the location of new housing and developed land in relation to service areas. This data was then analyzed in an effort to understand the relationship between water infrastructure and emerging development patterns in the region.

More Development, More Pipes, More Costs

To start, DVRPC compared the 2003 water service area with the area identified in a similar 1992 study of water systems. Figure 2 and the data in Table 1 show that in just over 10 years, the water service area expanded 23 percent region-wide, including Bucks, Chester, Delaware, Montgomery, and Philadelphia counties. In some places, the increase in service area was as much as 66 percent.

Tables 2 and 3 bring that expansion into sharper focus, however. From 1991 to 2000, 97,334 new homes were built in southeastern Pennsylvania and only 55 percent were located within the existing water service area. Thirty percent of all new homes built during that time were supported by new infrastructure in an expanded water system. As mentioned above, the city of

Figure 2: Comparison of Water Service Areas 1992 and 2003



Philadelphia and older neighborhoods nearby are losing population as the majority of new homes are built in Bucks, Chester, and Montgomery counties, converting farmland and open space to residential use. Table 3 shows the percent increase of land in residential use within the expanded water service between 1990 and 2000. In the four suburban counties, the amount of land in residential use increased 72 percent. The conversion of land in just ten years is dramatic, bringing with it changes to community character and the environment as well. Quality of life is diminished as rural resources are lost; wildlife habitat becomes fragmented; traffic increases, along with noise and air pollution; and access to open space becomes scarce. These impacts help fuel a demand for greener pastures farther out, perpetuating the migration of people and businesses outward.

New land development in southeastern Pennsylvania raises concerns about the quality and quantity of water supplies as well.[9] New residents in the outlying counties demand substantial new water services. Yet as mentioned above, land development increases impervious surfaces, which can change the natural flow of water in a water-

[9] *Growing Toward More Efficient Water Use*, US EPA, p.1.

Table 1: Water Service Areas 1992 and 2003

County	Total County Acres	Water Service Area 1992 in Acres	Percent of Total 1992	Water Service Area 2003 in Acres	Percent of Total 2003	Expanded Acres	Percent Increase 1992–2003
Bucks	397,956	76,845	19%	127,509	32%	50,664	66%
Chester	486,064	141,285	29%	154,502	32%	13,217	9%
Delaware	122,061	82,153	67%	96,782	79%	14,629	18%
Montgomery	311,880	150,766	48%	198,018	64%	47,252	31%
4 Suburban Counties	**1,317,961**	**451,049**	**34%**	**576,811**	**44%**	**125,762**	**28%**
Philadelphia	91,249	91,249	100%	91,249	100%	0	0%
Totals	**1,409,210**	**542,298**	**39%**	**668,060**	**47%**	**125,762**	**23%**

KEY ISSUES:

- **Thirty percent of all new homes built between 1991 and 2000 were supported by new infrastructure in an expanded water system.**
- **In southeastern Pennsylvania's four suburban counties, developed acres in residential use increased 72 percent within the expanded water service area.**
- **Individual and community wells can be used to support development in any location.**

Table 2: Location of New Housing Relative to Water Service Areas 1991 to 2000

County	Total Building Permits*	Permits in Existing Water Service Area	Percent of Total Permits	Permits in Expanded Water Service Area	Percent of Total Permits	Permits On-Lot	Percent of Total Permits
Bucks	27,219	10,201	37%	12,647	46%	4,371	16%
Chester	25,742	16,433	64%	1,757	7%	7,552	29%
Delaware	9,256	6,644	72%	2,402	26%	210	2%
Montgomery	30,045	15,447	51%	12,469	42%	2,129	7%
4 Suburban Counties	**92,262**	**48,725**	**53%**	**29,275**	**32%**	**14,262**	**15%**
Philadelphia**	5,072	5,072	100%	0	0%	0	0%
Totals	**97,334**	**53,797**	**55%**	**29,275**	**30%**	**14,262**	**15%**

**Total Building Permits are from 1990–1999 Census data, except for Montgomery County, which provided Board of Assessment data for the same period, considered to be more accurate by Montgomery County Planning Commission. Building permits from this period are estimated to best represent homes built from 1991 to 2000.*

***The entire City of Philadelphia is considered served, so all new housing units have been assigned to the existing served area.*

Table 3: Residential Developed Land Comparison 1990 and 2000 in Relation to Population Growth

County	Developed Acres in Residential Use in Expanded WSA* 1990	Developed Acres in Residential Use in Expanded WSA 2000	Percent Change in Expanded WSA	Developed Acres in Residential Use Outside Expanded WSA 1990	Developed Acres in Residential Use Outside Expanded WSA 2000	Percent Change Outside Expanded WSA	Population Change 1990 to 2000
Bucks	7,431	12,656	70%	57,548	65,648	14%	10%
Chester	2,585	4,205	63%	66,017	79,894	21%	15%
Delaware	3,391	5,358	58%	37,230	36,205	-3%	1%
Montgomery	8,320	15,062	81%	68,659	74,188	8%	11%
4 Suburban Counties	**21,727**	**37,281**	**72%**	**229,454**	**255,935**	**12%**	**9%**
Philadelphia*	28,928	27,030	-7%	0	0	0%	-4%
Totals	**50,655**	**64,311**	**27%**	**229,454**	**255,935**	**12%**	**3%**

**Water Service Area*

shed, increase stormwater runoff, contaminate water sources, and reduce groundwater recharge.[10] Stormwater runoff resulting from new land development is a significant cause of water pollution in Pennsylvania. About 18 percent of the state's streams are considered officially impaired.[11] The impacts of increased stormwater runoff from new land development also include the serious consequences of flooding, which has become more severe in Pennsylvania, causing millions of dollars in damages. In just one year, from September 2004 to September 2005, the National Flood Insurance Program made payments for claims totaling nearly $50 million in Pennsylvania.[12]

The fiscal impacts of growth go beyond the costs of floods, however. More development requires more water infrastructure and that expanding system is costly to maintain. More than $1 trillion has been spent on drinking and wastewater systems in the past 20 years nationwide, and over the next two decades, an estimated $12–31 billion gap is expected between the actual costs for system operation and upkeep and the funding that will be available. Infrastructure replacement costs in Pennsylvania alone are estimated to be about $47 per person per year through 2025.[13]

Yet the average household water bill in the United States remains low. Rates generally cover the costs of operation and routine maintenance; not the substantial costs of repairing outdated systems and other long-term expenditures.[14] The Pennsylvania Public Utility Commission (PUC)

[10] *Paving Our Way to Water Shortages*, American Rivers et al., p.7.

[11] Pennsylvania Department of Environmental Protection, Water Planning Office. Analysis of EPA stream-quality data at www.epa.gov/waters/data/downloads.html, conducted by The Brookings Institution Center on Urban and Metropolitan Policy, found 33 to 50 percent of the state's streams to be impaired. See *Back to Prosperity*, Brookings, p. 50.

[12] https://www.fema.gov/graphics/nfip/totclmpay2005.gif

[13] Hanna, *Banking on the Future*, p.8.

[14] Ibid, p. 9.

stresses the importance of establishing cost-based rates for the utilities it regulates. Rates set by the PUC capture the full costs of service; costs related to maintenance and the recovery of capital investments are considered when rate increases are requested. The PUC cannot force a company to raise its rates, however. For small private utilities and municipal systems and authorities, making sufficient investments in system rehabilitation and improvements related to the Safe Drinking Water Act (see page 17) may be a struggle. In addition, intentionally or competitively low rates and federally or locally subsidized water make it less expensive.[15] Undervaluing water as a resource can lead to its overuse and increase the demand for new services. If rates fail to capture the full costs of providing high-quality water to remote locations over the long-term, water purveyors are forced to seek new customers, which generally require new infrastructure.[16]

More Capacity, Fewer People

Although public water systems are growing region-wide, Table 4 shows that more than half of the overall system capacity to treat and deliver water remains unused. In the city of Philadelphia, 61 percent of the available capacity is unused, which represents 72 percent of all unused capacity in the region.

Table 4: Calculated System Capacity, System Delivery, and Unused Capacity in gpd*

County	Original System Capacity	New System Capacity	Average Production	Bulk Sales to Others	Purchased Water	System Delivery	Unused Capacity
Berks**	2,000,000	2,000,000	458,330	0		458,330	1,541,670
Bucks	108,908,737	91,713,934	55,042,517	17,194,803	26,265,005	37,847,714	53,866,220
Chester	30,607,823	29,869,856	15,407,119	737,967	1,475,153	14,669,152	15,200,704
Delaware	90,029,300	84,475,612	34,328,522	5,553,688	923,799	28,774,834	55,700,778
Montgomery	188,586,067	185,650,064	161,608,579	2,936,003	14,040,333	158,672,576	26,977,488
4 Suburban counties	**420,131,927**	**393,709,466**	**266,845,067**	**26,422,461**	**42,704,290**	**240,422,606**	**153,286,860**
Philadelphia	652,000,000	636,804,738	263,000,000	15,195,262	0	247,804,738	389,000,000
Totals	**1,072,131,927**	**1,030,514,204**	**529,845,067**	**41,617,723**	**42,704,290**	**488,227,344**	**542,286,860**

** gpd stands for "gallons per day."*

***Berks County represents Boyertown Municipal Authority only, which serves a portion of Douglass Township, Montgomery County.*

NOTE: Measuring unused capacity at the county level is not fully accurate, since the largest water purveyors outside of Philadelphia have distribution systems that span two or more counties. Since the Philadelphia Water Department's service area is limited to the city's boundaries, a comparison between unused capacity in Philadelphia and the total of the suburban counties is the most accurate.

[15] Arnold et al., *Wet Growth*, Chapter 3, Barton H. Thompson Jr., "Water Management and Land Use Planning: Is It Time for Closer Coordination?" pp. 97–98.

[16] Hanna, *Banking on the Future*, pp. 14–15.

DEFINITIONS

WATER SERVICE AREA. *The areas of land in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties that are served by public water supply systems.*

EXPANDED WATER SERVICE AREA. *The areas of land that were added to the public water service area between 1992 and 2003.*

ORIGINAL SYSTEM CAPACITY. *The maximum amount of water a system can deliver on an annual average basis. The value used in this study was the same as system allocation. Where that figure was unavailable, the lesser of the following was used: design capacity, sum of permitted withdrawals, sum of source safe yields, or sum of source pump capacities.*

NEW SYSTEM CAPACITY. *Original System Capacity minus bulk sales to other purveyors.*

SYSTEM DELIVERY. *Average production minus bulk sales to other purveyors. This figure estimates the potential for water delivery within the boundaries of the system.*

UNUSED CAPACITY. *New System Capacity minus System Delivery.*

NOTE: The data on water systems was collected in 1992 and 2003. The current water service area is likely greater than the area identified in this study.

KEY ISSUES:

- **More than half of the overall system capacity to treat and deliver water in southeastern Pennsylvania remains unused.**
- **Water systems must expand to meet needs where people and businesses are now.**

Although water systems are typically overbuilt to increase the life of operating equipment and minimize the risk of service interruptions in times of prolonged drought, the amount of excess capacity in the study area is significant. Table 5 shows that in 2002, there was enough unused capacity in public water systems to serve more than 1,000,000 new people under maximum daily water production conditions. That means about 387,000 new households could have been accommodated in areas already served by existing water systems region-wide.[17] But from 1990 to 2000, population in southeastern Pennsylvania grew just three percent and the number of households by five and a half percent. As mentioned above, 97,334 new homes were built in the region during the 1990s and a third of those homes required new water infrastructure. The problem is that the needs for water are where people and businesses are now. Water systems are expanding to accommodate development where and how it is currently built with respect to local zoning policies. The loss of population and industry in older cities and boroughs may be responsible for excess capacity in some systems, and upgrades needed to meet new water quality standards increase capacity in others.

[17] Based on the average household size in southeastern Pennsylvania in 2000, which was 2.58, according to the US Census 2000 and the Pennsylvania State Data Center.

Figure 3: Water Use by Type—Philadelphia

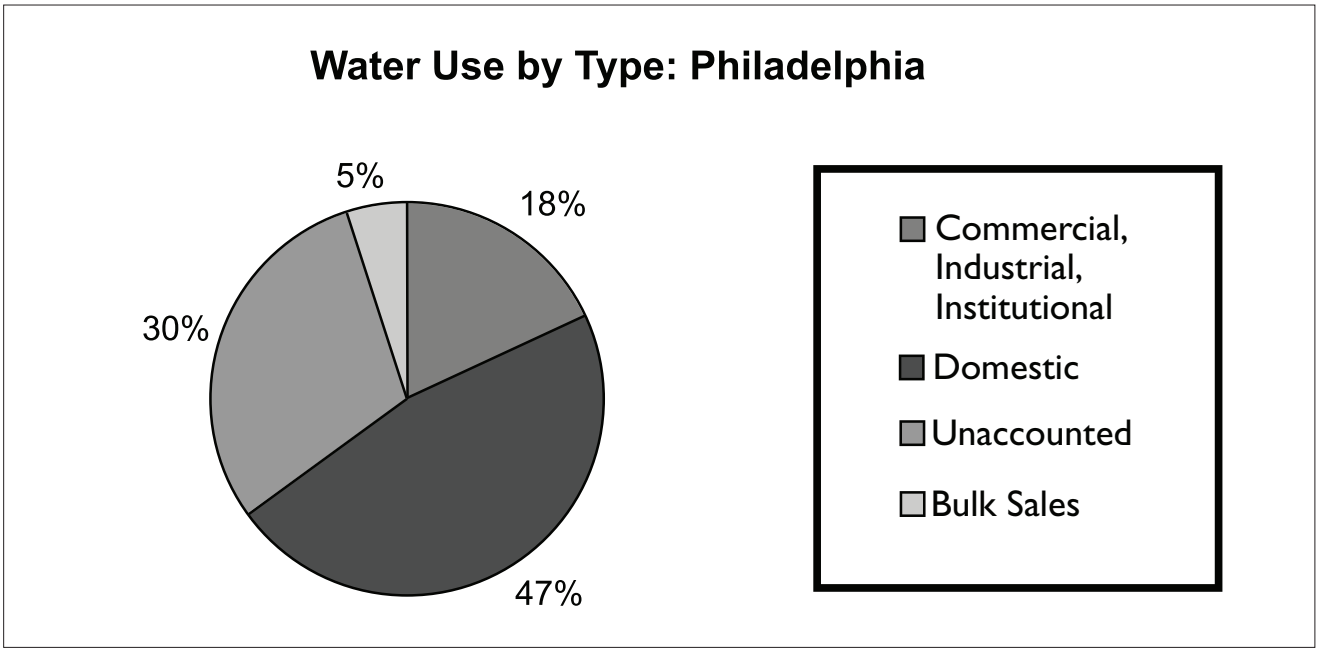
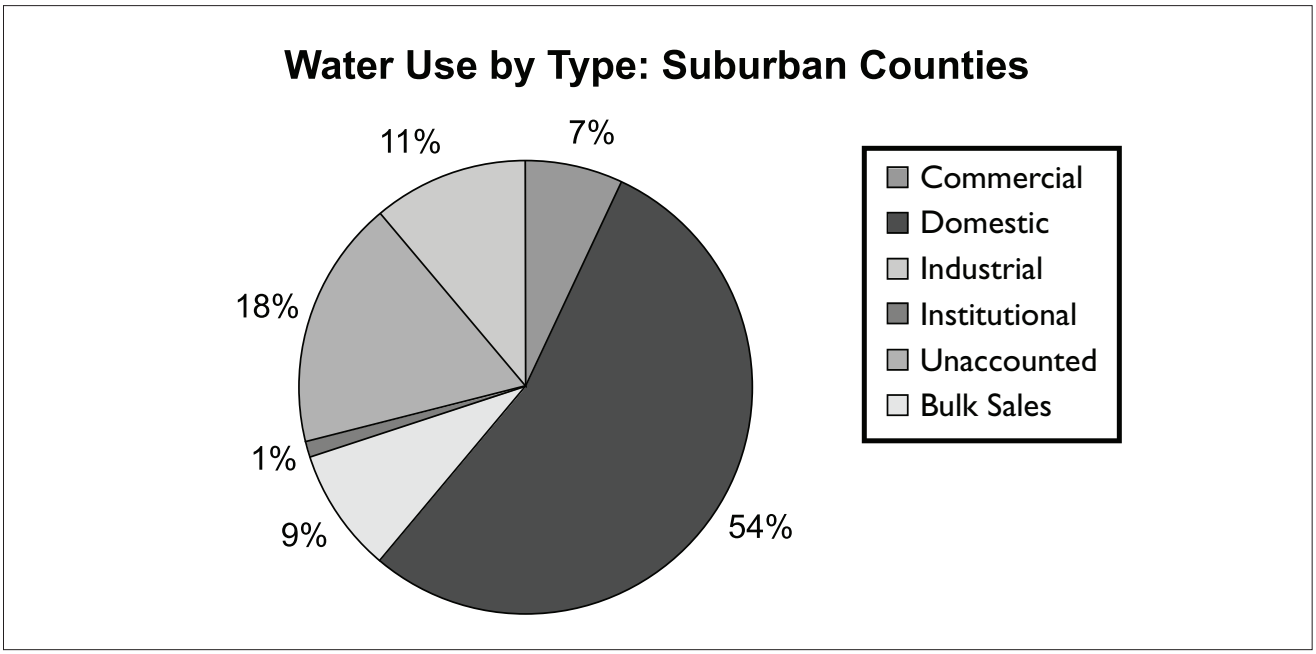


Figure 4: Water Use by Type — Suburbs



NOTE: Unaccounted water is the amount of water lost through leakage, fire protection, unauthorized use, broken meters, and billing discrepancies. About 24% of all water produced in the study area falls into this category.

Finally, DVRPC analyzed water service areas in relation to population and compared current numbers to those established in the 1992 inventory and analysis. The data in Table 6 indicates that the overall percentage of people served by public water systems region-wide was relatively stable, but Table 7 shows that the density of population in the service area decreased significantly. Lower densities exacerbate problems related to system upkeep. Large lot development increases the lengths of pipes and associated risks for leakage; increases the costs of water delivery, system operation, and

maintenance; and increases water demand for outdoor uses and lawn care, which account for about 50 percent of domestic water use nationwide.[18] For equal amounts of development, low-density designs create more impervious surfaces and more stormwater runoff than higher density schemes and therefore impact even more of the watershed.[19]

Table 5: Population Served Under Maximum Daily Water Production

Counties	Unused Capacity	Unused Domestic Capacity	*Population by Per Capita Water Usage*			
			60 GPD	100 GPD	125 GPD	170 GPD
Bucks	37,706,354	20,361,431	339,357	203,614	162,891	119,773
Chester	10,640,493	5,745,866	95,764	57,459	45,967	33,799
Delaware	38,990,545	21,054,894	350,915	210,549	168,439	123,852
Montgomery	18,884,242	10,197,490	169,958	101,975	81,580	59,985
4 Suburban Counties	**106,221,633**	**57,359,682**	**955,995**	**573,597**	**458,877**	**337,410**
Philadelphia	272,300,000	127,981,000	2,133,017	1,279,810	1,023,848	752,829
Totals	**378,521,633**	**185,340,682**	**3,089,011**	**1,853,407**	**1,482,725**	**1,090,239**

NOTE: The amount of additional people that could potentially be served by existing water systems was determined by multiplying unused capacity by the percentage of domestic water use (either suburban or Philadelphia, see Figures 2 and 3) and dividing by an estimate of daily domestic water usage per capita. Depending on the source used, estimates for per capita domestic water usage range from 60 to 170 gpd. In its work related to Pennsylvania's State Water Plan, DRBC uses 75 gpd per capita.

Table 6: Percent Population Served by Public Water in 1992 and 2003

County	Population Served 1992	Percent Served 1992	Total Population 1990	Population Served 2003	Percent Served 2003	Total Population 2003
Bucks	448,226	83%	541,174	487,538	82%	597,635
Chester	249,187	66%	376,396	315,061	73%	433,501
Delaware	583,400	107%	547,651	536,527	97%	550,864
Montgomery	611,452	90%	678,111	695,703	93%	750,097
4 Suburban Counties	**1,892,265**	**88%**	**2,143,332**	**2,034,829**	**87%**	**2,332,097**
Philadelphia	1,600,000	101%	1,585,577	1,517,550	100%	1,517,550
Totals	**3,492,265**	**94%**	**3,728,991**	**3,552,379**	**92%**	**3,849,647**

The data from 1992 shows that more people than actually live in Delaware County were served by public water systems. The 1992 population served data was derived from individual water purveyors in the spring of 1992, and overestimates the population served. Philadelphia Water Department apparently over-estimates their residential customers as well, since their population served is also greater than the census figures.

[18] *Growing Toward More Efficient Water Use*, US EPA, p. 3.

[19] *Protecting Water Resources with Higher-Density Development*, US EPA, p. 1.

Table 7: Population Density of Water Service Areas in 1992 and 2003 (people per acre)

County	1992 WSA Density	2003 WSA Density	Percent Decrease	Expanded WSA Density	Density of Unserved Areas
Bucks	5.4	3.8	30%	1.4	.4
Chester	2.1	2.0	5%	.9	.4
Delaware	6.3	5.5	13%	1.3	.6
Montgomery	4.2	3.5	17%	1.3	.5
4 Suburban counties	**4.1**	**3.5**	**15%**	**1.3**	**.4**
Philadelphia	17.4	16.6	5%	N/A	N/A
Totals	**6.4**	**5.3**	**17%**	**1.3**	**.4**

KEY ISSUES:

- **Expansion of the public water service area is outpacing population and household growth in southeastern Pennsylvania.**
- **Although the overall percentage of people served by public water systems region-wide was relatively stable between 1992 and 2003, density of population within the service area decreased significantly.**

The DVRPC data shows that the expanding water service area is outpacing population and household growth in southeastern Pennsylvania. The analysis also shows that within the expanded water service area, the increase in residentially developed land is considerable and that new water infrastructure is supporting less people on more land. It also shows that existing infrastructure and treatment capacity are available and can more than accommodate expected regional population growth.

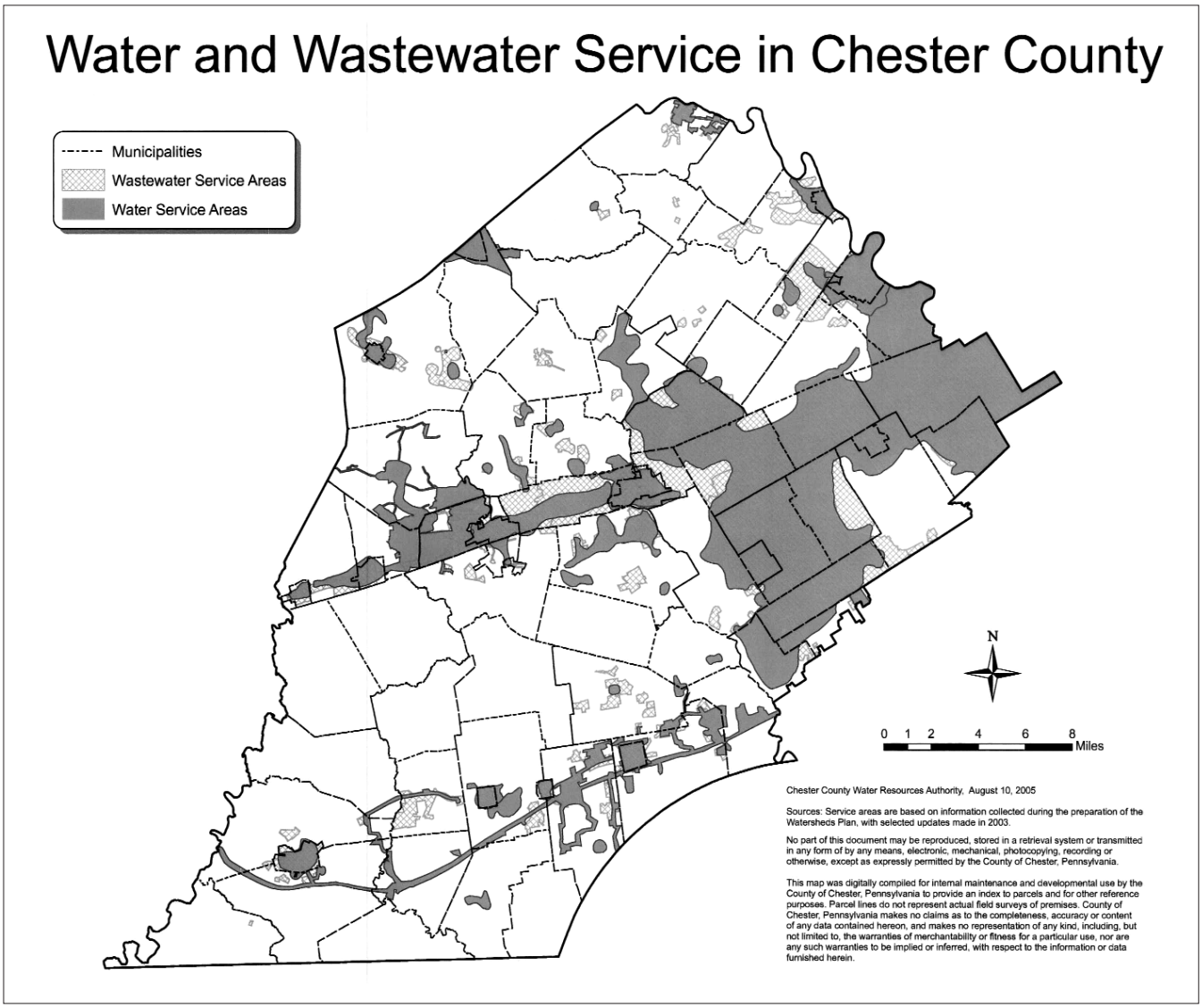
The data does not indicate which came first, however, the infrastructure or the demand for new homes and water service. In other words, the scope of this study cannot determine whether new land development is the direct result of where new water infrastructure is located or if new and redundant water infrastructure is the direct result of where land becomes available for development and new homes are built, based on local zoning practices and where people choose to live and why. But the analysis clearly shows that water systems continue to grow and serve newly developed areas while excess capacity exists in older places throughout the region.

Moreover, a closer look at Chester County indicates that in some cases, development is completely unrelated to where public infrastructure is available. Figure 5 shows the location of water and wastewater service in Chester County and Figure 6 maps recent subdivision and land development plans for the same area. The lack of public services does not appear to be an obstacle to development in this case. The permitting of on-lot facilities is supporting growth in this region. The use of individual wells and on-site septic systems is appropriate for rural areas and uses, since these systems require larger lot sizes. However, development supported by on-lot systems does not have to be contiguous to existing developed areas, which means more land is being consumed in once rural areas of the region, not

necessarily at rural densities.[20] In addition, as more and more development is supported by on-lot systems, groundwater resources can become stressed and systems can fail, leading to the extension of public services in these areas and potentially opening more land to development. Although satellite public systems and community on-lot facilities can be used as alternatives to individual systems, sound planning and zoning will be critical to avoid facilitating more low-density leapfrog development.

The findings presented in this chapter suggest that new building and water services are uncoordinated, resulting in a nearly unlimited expansion of water supply systems and low-density development into once rural areas of the region. A strong combination of forces drives this kind of unintentional or uncontrolled development, including the factors of high taxes and poor services, which tend to "push" people away from core communities, and the factors of space, lower taxes, and better services, which tend to "pull" them into the sub-

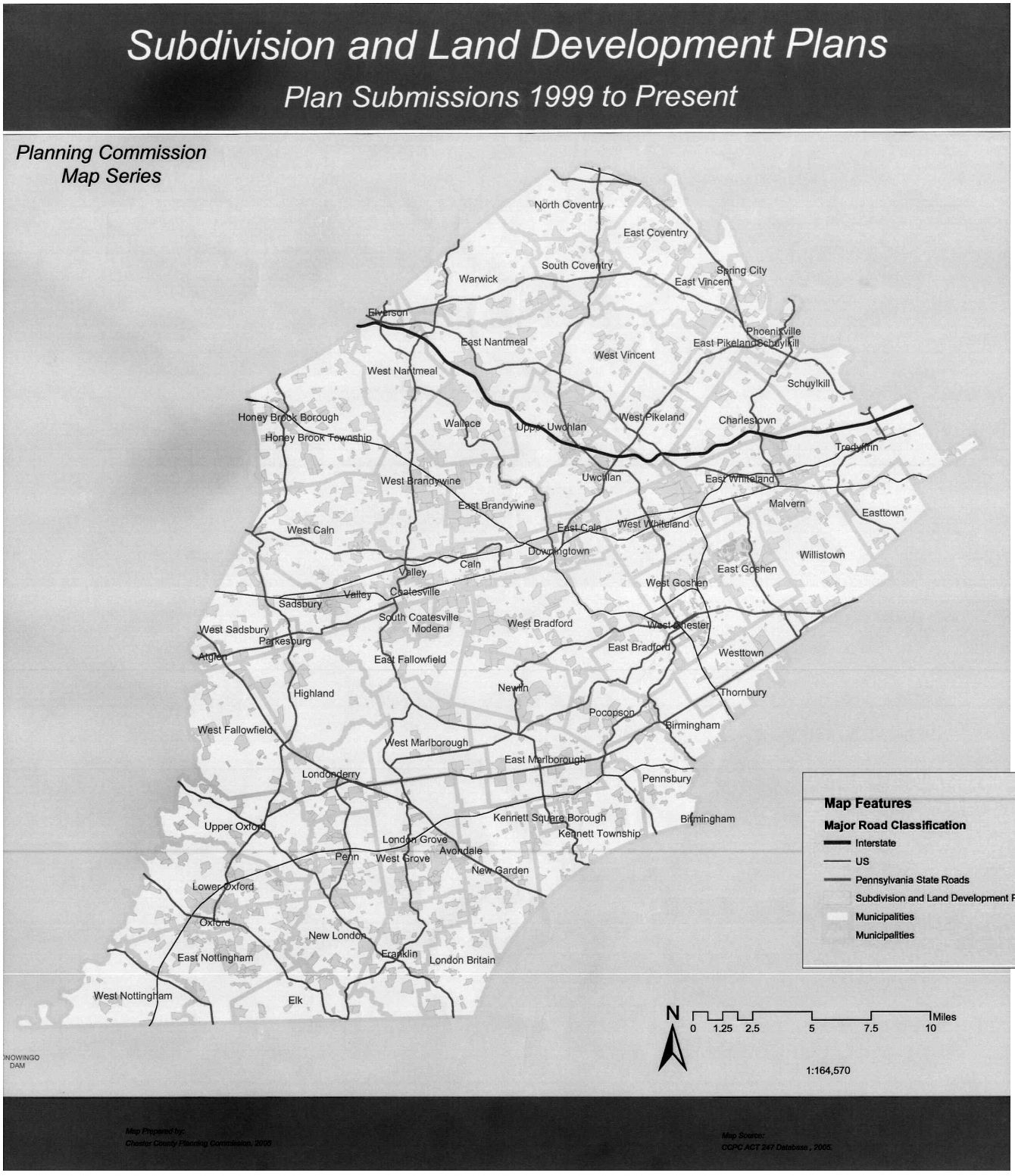
Figure 5: Water and Wastewater Service—Chester County



[20] The Center for Rural Pennsylvania defined rural as 274 persons per square mile, or about .43 persons per acre. One square mile is equal to 640 acres.

urbs. Certainly, the influence of landowners choosing to sell and develop land and the quality of life choices people make about where they want to live and work cannot be ignored. However, the next chapter explores some of the legal and regulatory forces at work that are specific to Pennsylvania and the reasons the problems described above persist.

Figure 6: Subdivision and Land Development Plans—Chester County



PROVIDED BY CHESTER COUNTY WATER RESOURCES AUTHORITY

LEGAL AND REGULATORY REGIMES

Sprawling development patterns and the expansion of water infrastructure occur in southeastern Pennsylvania despite relatively low population growth and the availability of excess capacity in existing public systems throughout the region. These are perhaps predictable results in a state where land use responsibility is delegated to 2,565 local governments without authority to require that water service areas are consistent with their comprehensive plans and ordinances, and public utility law creates an easily established duty to serve new customers and acquire the water to do so. In Pennsylvania, where decisions on water supply and land use are made independently by different agencies and local governments without any required consistency, managing growth and development in a way that is compatible with the conservation and sustainable use of water resources is a particular challenge.

According to Craig Anthony Arnold[21], there are three types of "legal regulatory regimes"—water quality, water use, and land use—and each regime has a different focus. Water law was developed in the 19th century, at a time when growth and development were the predominant focus, land and water were abundant, and concerns about environmental and land use impacts were not compelling. The resulting legal system for regulating water use is designed to facilitate growth and development, while water quality law addresses the impacts of that growth, and land use law attempts to direct where growth occurs without much success. The picture is further complicated by the fragmentation of government authority. In general terms, the federal government has ultimate power over water quality and delegates some of that power to the states, state governments control water use, and local governments control land development. Exceptions to the rules and the plethora of political jurisdictions add to the disjunction and create more opportunities for conflict.[22] The following discussion reflects how these general observations are particularly true for Pennsylvania.

Pennsylvania Water Law

In Pennsylvania, water is governed by a disjointed set of laws and regulations developed over 200 years in response to the demands of growth, environmental concerns, and court disputes. Water laws are scattered throughout many statutes and applied by many different agencies and entities. They address specific topics, such as safe drinking water and pollution, but together do not add up to a unified legal framework for comprehensive water management.[23] For the purposes of this study, state and federal laws governing water, water purveyors, and municipal land use were examined for their potential to facilitate infrastructure expansion and new land development.

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[22] Arnold et al., *Wet Growth*, Chapter 1, "Introduction: Integrating Water Controls and Land Use Controls" and Chapter 2, A. Dan Tarlock, "We Are All Water Lawyers Now: Water Law's Potential But Limited Impact on Urban Growth Management," pp. 34–35, 37–39, 59–60, and 68–69.

[23] *Pennsylvania Environmental Law and Practice*, Pennsylvania Bar Institute, 2002, Chapter 9 Introduction. There is a continuing and growing effort to create a state water management statute; see Dellapena, Developing a Suitable Water Allocation Law for Pennsylvania, *17 Vill. Envtl. L.J.* 1 (2006) (reviewing Pennsylvania's common law riparian rights and suggesting a state water management statute).

CHART OF LAWS AND RESPONSIBLE ENTITY			
Law/Regulation	**Acronym or Reference**	**Responsible Entity**	**Acronym**
Clean Streams Law	CSL	Department of Environmental Protection	DEP
Delaware River Basin Compact	Compact	Delaware River Basin Commission	DRBC
Infrastructure Development Act	IDA	Department of Community and Economic Development	DCED
Municipality Authorities Act	MAA	Individual Authorities and their Governing Boards	
Municipal Codes		Individual Municipal Governments	
Municipalities Planning Code	MPC	Individual County and Local Governments	
Pennsylvania Infrastructure Investment Authority Act		Pennsylvania Infrastructure Investment Authority	PENNVEST
Public Utility Code		Public Utility Commission	PUC
Safe Drinking Water Act	SDWA	Department of Environmental Protection	DEP
Small Water Systems Investment Act		Pennsylvania Infrastructure Investment Authority	PENNVEST
Water Resources Planning Act	Act 220	Department of Environmental Protection	DEP
Water Rights Act	WRA	Department of Environmental Protection	DEP
Water Well Drillers License Act	WWDLA	Department of Conservation and Natural Resources	DCNR

While many state statutes and government agencies influence water use and infrastructure, none directly require consistency between infrastructure placement and local land use. Many of these laws and agencies are discussed throughout the report; to learn more refer to Appendix C.

The Water Rights Act[24] (WRA) is the single state statute addressing water acquisition and allocation in Pennsylvania and its scope is very limited. The WRA controls water purveyors withdrawing surface waters for public use; it does not apply to groundwater resources. Water allocation permits granted under the WRA are obtained from DEP and serve as state approval for the use of the surface water; the permit does not provide the right to the water. Purveyors must obtain water rights from riparian owners by other means, such as purchase, lease, or eminent domain. Although local governments may comment on permit applications, water infrastructure associated with withdrawals and local land use concerns are not within the purview of the WRA and, therefore, not within DEP's review of water allocation permits. (For more information on the WRA, refer to Appendix C.)

[24]Water Rights Act of June 24, 1939 (P.L. 842, No. 365), 32 P.S. § 631. There are no regulations related to the WRA.

KEY ISSUES:

- **The WRA controls surface waters. Water infrastructure and local land use concerns are not addressed in the law.**
- **The WRA does not regulate groundwater withdrawals.**
- **In reviewing WRA permits, DEP does not consider local land use plans and ordinances.**

Like the WRA, other state water statutes are specific in their application and do not directly address water infrastructure in relation to local land use. The purpose of the Safe Drinking Water Act[25] (SDWA) is to provide potable water by establishing standards for public drinking water and construction of public water systems. The SDWA applies to both ground and surface water sources and to all but the smallest water systems. DEP requires water purveyors to obtain a permit in order to construct, operate or substantially modify collection, treatment, storage or distribution facilities under the SDWA. Waterline extensions are specifically excluded from the permit requirement. While DEP must ensure that permits comply with other environmental laws, the agency's permit approval is focused on the sanitary features of facility design and public health significance. Under the SDWA and its regulations, local land use as it relates to water infrastructure is not included in the law. While the SDWA pertains to drinking water and facilities, the Clean Streams Law[26] (CSL) pertains to general water quality. The CSL protects surface and groundwater quality by requiring DEP permits for the discharge of pollutants from point sources.

Although the SDWA and CSL focus specifically on water quality, they may have unintended impacts on land use. The Safe Drinking Water Act, for example, is considered successful in protecting public drinking water from contamination, but new and expensive infrastructure is often the preferred solution for meeting water quality requirements.[27] Problems with both water quality and quantity tend to be solved with engineering, generally requiring more and more infrastructure and new and better technology[28]. The result is increased system capacity and the ability to serve more development even if it may be more desirable from a regional perspective to direct growth to areas with existing infrastructure and unused capacity.

The Water Well Drillers License Act[29] (WWDLA) is a licensing and recordkeeping program for drillers of groundwater wells and does not address water quality or quantity. Well drillers must obtain an annual license from DCNR. (For more information on the SDWA, CSL or WWDLA, refer to Appendix C.)

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[25] SDWA, 35 P.S. § 721.1–721.17, and associated regulations, 25 Pa. Code Chapter 109.

[26] CSL, 35 P.S. §§ 691.1–691.1001, and corresponding regulations, 25 Pa. Code Chapters 91–102.

[27] Hanna, *Banking on the Future*, pp. ii, 8–9.

[28] Arnold et al., *Wet Growth*, Chapter 4, Janet C. Neuman, "Dusting Off the Blueprint for a Dryland Democracy: Incorporating Watershed Integrity and Water Availability Into Land Use Decisions," p.130.

[29] WWDLA, 32 P.S. § 645.1 and associated regulations at 17 Pa. Code § 47.1

KEY ISSUES:

- **SDWA pertains to water quality and construction and operation of water systems. DEP permits are not needed for the extension of water lines, and local land use as it relates to water infrastructure is not addressed in the law.**
- **Water quality standards can require improvements that increase system capacity and the ability to serve more development.**

Layered on top of the state's piecemeal approach to water management are interstate federal compacts that control water resources in identified river basins and watersheds in the Commonwealth. Of these, only the Delaware River Basin Compact[30] (compact) and part of the Susquehanna River Basin Compact affect the study area of southeastern Pennsylvania. The Delaware compact creates the Delaware River Basin Commission (DRBC) as the single administrative agency overseeing the basin's waters, with joint participation by Pennsylvania, New York, New Jersey, Delaware and the federal government. The compact authorizes DRBC to regulate water quality, the use and allocation of surface and groundwater, the design and operation of projects and facilities that affect water resources, and to permit projects.

As a regulatory agency, DRBC reviews and permits projects that may have a substantial effect on the basin's water resources to determine consistency with its comprehensive plan. Projects that require withdrawals greater than 100,000 gallons per day must obtain a permit. However, within the water-stressed region of the Ground Water Protected Area, a 1,000 square-mile area in southeastern Pennsylvania, DRBC reviews projects withdrawing more than 10,000 gallons per day. Generally, DRBC does not review local or major water distribution lines and appurtenances unless they involve a significant amount of groundcover disturbance or pass through a reservoir or recreation area noted in DRBC's comprehensive plan. However, a state agency can refer projects to DRBC for review where there may be a substantial effect on the basin's water resources. As an interstate agency, DRBC cannot feasibly regulate local land use issues.

KEY ISSUES:

- **Generally, DRBC does not review and permit projects for water transmission lines and appurtenances.**

Where state water laws and federal water laws, such as the Delaware River Basin Compact, do not apply, Pennsylvania relies on common law to determine individual water rights disputes, as there is no state water management statute. Because common law developed before scientific understanding that ground and surface waters are connected, Pennsylvania's common law applies

[30] Delaware River Basin Compact, 32 P.S. § 815.101–815.106, and corresponding regulations, 18 CFR Chapter III (the Water Code and Administrative Manual, Part III, Water Quality Regulations can be found on DRBC's website, www.state.nj.us/drbc). For the purposes of this study, only the laws and regulations concerning the Delaware River Basin Compact were reviewed. The Susquehanna River Basin Compact was excluded from review.

different rules of law to different water sources. In relation to surface waters, the WRA enables water purveyors to use surface waters for the public without liability under the common law by obtaining a water allocation permit. In relation to most of Pennsylvania's groundwater, courts apply the reasonable use rule, which allows a landowner to withdraw as much groundwater as he wants for use on the overlying land.[31] Under this doctrine, the "deepest well and most powerful pump wins."[32] With regard to water purveyors, while there is substantial case law stating that use of percolating groundwater off of the overlying land is unreasonable and creates liability for the diverter where other wells are impacted, case law appears to be softening.[33] Pennsylvania's use of the common law, which applies on a case-by-case basis, has been widely criticized as an inadequate system for managing the state's water resources.[34]

KEY ISSUES:

- **Pennsylvania relies on the common law to settle individual water disputes where specific water basin compacts and state statutes do not apply. The common law has been widely criticized as an inadequate system to manage water resources.**

Although regulatory agencies like DEP and DRBC aim to balance the need to protect the quality and quantity of water resources with a water company's desire to stay ahead of the demand curve, water rights and service areas can be appropriated before they are needed. When water law evolved in this country, it was designed to facilitate growth and economic development by providing unlimited access to new water supplies.[35] Pennsylvania, where water has been abundant compared to western states, has been slow to see any need or value in regulating water use. The common law of riparian rights described above can create conflicts between competing interests and the common good when resources become scarce.[36] In other words, Pennsylvania water law may encourage purveyors to acquire as much water as possible and state permitting by DEP, the PUC, and DRBC in some cases in southeastern Pennsylvania, does not prevent that. For instance, the Phoenixville Water Department is permitted to withdraw up to 7 million gallons per day (mgd) from the Schuylkill River, even though it is a municipally-owned system that has not significantly expanded beyond the borough's borders. At 125 gpd per capita, Phoenixville can withdraw enough water to serve 56,000 people.[37] This far exceeds the borough's Census 2000 population of 14,788 or its DVRPC 2025 forecasted population of 16,380.

In 2002, Pennsylvania took a significant step towards better water resource management and

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[31] *Water Law*, Pennsylvania Bar Institute, Chapter 1, 2000.

[32] Id.

[33] Id.

[34] See, ex., Joseph W. Dellapena, "Developing a Suitable Water Allocation Law for Pennsylvania," *17 Vill. Envtl. L.J. 1* (2006) and Matt Berkowitz, "Bottling the Water Bottlers: A Critique of Pennsylvania Groundwater Law," *22 Temp. Envtl. L. & Tech. J. 235* (Spring 2004).

[35] Arnold et al., *Wet Growth*, Chapter 3, Thompson, "Water Management and Land Use Planning," pp. 97–98.

[36] Citizens Advisory Council, "Position Statement on Water Resources Management," approved March 20, 2000. The common law doctrine of riparian rights applies only to surfaces waters in Pennsylvania; not groundwater, which remains largely unregulated.

[37] Reviewers at the Delaware River Basin Commission suggested that 125 gpd per capita is high and that they are using 75 gpd per capita in their work related to Act 220. In that case, Phoenixville's permit could then serve more than 93,000 people per day.

the integration of water with land use by adopting the Water Resources Planning Act[38] (Act 220), which establishes an information gathering framework for updating the state water plan. Act 220 grapples with questions such as how much water there is, how much water is used and how much is needed.[39] Ultimately, the state water plan is meant to guide state water policy, investment, and economic development based on water availability, to balance multiple uses, and to identify opportunities for improving existing infrastructure. The state plan is currently being developed through several committees and will be composed of six regional plans and, potentially, many Critical Water Planning Area plans. One of the six regions is the Delaware River watershed, which is pertinent to this study's geographic scope. What is important to note is that the plans must consider ground and surface water as a "single hydrologic resource," a new approach for Pennsylvania.

The state and regional water plans must include numerous specific elements and must consider "the needs and priorities reflected in comprehensive plans and zoning ordinances" where certain local planning requirements are met. Draft plans for Critical Water Planning Areas must also be submitted to each affected municipality's planning agency and governing body, county planning agency, and regional planning agency for review and comment regarding consistency with other plans and programs. How these local priorities will be integrated into the larger scope of the regional and state water plans remains to be seen.[40]

The most important and relevant impact of Act 220 to local control over water resources lies in the last section of the law. Section 3136 states:

The General Assembly reiterates . . . the need to manage water resources on a watershed basis without respect to political boundaries and the understanding that water management programs should be based upon an accurate and current State water plan. Accordingly, no political subdivision shall have any power to allocate water resources or to regulate the location, amount, timing, terms or conditions of any water withdrawal by any person . . .

Nothing . . . shall affect the power of any municipality to . . . regulate the use of land pursuant to the Pennsylvania Municipalities Planning Code or other laws. Further, each municipality shall retain and may exercise such authority as conferred by other statutes to adopt ordinances and regulations concerning: . . . mandatory connection to and use of available public water supplies; and . . . the prohibition or regulation of withdrawals from particular sources of water that may be contaminated in order to protect public health and safety . . .[41]

The section emphasizes that the plan is a guidance document and does not provide legally binding regulations. The section's bar against local regulation of water allocation and, indirectly, water infrastructure speaks to several of the cases discussed in Appendix D.

Based on the Municipalities Planning Code (MPC, see above), county and local comprehensive plans along with associated zoning and subdivision regulations must be generally consistent with the state water plan.[42] Therefore, the state water plan could influence local land development. Data from the plan could be used

[38] Act 220, 27 Pa.C.S.A. § 3101. At the time of writing this report, DEP had not issued regulations for Act 220.

[39] Pennsylvania State Water Plan, DEP Document No. 3900-FS-DEP 2162 (July, 2004).

[40] As of the time of this report, the Regional Committee for the Delaware River Basin had been briefed by several of the county planning departments.

[41] Act 220, 32 P.S. §§ 3136(b), (c) (emphasis added).

to support local decisions for increased densities or development in certain watersheds based on water availability or water quality of stormwater discharges, data to limit development for watersheds that are over-tapped, or even data to support open space designations in prime aquifer recharge areas.[43]

The impact that the updated state water plan may have on local planning is yet to be determined. It could be that the plan will not be actively used, similar to the original state water plan. However, because Act 220 mandates annual reporting of water use by purveyors and a mechanism to process that data through the statewide data system, the plan and its amendments will most likely play an increasingly important role on the local level as it is updated with more detailed information over time. Its influence over local land use will depend heavily on the scale that water data is incorporated into future plan amendments.[44] The finer the scale and detail of information, the more the plan will support local land use decisions based on water resources. While Act 220 has the potential to influence local land use and improves the potential for sound water resource management, like other state water statues, it does not regulate water infrastructure.

KEY ISSUES:

- **Act 220 envisions a state water plan to serve as a policy and guidance document by providing information, priorities, and recommendations. Act 220 is an information gathering and planning law. It does not specifically address water infrastructure but has the potential to influence local land use over time.**

Pennsylvania Land Use Law

Distinct from water regulation, land use authority in Pennsylvania is delegated exclusively to local governments without state, regional, or county oversight through the Municipalities Planning Code[45] (MPC). Counties are mandated to develop comprehensive plans and can play an important, persuasive role with the local governments within their jurisdiction, but they have only an advisory role in local land use planning and regulation.[46] State agency authority related to permitting of facilities and consistency with local plans and ordinances, while considered under certain circumstances, is not controlling. The general purposes of the MPC are to promote public health, coordinate development, guide

[42] MPC, 53 Pa.C.S.A. §§ 10301(b), 10303(d).

[43] See Davies and Ercole, Saving Spaces, Smart Growth and Beyond: Water Resource Planning Act, 23 *Temp. Envtl. L. Tech. J 1* (2004) (for an in-depth discussion as to how Act 220 may impact local development and state agency permitting decisions).

[44] Act 220 does not specify the scale at which surface and groundwater resources should be inventoried and assessed, only referring to "significant watersheds" for surface water resources, "aquifers" or "basins" for groundwater. Act 220, 27 Pa.C.S.A. §§ 3112(a)(1),(2). Likewise, the Critical Water Planning Areas are vaguely referred to as "any significant hydrologic unit." Id § 3112(a)(6). At the time of this report, DEP guidance for Critical Water Planning Areas defines the CWPA as a minimum of 15 square miles. See, *Guidelines for Identification of Critical Water Planning Areas* (DEP Doc. No. 392-2130-014, September 30, 2006). A scale of 15 square miles would provide enough detail for planning agencies to make development and land use decisions based on data in the plan, at least for the Critical Water Planning Areas. Whether "significant watersheds" and "aquifers" are defined on a similar scale will depend on the regulations for Act 220, which had not been published at the time of the researching of this chapter.

[45] MPC, 53 P.S. § 10101 et seq. Counties and local governments are "municipalities" under the MPC. Cities of Philadelphia and Pittsburgh and Philadelphia County are excluded from the MPC.

[46] Counties are defined as municipalities in the MPC.

the use of land and facilities, and preserve natural resources. Since almost all land uses require water services, land use regulation significantly influences where water infrastructure is located and the quality and quantity of water resources. This discussion focuses on the impact of the MPC on water resources and infrastructure.

The MPC grants municipalities considerable control over local land use decisions and includes provisions for comprehensive plans, subdivision and land development ordinances, zoning ordinances, and other land use powers. Local municipalities are authorized, but not required, to prepare comprehensive plans. Should the local municipality choose to plan, it must include a plan for the reliable supply of water and provisions to protect water supply sources, such as aquifer recharge zones. The plan may identify growth areas so that public water infrastructure can be provided to accommodate increased development. The MPC's planning requirements primarily address water services to support growth and development.

KEY ISSUES:

- **Although municipalities are authorized to protect water resources, the comprehensive planning and zoning requirements of the MPC focus on maintaining reliable water supplies and providing water services to support growth and development.**

Besides individual municipal planning, the MPC provides for multi-municipal land use planning. The purposes of multi-municipal planning focus on the efficient use of existing infrastructure, planning for growth in relation to infrastructure and services, and preserving agricultural and undeveloped lands. Multi-municipal comprehensive plans must include the same elements as individual municipal plans and may designate growth areas where publicly financed infrastructure will be provided and rural resource areas where rural uses are planned for and development compatible with rural areas uses limited public infrastructure.[47] As part of carrying out the plan, participating municipalities must determine their responsibility for providing public infrastructure, and counties are authorized to convene all potential water purveyors to negotiate service agreements and facilitate municipal decisions related to infrastructure.

While county and local comprehensive plans are not legally authoritative, subdivision and zoning ordinances have legal weight in determining where and what types of development may occur within a municipality. Zoning ordinances may regulate and restrict uses of land and water bodies, promote and preserve natural resources and environmentally sensitive areas, and regulate the siting and density of development to assure reliable and safe water supplies to support intended land uses within the capacity of available water resources.

The MPC directs water purveyors to provide notice to local governments concerning infrastructure construction in two instances. First, municipal water systems and municipal authorities proposing to construct or extend any water line must provide notice to the local planning agency, which may comment concerning consistency with its comprehensive plan.[48] However, even where the

[47]MPC, 53 P.S. § 11103(a).

[48]Id. §§ 10303(a)(4), (c).

construction or extension is inconsistent with the local municipality's plan, the proposed action can be valid under the MPC. This notice provision does not apply to public utilities. Second, water purveyors that intend to expand water service by increasing the number of individual service connections to a proposed development must notify the local municipality.[49] However, again, the MPC does not authorize municipalities to take any action to allocate water or to control infrastructure that is otherwise permitted or regulated by the PUC, or other federal or state agencies or statutes. The purpose of this provision is solely to allow the local municipality to advise the water purveyor as to the consistency of the expansion with the zoning ordinance; an expansion that is otherwise allowed by, for example, the PUC or DEP will be legitimate despite contradicting a local zoning ordinance. Essentially, the MPC gives local municipalities little, if any, direct control over infrastructure placement.

The MPC does benefit municipalities that carefully develop comprehensive plans and zoning ordinances in the interest of guiding development and associated water infrastructure. It dictates that state agencies must consider local land use in relation to state permitting and funding for infrastructure and facilities. To obtain state consideration, comprehensive plans and ordinances must be "generally consistent" with each other. If the consistency requirement is met, the MPC mandates that state agencies "shall consider and may rely upon comprehensive plans and zoning ordinances when reviewing applications for the funding or permitting of infrastructure or facilities."[50]

KEY ISSUES:

- **The construction or extension of a water line by a municipal water system or municipal authority may be valid under the MPC even if it is inconsistent with the local comprehensive plan.**
- **The MPC does not give local governments the power to allocate water resources or control the location and timing of water infrastructure expansion.**
- **A water purveyor must provide notice to the municipality when it plans on increasing the number of individual service connections. In response, the municipality can make the water purveyor aware of how the expansion may impact local land use planning. Implicit in this subsection of the MPC is the recognition that purveyors may expand service in a way that undermines local planning.**

These land use consideration provisions are extremely important, as they are the only mechanism for local planning to be recognized by state agencies. It should be emphasized that the MPC dictates that state agencies only *consider* local plans and ordinances. How agencies consider local planning and the factors they use in making decisions are left unanswered by the MPC and are in the purview of individual agency policy. Once local planning is considered, state agencies may still permit or fund water infrastructure projects that directly undermine local planning and zoning. State agencies that must consider local land use in relation to water infrastructure include DEP,

[49]Id. § 10608.1.

[50]Id. §§ 10619.2 and 11105.

PUC, PENNVEST, DCED, and PENNDOT. River basin commissions, such as DRBC, and any federal agency are not bound by the MPC.

State agency consideration of planning and zoning give local governments only weak, indirect control over the placement of water infrastructure. Furthermore, the MPC bar against local regulation of water resource allocation or withdrawals echoes several cases where courts have decided that local authority is preempted by state and federal statutes. (For a more detailed discussion of these cases, see Appendix D.)

KEY ISSUES:

- **The only potential control local governments have over the placement of infrastructure is through developing consistent local plans and ordinances. While local planning can be undermined in relation to water infrastructure, municipalities must develop comprehensive plans and zoning ordinances in order to be heard by state agencies. Where plans and ordinances do not exist or are not consistent, state agencies are not bound to take notice of local land use goals.**
- **Local governments that attempt to control infrastructure through zoning permits may be open to a pre-emption challenge.**

Local Planning and Zoning in Practice

Although the MPC gives local governments the power to direct how and where development occurs, and to some extent to regulate for the protection of natural resources, in the absence of state authority and direction, the courts have given a broad reading of the constitution in favor of landowners.[51] Pennsylvania's case law has facilitated sprawling growth patterns by requiring each municipality that chooses to plan and zone to provide for every category of residential, industrial, commercial, and institutional use, as well as the infrastructure and services needed to support that development. The consequence is that any local government that decides to plan and regulate for housing, jobs, transportation, and community facilities and services in a coordinated way, as encouraged by the MPC, is planning and zoning for the urbanization of their community, which essentially mandates the need for new water and other infrastructure everywhere.[52] If local governments do not plan and zone, however, they have no control over the location and types of development or the infrastructure that supports it.

[51] *Sewage Facilities and Land Development*, 10,000 Friends of Pennsylvania, p. 23.

[52] New provisions added to the MPC in 2000 authorize multi-municipal planning and implementation with consistent local ordinances, which allows cooperating municipalities to distribute uses over a larger contiguous area and to plan together on issues that need to be looked at regionally, such as water infrastructure. See Denworth, et al., *Planning Beyond Boundaries: A Multi-Municipal Planning and Implementation Manual for Pennsylvania Municipalities*, 10,000 Friends of Pennsylvania, Copyright © 2002.

Even in cases where growth and rural resource areas (which can only be delineated under the multi-municipal provisions of the MPC) and zoning provisions are established in relation to infrastructure, court-made law has developed a presumption against zoning for less than one dwelling unit per two acres of land, based on exclusionary zoning principles and the notion that overly restrictive zoning is confiscatory, limiting a landowners' right to use and develop property.[53] This doctrine is designed to counter the propensity of many local governments to impose large lot zoning of two or more acres per house in order to preserve the "rural" (and exclusive) character of their jurisdictions. With much truth, homebuilders claim the general public is opposed to two things—sprawl and density.[54] So the courts restrict the application of truly rural densities and public opposition often limits the use of higher and more urban densities. Consequently, under current law local governments zone much of the residential land at one to two dwelling units per acre, which may preserve private open space, but is a recipe for sprawl.[55] Higher densities are sometimes permitted by special exception, conditional use, or through the use of overlay districts and bonus provisions, all of which lengthen the approval process and discourage their use in many cases. While low density requirements are aimed at controlling growth in a particular place, they have little effect on growth region-wide and may even promote sprawl.[56]

In addition to zoning for higher densities and larger contiguous open space, other sound land use tools available in Pennsylvania to promote efficient growth are often not used effectively, especially on a more sensible, regional basis. Inter-jurisdictional transferable development rights (TDR) programs, traditional neighborhood developments (TND), transit-oriented development (TOD), transit revitalization investment districts (TRID), specific plans, and designated growth and rural resource areas can all be used to direct development to infill and brownfield sites in existing developed areas, where higher densities may be more appropriate. Multi-municipal planning provisions allow municipalities to plan together on issues that need to be looked at regionally, such as water infrastructure, and to designate growth areas where public infrastructure will be provided and rural resources areas where it will not.[57] Although there are more than 700 municipalities involved in multi-municipal planning statewide, a significant and positive trend, sound subdivision, zoning and other regulation as well as capital improvement programs will be critical to implementing these plans successfully.

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[53] See Denworth, et al., *Guiding Growth: Building Better Communities and Protecting Our Countryside*, Pennsylvania Environmental Council, Inc., Copyright © 1991, 1993), p. 4-1 et seq. and 4A–1 et seq. See also *National Land and Inv, Co. v. Kohn* [Easttown Twp. Bd. Of Adjustment], 419 Pa. 504, 215 A.2d 597 (1965); *Appeal of Kit-Mar Builders, Inc.* [Concord Twp. Appeal], 439 Pa. 466, 268 A.2d 765 (1970); *Commonwealth v. Martin*, 306 Pa. Super. 108, 452 A.2d 238 (1982); and *Mill Valley Associates v. Zoning Hearing Board of Tredyffrin Twp.*, Pa. Commonwealth No. 340,559 A.2d 985 (1989), appeal denied 593 A.2d 429 (1990).

[54] Edward T. McMahon, "Looking Around—Barriers to Better Development," *Planning Commissioner's Journal*, Number 42, Spring 2001, pp. 4–5.

[55] Discussions with county and local planning officials.

[56] Rolf Pendall, "Do Land-Use Controls Cause Sprawl?," *Environment and Planning B: Planning and Design*, 1999, 26.4:555, as presented by US EPA in *Protecting Water Resources with Higher-Density Development*, p. 8.

[57] See Denworth et al., *Planning Beyond Boundaries* for detailed information on multi-municipal planning and implementation and available land use tools.

KEY ISSUES:

- **Pennsylvania's case law has facilitated sprawling growth patterns by requiring each municipality that chooses to plan and zone to provide for every category of land use, which essentially mandates the need for new water and other infrastructure everywhere.**
- **Court-made law has developed a presumption against zoning for less than one dwelling unit per two acres of land, which may preserve private open space, but is a recipe for sprawl.**
- **Sound land use tools available in Pennsylvania to promote efficient growth are often not used effectively, especially on a more sensible, regional basis.**

Laws Governing Water Purveyors and System Expansion

A community public water system is defined by the Federal Clean Water Act as any water system that supports at least 25 people or 15 service connections year round. In Pennsylvania, in order to ensure an adequate public water supply, a municipal government is empowered to construct and operate its own municipal water system, create a municipal water authority, or contract with a public utility to provide service. Municipalities may also join with other cities, boroughs, and townships in owning and operating a municipal water system, or they may contract with another municipality or municipal authority to supply the service.

These public water entities—municipal water systems, municipal water authorities, and public utilities—are controlled by a number of laws, including the Public Utility Code, The Municipality Authorities Act (MAA), and general municipal statutes, all of which set up different regulatory and adjudicatory systems for each entity. For instance, municipal systems and municipal authorities are not regulated by any single state agency the way public utilities are regulated by the Public Utility Commission (PUC). The PUC regulates water service and infrastructure through the granting of Certificates of Public Convenience (certificates). A public utility must apply for a certificate to begin supplying service, to provide a different service, to acquire or transfer property, or to extend service to a new territory. On the other hand, municipal water systems and authorities may extend service without state regulation or oversight. PUC policies and procedures apply only to rates and services provided by a municipal water system beyond its corporate limits. Municipal water systems operating within their jurisdiction can expand service nearly at will. Once established individually or jointly by any county, city, town, borough, township, or school district of the Commonwealth, municipal water authorities are entirely independent and distinct entities in their day-to-day operations. Within its jurisdiction, the authority has exclusive control over how to accomplish its projects, including water infrastructure extensions in the areas served.

Certificates of Public Convenience

The PUC grants water franchise areas for public utilities based on whether there is a demand for service, the water utility is technically and financially fit to provide the service, and the new area represents an orderly growth of the utility's system. But demand for service can be demonstrated with written request by a developer and a single resident of a proposed subdivision that has no

public water service.[58] In addition, the water purveyor does not need to demonstrate a demand for service in every square mile of the proposed territory; case law has stated that proof of necessity within the general area is sufficient.[59] As a result, proposed service areas may not have to be tightly drawn around known or anticipated future customers, resulting in granted franchises that are larger than actually needed. In practice, water purveyors may only apply for enlarged service areas specifically based on developer requests and locally designated public service areas.

Other factors weigh in favor expanding water infrastructure as well. A utility does not have to obtain approval for a water line extension in an area for which a certificate has already been granted. The PUC does not need to consider whether water can be better supplied by individual wells. Nor must it rely upon local land use plans and ordinances in making decisions; it is only required to *consider* them. And if local governments fail to supply letters concerning the project's consistency with local land use, the certificate may be granted anyway, since PUC regulations make it clear that incomplete applications need not be rejected.

Under its new regulations, requiring letters certifying compliance with local plans, the PUC is attempting to correlate service areas granted with requests for needed water service. However, without the regulations better defining "service area," there remains an open question as to how tightly drawn granted service areas must be in relation to the demonstrated request for water supply (see *Application of Superior Water Company* in Appendix D). Once a franchise area is granted, the utility has a "duty to serve" new customers in that area; thus, leading to more water supply infrastructure.

Installation

Municipal water systems, municipal authorities, and public utilities have three options to install water infrastructure. They can acquire land or easements through purchase or other voluntary means, they can condemn land through eminent domain, or they may install infrastructure under public roads.

Eminent domain power is provided to public utilities as well as to municipal authorities and water systems in order to obtain land for infrastructure and water sources for supply. Public utilities are regulated by obtaining a certificate issued by the PUC. All public water suppliers are regulated before exercising their power of eminent domain to acquire a surface water source by obtaining a water allocation permit via DEP.

In practice, water purveyors do not often exercise the power of eminent domain as they can occupy roads and rights-of-ways for infrastructure. Water purveyors are required to obtain permits from state and local governments in order to install infrastructure in roads. As of this writing, highway occupancy permits for infrastructure placement in state roads do not require consistency with local land use plans and ordinances. (For further details on the types of water purveyors and how they are regulated, see Appendix A. For detailed information on how water purveyors expand their systems, see Appendix B.)

[58] *Application of Newtown Artesian Water Company*, 2003 Pa. PUC LEXIS 54 (2003).

[59] *Modern Transfer Co. v. PA PUC*, 115 A.2d 887 (Pa. Super. 1955)

KEY ISSUES:

- **The municipal codes, MAA, and Public Utility Code set up different regulatory and adjudicatory systems for municipal authorities, municipal water systems, and public water utilities.**
- **Municipal authorities and municipal water systems are not regulated by any single state agency. The PUC only has jurisdiction over municipalities that serve customers outside of their corporate limits.**
- **Unlike PUC-regulated companies, municipal water systems and municipal authorities can expand their systems without state regulation or oversight.**
- **Municipal authorities are independent and distinct entities created by local governments. Once established, the authority is independent from the municipality in its operations and is not an agent of the municipality that created it.**
- **Public utilities do not need to obtain a Certificate of Public Convenience to extend water infrastructure into areas for which they already hold a certificate. Once a service territory is granted, line extensions are unchecked by the PUC unless a local government or other interested party brings a complaint before the Commission.**
- **While the agency may obtain missing information through discovery or hearing, the PUC is not required to reject incomplete applications for certificates and has the right to review the application anyway.**
- **Evidence of demand or need for public water can be almost anything, including a written request by a developer and a single resident of a proposed subdivision that has no public water service or the fact that there is no existing public water service.**
- **An applicant for a certificate for new service area does not need to demonstrate a demand for service in every square mile of the proposed territory.**
- **The definition of "service area" does not restrict the PUC from granting service areas that are larger than actually needed.**
- **Public utility law imposes a "duty to serve" new customers within a granted franchise area. They also have a duty to acquire the necessary water supplies.[60] In court, the duty to serve has prevailed over other considerations, including local plans for growth and conservation.[61]**
- **The PUC is not required to base the granting of certificates on consistency with local land use plans and ordinances.**
- **Factors the PUC considers in balancing public water service against the use of private wells implicitly weigh in favor of building public water infrastructure. The PUC does not actively consider whether water for a development can be better supplied by wells. The factors the PUC does consider in favoring public water service do not include environmental impacts or costs to the community.**

[60] Tarlock and Lucero, "Connecting Land, Water, and Growth," *Land Use Law & Zoning Digest*, p. 3. Also, Arnold et al., *Wet Growth*, Chapter 2, Tarlock, "We Are All Water Lawyers Now," pp. 81–82.

Bridging the Gaps

While Pennsylvania has not passed a statewide water management statute and water resource controls that impact local land use are primarily held by the state, Pennsylvania is making strides to integrate land and water connections into state programs and to pay greater attention to local land use policies at the state level. Recently, the state facilitated the development of the Interagency Letter of Understanding[62] (LOU) and the Keystone Principles and Criteria for Growth, Investment and Resource Conservation.[63]

As discussed above, the MPC directs state agencies to consider local land use in funding and permitting decisions for facilities and infrastructure. The LOU provides a consistent framework for state agencies to follow in carrying out this directive. The LOU framework leads agencies to make two consistency determinations. First, the LOU requires applicants to provide written certification from municipalities that their proposed project is consistent with local land use. Municipalities must provide timely responses; otherwise agencies will assume that projects are consistent with local land use—even where projects are not. This could negatively impact the local government. Second, the LOU allows agencies to assume that local plans and ordinances are generally consistent. Where an applicant challenges this assumption, state agencies will request local governments to evaluate whether

AGENCY CONSIDERATION OF LOCAL LAND USE PER THE MPC

Project is consistent with local land use	**+**	**Local plans and ordinances are consistent with each other**	**=**	**State agency must consider local land use in its decision.**
Project is consistent with local land use	**+**	**Local plans and ordinances are inconsistent with each other**	**=**	**State agency does not have to consider local land use in its decision**
Project is inconsistent with local land use	**+**	**Local plans and ordinances are consistent with each other**	**=**	**State agency must consider local land use and is authorized to use its discretion as to whether to approve the project**
Project is inconsistent with local land use	**+**	**Local plans and ordinances are inconsistent with each other**	**=**	**State agency does not have to consider local land use in reviewing the project**

[61] *Growing Toward More Efficient Water Use*, US EPA, p. 17.

[62] *Interagency Letter of Understanding Regarding Consistency in Implementation of 2000 Amendments to PA MPC* is published on DEP's Growing Smarter website at www.dep.state.pa.us/hosting/growingsmarter/LOU.doc.

[63] The Keystone Principles and Criteria are published on DEP's Growing Smarter website at www.depweb.state.pa.us/pubpartcenter/lib/pubpartcenter/Keystone_Principles_and_Criteria.pdf.

their plans and ordinances are consistent. If the local government does not provide a timely response, the agency will assume that local plans and ordinances are not consistent so that the agency is not bound to consider local land use in its decision. Again, this could negatively impact the local government. As discussed, once an agency considers local land use, it is not necessarily bound to follow local planning and zoning directives in its funding or permitting action.

The LOU applies to ten state agencies. Among the agencies that signed the LOU are DEP, DCNR, PENNDOT, PENNVEST, DCED, and PUC—all of which take actions to impact water infrastructure and development. To date, DEP and the PUC have revised their policies to reflect the LOU framework.

The Keystone Principles and Criteria represent a coordinated effort to foster sustainable economic development, conservation, and smart growth among 23 state agencies and programs. The principles are general directives for agencies to achieve through state grant or loan programs. While they do not apply to permitting programs, the principles should impact the development of new infrastructure. The principles include: providing efficient infrastructure by using and improving existing infrastructure; providing public water in growth areas; requiring expansions to be consistent with local land use; and planning regionally with local implementation, including infrastructure. The general principles are supported by criteria—specific measures—used by state agencies to evaluate proposals.

Although state agency efforts are a significant step toward integrating land, water, and growth, the forces driving development and water system expansion in southeastern Pennsylvania are embedded in statutes and case law, enabling inefficiency and the wasteful use of land and water resources. Ideally, water law would protect and preserve water resources, land use law would encourage efficient and sustainable development, and public utility law would ensure that the provision of water services is coordinated with plans for growth and conservation.[64]

[64]Arnold et al., *Wet Growth*, Chapter 3, Thompson, "Water Management and Land Use Planning," p. 118.

CONCLUSIONS AND RECOMMENDATIONS

Current policies, practices, and institutional arrangements in Pennsylvania discourage government officials, planners, water purveyors, and other stakeholders from managing water and land as interrelated resources. Water is governed by a complex set of laws and regulations that, for the most part, treat drinking water, wastewater, stormwater, and surface water quality as separate domains, none of which are well integrated with laws governing land use.

Pennsylvania case law and decisions made by the Public Utility Commission make it clear that communities may not limit public water systems as a means to restrict development. Communities that wish to guide development must do so through planning and zoning in accordance with Pennsylvania's land use law, which requires that any municipality that chooses to plan and zone must provide for every type of land use (unless it shares such planning on a multi-municipal basis under the MPC). That requirement, combined with public utility law establishing a duty to serve new customers, results in scattered development and virtually unlimited extension of water supply infrastructure to support new development.

Local officials in small municipalities, often with limited resources, are charged with planning for all aspects of growth, including the provision of a reliable water supply and the protection of natural resources. Yet state law denies them control over water infrastructure and fails to require water systems to be consistent with local comprehensive land use plans and ordinances.

Although the current regulatory regime for water supply and land use presents serious obstacles to smart growth in Pennsylvania, the Commonwealth can overcome these challenges by building on progress that has already been made in targeting state funding policies, promoting regional planning and intergovernmental cooperation, and compiling information to inform water-related plans and policies. The recommendations presented below are intended to strengthen and improve efforts that are already underway, resulting in a legal and regulatory regime that:

1. Aligns policies and incentives to direct development to areas where infrastructure already exists, protects and maintains existing infrastructure, and reduces the need to extend infrastructure to serve new development.
2. Promotes a comprehensive approach to water and land use that coordinates drinking water, wastewater, stormwater, and land use across municipal boundaries.
3. Provides sufficient information to support integrated land and water planning and decision-making processes.
4. Provides for efficient use of water.

Recommendations

1. Align policies and incentives to direct development to areas where infrastructure already exists, protect and maintain existing infrastructure, and reduce the need to extend infrastructure to serve new development.

DVRPC's analysis of public water systems in southeastern Pennsylvania shows that water infrastructure has expanded rapidly into new areas despite substantial unused capacity where infrastructure already exists. From the standpoint of both economic efficiency and sound land and water resource management, it would be better to direct a larger share of the region's development to areas that are already served by public water systems, or to adjacent areas where the infrastructure can be easily extended, and to discourage development in rural areas where public water is not available. This entails efforts to concentrate development in and around existing developed areas, which are likely to be served not only by water systems, but also by sewerage, adequate roads, and other kinds of

public infrastructure. Policies to encourage development where water infrastructure already exists would tend to promote more efficient use of infrastructure in general.

1.1. Use the Keystone Principles and Criteria for Growth, Investment, and Resource Conservation to enable PENNVEST, DCED, DEP and other agencies to give priority consideration and funding to projects that promote revitalization of older communities, maintain and improve existing infrastructure, and are consistent with regional planning initiatives. Consider expanding the Principles and Criteria to permitting decisions.

The Keystone Principles and Criteria have tremendous potential to improve coordination among state agencies and ensure that state funds are used to promote regional approaches and common land use goals. Consistent application of the Keystone Principles would support efficient use of and investments in infrastructure by prioritizing projects that:

- Support revitalization of cities and towns;
- Promote redevelopment of brownfield sites;
- Support rehabilitation of historic buildings and neighborhoods;
- Encourage compact development that is integrated with existing or planned infrastructure;
- "Fix it first" (focus on using and improving existing infrastructure);
- Require infrastructure expansions to be consistent with local comprehensive plans and ordinances; and
- Support county, multi-municipal, and municipal planning and implementation that is consistent with these principles.

Note, however, that PENNVEST funding accounts for just one-third of investments made in water and sewer infrastructure in Pennsylvania. If the Keystone Principles and Criteria also applied to permitting programs (at least on an informational basis), they could influence investments made by developers, private water companies, and other investors.

1.2. Use designated growth areas, rural resource areas, and other available land use tools, implemented through consistent land use ordinances, to direct development to areas where water infrastructure is available or planned, and to discourage development in areas where public infrastructure is not planned.

The Act 67/68 revisions to the Municipalities Planning Code authorize municipal, multi-municipal, and county comprehensive plans to identify designated growth areas where "a full range of public infrastructure services" can be planned and provided (Section 301(d)). They also authorize county and multi-municipal plans to identify rural resource areas where "infrastructure extensions or improvements are not intended to be publicly financed" except for health, safety or other specified reasons (Section 1103(2)(iii). Designated growth areas can be located adjacent to existing developed areas, or even within such areas, so long as there are sufficient opportunities for infill development to accommodate new growth. In addition, transferable development rights programs, traditional neighborhood developments, transit oriented development, transit revitalization investment districts and specific plans can all be used to direct development to areas where infrastructure is planned for or already available. Since ordinances, not plans, have the force of law, it is important for communities that include such tools in

their comprehensive plans to implement them through zoning and other land use ordinances.

1.3. Require that water purveyor service areas be consistent with local plans and ordinances, and especially with designated growth areas.

It is important to ensure municipal authorities and municipal water systems are bound to conform to local plans and zoning ordinances, and especially to align service areas with designated growth areas, rather than have authorities and purveyors pursue a development strategy that is at odds with local comprehensive plans. To support this recommendation, the Municipal Authorities Act could be modified to require that actions by authorities concerning water (and sewer) infrastructure be consistent with county, municipal, and multi-municipal plans and ordinances.

Similarly, for the 20 percent of private water companies regulated as public utilities, the PUC could modify its regulations to explicitly require consistency with county, municipal, or multi-municipal comprehensive plans and ordinances in granting certificates of public convenience. Although the duty to serve new customers creates pressure to expand public utility service territories, the PUC could limit the size of such territories by drawing their boundaries more tightly around anticipated new customers and avoiding extensions beyond designated growth areas.

1.4. Adopt regulatory and educational programs addressing groundwater resources in order to ensure that reliance on individual and community wells supports development that is consistent with local plans for growth and conservation.

Scattered growth patterns in southeastern Pennsylvania attest to the fact that wells often support development where public water systems are not available. When wells fail or groundwater resources become stressed, water purveyors may feel compelled to expand public services into areas where infrastructure was not planned or desired. County, multi-municipal, and municipal plans and ordinances should be used to guide the location and appropriate use of decentralized water systems relying on groundwater. In addition, DEP could create educational systems for homeowners and operators of small private community systems to encourage proper location, design, operation, and maintenance of wells and satellite community systems to reduce the need to extend public water systems for environmental and public health reasons.

2. Promote a comprehensive approach to water and land use that coordinates drinking water, wastewater, stormwater, and land use across municipal boundaries.

The recommendations presented above are aimed at directing new development to areas where infrastructure exists or is planned, limiting the need to expand infrastructure to accommodate new development, and ensuring that sufficient resources are available to maintain existing service and update it as needed. A truly comprehensive approach would go even further, promoting integrated water resource management by aligning policies and incentives to prevent unsustainable and ecologically harmful withdrawals from rivers and streams, protecting groundwater resources, and minimizing the negative environmental impacts of inter-basin and inter-watershed transfers.

2.1. Consider creating and implementing a comprehensive water supply, watershed, water resources, sewerage planning process that is coordinated at the county level (as with Act 167 for stormwater) in order to assure adequate evaluation of regional needs and watershed impacts.

A truly comprehensive water and land use planning process would include the consideration of drinking water, wastewater, stormwater, and land use on a watershed basis. Watershed planning efforts are already underway under Act 167, the Stormwater Management Act. This legislation requires each county in Pennsylvania to "prepare and adopt a watershed stormwater management plan for each watershed located in the county." The Act 167 program is funded, and county and local governments are reimbursed by DEP. But the program does not address the full range of water resource management needs, and proposals to strengthen its implementation are currently being circulated. The Delaware River Basin Commission also promotes innovative watershed planning in southeastern Pennsylvania by encouraging municipalities to develop integrated resource plans on a multi-municipal basis. The goal is to incorporate comprehensive water resource planning and land use planning into municipal comprehensive plans. These examples indicate the potential value of integrating the future implementation of Act 220, local water resources planning, Act 537 sewage facilities planning, and land use planning at a level sufficient to address regional as well as local needs.

2.2. Implement section 301(b) of the Municipalities Planning Code by requiring and financially supporting timely and complete updates of municipal, county, and multi-municipal comprehensive plans so that they "include a plan for the reliable supply of water, considering current future water resources availability, uses and limitations, including provisions adequate to protect water supply sources." Such plans should be consistent with county, watershed, regional and state water plans.

The Municipalities Planning Code (MPC), as amended in 2000, requires all municipalities and counties with a comprehensive plan to include a water resource plan. (Such plan elements were previously optional.) But plans need to be updated in order to include these elements, and once they are updated they should be kept current. Updating comprehensive plans to include water resource plans will require financial and technical support, and an outreach effort that will connect land use decision-making to a concern for water resources. This same provision requires the water resources planning element of comprehensive plans to be "generally consistent with the State Water Plan," which will be released in March 2008 under Pennsylvania's Act 220. Implementation of section 301(b) of the MPC will ensure these plans are reviewed every ten years. Where a water resource plan shows that, in a critical area, additional water for development is limited, the land use plan should reflect that fact and respond appropriately.

2.3. Revise policies of state agencies for funding or permitting water supply facilities to ensure that they consider local comprehensive plans and zoning ordinances, but only where such plans and ordinances are up to date and take into account water resources as provided by MPC section 301(b).

The Act 67/68 amendments to the MPC require that Commonwealth agencies "shall consider and may rely upon comprehensive plans and zoning ordinances when reviewing applications for the funding or permitting of infrastructure or facilities" for those facilities that develop, rely upon, or deliver a water supply. Such deference to local plans and ordinances should be applied only when the plans are up-to-date in incorporating consideration of water supplies and water resources. This will provide a further incentive for the integration of water resources with land use planning.

2.4. DCED should be funded to provide more direct outreach and technical assistance to support water resource planning and encourage multi-municipal planning and implementation.

Multi-municipal planning and implementation is one of the few ways local governments can achieve more rational and coordinated development and infrastructure expansion. With additional funding, the Commonwealth could raise the number and quality of regional planning efforts statewide, improve the implementation of such plans, and increase the potential for integrating water and land use on a regional basis.

2.5. DEP and DCED should be funded to provide training to counties, municipalities, and municipal authorities on effective means to consider and evaluate water resources and water supplies, as well as to provide a forum for local officials and developers to work with regulatory agencies in order to ensure that water resource and supply issues are addressed early in comprehensive planning and in the development process under zoning regulations, taking into account regional watershed concerns.

Local governments need technical support and training to make it possible to integrate decisions about land, water, and growth. Existing training providers, such as the Local Government Academy in western Pennsylvania, can be marshaled toward improving these connections when land use plans and regulations are developed, and land use decisions are made. The Commonwealth can also support collaborative and informational processes to coordinate growth with local land use and watershed priorities.

3. Provide sufficient information to support integrated land and water planning and decision-making processes.

Linking land and water planning with effective decision-making depends upon the continuing availability of reliable information on water resources, watershed integrity, and water demand. Pennsylvania's Act 220, the Water Resources Planning Act, is designed to produce just this sort of information. The following recommendations could help ensure that the state water plan effectively provides guidance for integrating land and water decisions.

3.1. Provide adequate funding to implement the state water plan being prepared under Act 220.

The State Water Plan will be completed in March 2008. There is no current funding source to enhance the ability of Pennsylvania's local governments, authorities, state agencies, and private parties to make use of its "information, objectives, priorities and recommendations," which are by law intended "to be considered and weighed in a broad range of state, local and private decisions" (Act 220, § 3116). Support will be needed to make the plan useful by providing for sharing timely and targeted information to local and regional decision-makers, water suppliers, and land use planners and developers.

3.2. The Commonwealth could adopt financial and technical assistance incentives and enforceable mandates to encourage state agencies, municipalities, municipal authorities, and private water utilities (as well as the Public Utility Commission) to consider the state water plan in determining where development should occur and how it should be coordinated with the provision of water supplies.

Financial incentives and technical assistance are powerful tools available to state governments. Act 220 has no legally binding regulations that link it directly to land use and water supply systems. But because the MPC specifies that municipal and multi-municipal plans must be generally consistent with the state water plan, Act 220 has the potential to influence local land use practices if it is implemented effectively. Other decisions, regarding infrastructure, water supplies, redevelopment, and conservation lands, may also benefit from Act 220's information. Funding and technical assistance and requirements of state programs could be tailored to ensure that local and private decision-makers consider and use the plan. DEP, DCED, or another Commonwealth agency should also develop standards for determining that county, municipal, or multi-municipal plans are "generally consistent with the State Water Plan" as required by section 301 of the MPC.

4. Provide for efficient use of water.

While stronger connections between land use and water supply infrastructure would help conserve and protect water resources, additional steps could be taken to encourage water purveyors and consumers to use water more efficiently.

4.1. Investigate the feasibility of policies encouraging water suppliers to pursue innovative and cost-effective water strategies that improve efficiency of water use, and conservation of watersheds.

Water supply problems have been "solved" largely with large scale engineering projects for the last century. But greater efficiencies in the use of water can produce substantial benefits without a higher level of public expenditure. Numerous water efficiency technologies are available to address water use. Municipal water systems, municipal authorities, and the PUC could establish rates that promote conservation and efficiency by water users, including "conservation rates" that charge more per unit used as water use increases, or raise rates during summer months when water supplies are typically stressed. Additional provisions could allow water suppliers to recover some return on investment where they assist customers with water-efficient technology. Note however that these are complex issues that require further research before policy decisions are reached.

4.2. Provide development incentives and preferences linked to water efficiency and maintenance of water supply health.

The Commonwealth and municipalities could provide funding and permitting incentives for water-efficient development and land conservation. Such incentives could include preferences or requirements for "green buildings," zoning and permitting advantages for water-efficient buildings and developments, awards and recognition for green infrastructure that protects the health of water sources, and programs to support re-use of grey water in water-limited environments and water-shortage conditions.

Further Research

This report raises issues and draws conclusions about how state policies and practices for water, land use, and public utilities and local planning and zoning practices combine to facilitate sprawling development patterns. But further analysis is needed to promote a truly comprehensive approach to land, water, and growth in Pennsylvania. Significant public investment for infrastructure has already been made in older developed areas of Pennsylvania, but many of these places are still suffering from loss of population and economic activity. In order to revitalize declining cities and boroughs and direct develop-

ment to areas where infrastructure and other services are currently located, research on costs and maintenance needs is required. Specific questions include:

- How do other states coordinate land use planning with water resource planning and decision making? What are the models of best practice in integrated land and water planning?
- To what extent could adequate public facilities ("concurrency") ordinances and impact fees help direct development to areas where infrastructure is already available? What are the possible unintended consequences of such policies?
- What are the capital maintenance needs of water systems in older communities? What are the needs of all systems, five, ten, or twenty years in the future? Who will pay for these needs?
- What are the fiscal impacts of the National Pollutant Discharge Elimination System (NPDES) and the Chesapeake Bay Program, especially for small municipal water systems and municipal authorities?
- How are state funds invested in existing systems relative to new systems? What is the extent of the role of private investments in water infrastructure?
- Is a model land/water code needed and, if so, what form should it take?

APPENDIX A: WATER PURVEYORS

A community public water system is defined by the Federal Clean Water Act as any water system that supports at least 25 people or 15 service connections year round. In Pennsylvania, municipal governments are empowered to supply water directly through their own water system, create a municipal water authority, or contract with a public utility or another municipality or municipal authority. These water entities—municipal water authorities, municipal water systems, and public utilities—are controlled by a number of laws including the Public Utility Code, the Municipal Authorities Act, and general municipal statutes. While each entity supplies water to the public, they are not uniformly regulated. Public funding for infrastructure is a separate issue and is provided at the state level through PENNVEST, DCED, and the Commonwealth Financing Authority, although most infrastructure financing for new development occurs through private investment.

Municipal Authorities

The Municipality Authorities Act (MAA)[65] controls the creation, powers, and all other attributes of municipal authorities. The MAA defines a municipal authority (authority) as "a body politic and corporate"[66] with many enumerated powers, including bonding authority. Authorities have also been described as "an alternate vehicle for accomplishing public purposes rather than through direct action of [local governments]"[67] and as "special purpose" government corporations with no general police powers or taxing powers.[68]

Authorities may be created individually or jointly by any county, city, town, borough, township, or school district of the Commonwealth.[69] The specific purpose of the authority is defined at the time of incorporation. The incorporating municipality(ies) may also specify the projects the authority is permitted to undertake by ordinance[70] and may re-designate projects after the authority's incorporation through amendment. Once established, the authority is governed by a board with five or more members, who are appointed by the participating municipality(ies).[71] The incorporating municipality has the power to retake ownership of the established authority upon assuming the authority's debts. These are the only direct controls local government officials have over the authority—the power to appoint board members, define projects, and retake ownership. Otherwise, authorities are entirely independent and distinct entities from the municipality in their day-to-day operations.

Where not specified by ordinance, the authority has all of the powers provided through the MAA to carry out its own projects.[72] The authority is independent from the municipality in its operations and is not an agent of the municipality that created it.[73] The authority has autonomy to determine how to accomplish its projects; to

[65] MAA, 53 Pa.C.S. § 5601 et seq. (2001). Act 2001–22 (S.B. 780) replaced the Municipal Authorities Act of 1945.

[66] Id. § 5602

[67] *Municipal Authorities in Pennsylvania*, Governor's Center for Local Government Services, August, 2002 (9th Ed.), at 2.

[68] *Solicitor's Handbook*, Governor's Center for Local Government Services, April, 2003 (3rd Ed.), at 118.

[69] 53 Pa.C.S. § 5603.

[70] Id. § 5607(c).

[71] Id. § 5610.

[73] The Commonwealth Court stated "once an authority has been incorporated under the Act it becomes an independent Commonwealth agency not subject to the control of the incorporating municipality and the municipality no longer has control over the authority's operations of its water system." Lower Bucks, 586 A.2d 512, at 515 (Pa. Commw., 1991).

"determine by itself exclusively the services and improvements required to provide adequate, safe, and reasonable service, including [infrastructure] extensions thereof, in the areas served."[74]

Among the general purposes an authority may undertake is the ability to function as "[w]aterworks, water supply works, [and] water distribution systems."[75] As of August, 2001, a total of 1,538 active authorities existed in the Commonwealth, established for a variety of purposes and functions.[76]

The MAA gives authorities broad powers to carry out their specific purposes, including the ability to acquire property of all kinds (real, personal, intangible)[77]; to acquire, construct, improve, maintain, repair, and operate projects[78]; to fix and collect rates and other charges[79]; to finance projects[80]; to contract[81]; and to have the power of eminent domain.[82] For the purpose of water supply, an authority has "the power to acquire by purchase or eminent domain… the fee… interest or easement in… water and water rights as the authority deems necessary."[83] Authorities may contract to supply water and other services to and for other municipalities, persons (such as, other private water companies or developers), school districts, the Commonwealth, and even other authorities.[84]

Unlike private water companies, municipal water authorities have two special attributes—the noncompetition clause and mandatory connection ordinance. Under the noncompetition clause, the MAA restricts authorities from competing "with existing enterprises serving substantially the same purposes."[85] This restriction extends to authorities competing with each other, with public utilities, or with municipal water systems.[86] The noncompetition clause ensures authorities do not interfere with existing business.[87] While authorities are impeded from competition, they are given some potential financial support through the mandatory connection ordinances provided for in the municipal codes.[88] Under the mandatory connection ordinance, municipalities have the ability to enact ordinances requiring property owners to connect to and use the authority.[89]

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[74] 53 Pa.C.S. § 5607(d)(9). See also, *Solicitor's Handbook*, at 118 and cases cited therein. Case law has defined "service" to "concern matters of the size of a distribution area and whether and/or how a particular service is to be provided." Butler Township, 654 A. 2d 185, at 188.

[75] Id. § 5607(a)(10).

[76] *Municipal Authorities in PA*, at 23.

[77] 53 Pa.C.S. § 5607(d)(4).

[78] Id. § 5607(d)(5).

[79] Id. § 5607(d)(9).

[80] Id. § 5607(d)(12).

[81] Id. § 5607(d)(13).

[82] Id. § 5607(d)(15).

[83] Id. § 5615(a)(1). The MAA qualifies the MA's interest in water and water rights by reinforcing that DEP approval is necessary. The MA's right of eminent domain cannot be exercised against the Commonwealth, a local government, another MA, or a public service company. Id. § 5615(a)(2).

[84] Id. § 5607(d)(19).

[85] Id. § 5607(b)(2). The MAA specifies limitations of the noncompetition clause that do not apply to municipal water authorities. Id. §5607(b)(2)(i) – (vi).

[86] See, *Solicitor's Handbook*, at 121- 122 and cases cited therein.

[87] 53 Pa.C.S. § 5607(2)

[88] See, for example, 53 P.S. §§ 47461, 57707, 67603.

[89] See, *Solicitor's Handbook*, at 122 and cases cited therein.

Authorities must abide by all local, state, and federal laws, including local zoning and land use regulations. It is well accepted that "[w]hile the need and manner of providing water service are the exclusive power of the [authority] per the MAA, a municipal authority is bound by the lawful requirements of a municipality's zoning ordinance."[90] Likewise, the authority is subject to state laws. Under the Municipalities Planning Code (MPC), authorities must give notice of planned water extensions to the local planning agency, which has the ability to comment on the proposal.[91] Authorities are subject to permitting requirements of the Water Rights Act (WRA) in addition to all facility and water quality requirements of the Safe Drinking Water Act (SDWA) and The Clean Streams Law (CSL).

While authorities are similar to public utilities in many respects—authorities provide a public service, are incorporated, can build facilities and infrastructure—they are not regulated by the Public Utility Commission (PUC).[92] The MAA gives the common pleas court exclusive jurisdiction over authority rates and services, including extensions.[93] It is the court of common pleas, not the PUC that is authorized to adjudicate cases involving authority actions. This has led to the unique circumstance where public utility-like entities are nominally "regulated" by the courts, which have adjudicatory powers to interpret laws and resolve disputes. Courts do not have authority to make regulations and independently prosecute cases.

Municipal Water Systems

The municipal codes grant municipalities a variety of powers to ensure the public water supply. Municipalities may construct and operate their own water systems.[94] They may join with other cities, boroughs, or townships to construct and operate water systems.[95] Municipalities may acquire established water systems belonging to another municipality or corporation.[96] They may contract with another municipality, municipal authority, or corporation to supply water to the territory,[97] or municipalities may lease and operate a water supply system.[98]

Just like other types of water suppliers, municipalities with their own systems must abide by local, state, and federal laws. Local laws include the local zoning laws of an adjacent municipality in which the municipality operating the water system owns land. Municipal water suppliers must obtain permits under the Safe Drinking Water Act.

Municipalities are empowered to set their own rates, fees, and use their taxing powers to build or maintain their water systems without state regula-

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[90] *Berks v. Wilkinsburg Zoning Hearing Board and the Wilkinsburg-Penn Joint Water Authority*, 410 A.2d 904 (1980)(*citing Wilkinsburg-Penn Joint Water Authority v. Churchill Borough*, 417 Pa 93 (1965)).

[91] 53 P.S. §§ 10303 and 10608.1(a), (e).

[92] See Bibikos, *"Municipal Corporations" and Public Utility Service in Pennsylvania,* 13 Widener L.J. 879 (2003) (discussing the unequal treatment of municipalities and municipal authorities under the Public Utility Code).

[93] 53 Pa.C.S. § 5607(d)(9).

[94] General Municipal Law, 53 P.S. § 2905; 3rd Class City Code, 53 P.S. § 38501; Borough Code, 53 P.S. §§ 46202(39) and 47401. First and second class townships cannot independently construct and operate their own water systems; however, they can jointly construct and operate systems with other "municipal corporations."

[95] Borough Code, 53 P.S. § 47436; 1st Class Township Code, 53 P.S. § 57710; 2nd Class Township Code, 53 P.S. § 67607.

[96] 3rd Class City Code, 53 P.S. §§ 38515 (power to petition court), 38530 (acquisition of competing water company); Borough Code, 53 P.S. § 47421; 1st Class Township, 53 P.S. § 57710 (joint acquisition); 2nd Class Township, 53 P.S. §§ 67601(b), 67607 (joint acquisition).

[97] 3rd Class City Code, 53 P.S. § 38501; Borough Code, 53 P.S. §§ 46202, 46406; 1st Class Township Code, 53 P.S. §§ 57701, 56514; 2nd Class Township Code, 53 P.S. § 67601.

[98] General Municipal Law, 53 P.S. § 2931; 3rd Class City Code, 53 P.S. § 3850; Borough Code, 53 P.S. § 47431.

tion or oversight by the PUC. However, where the municipal water system supplies water to users outside of its corporate limits, PUC jurisdiction would apply to the rates set and services provided outside of the municipality.[99] While this protects the customers outside of the municipality who do not have any political recourse (they cannot vote for another municipality's elected officials), there is a lack of uniform regulation and standards across municipal water systems and perhaps even within systems that provide water to municipalities outside their jurisdiction.

Public Utilities

Public utilities are regulated by the Public Utility Code.[100] The purpose of the Public Utility Code is to establish statewide standardization over the operation of public utilities; therefore the law gives the PUC the authority to regulate the reasonableness of services, facilities, and rates. The code defines "public water utility" as "[a]ny person or corporation… owning or operating… equipment or facilities for… diverting, developing, pumping, impounding, distributing, or furnishing water to or for the public for compensation"[101] and also includes municipal water systems that provide water outside of their corporate limits. Utilities that do not charge the public for service do not fall under PUC jurisdiction and regulation.

The PUC regulates water service and infrastructure through the granting of Certificates of Public Convenience (certificates).[102] Newly forming public utilities must apply for a certificate in order to begin to supply service. Those utilities that are already operating must apply for a certificate in order to provide a different service, service to a different territory, and to acquire or transfer property. Municipal water systems need a certificate in order to acquire or operate public water systems beyond their corporate limits.

A public utility extending service into a new territory for which it does not hold a certificate would have to apply for one. However, a utility does not have to apply for a certificate to extend water lines within its existing certificated territory.

Water utilities and municipal water systems applying for a certificate must provide information to the PUC establishing that their service is adequate to meet customer demands and financially viable.[103] Per PUC regulations, the application includes a business plan that reveals the costs of the proposed project and sources of funding, customer rates, and a map of the service area, including the location of waterworks or infrastructure. Applicants are requested to anticipate the number of connections and project water demand 10 years into the future and identify public utilities, municipalities, municipal authorities, and other entities that provide public water service within one mile of the proposed facilities.[104]

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[99] The Public Utility Code applies to municipalities that serve and fix rates for customers beyond their municipal boundaries. Therefore, the PUC has jurisdiction over a municipality that directly provides service outside of its corporate limits and also one that leases a municipal authority serving customers beyond its municipal boundaries for whom the municipality establishes rates. In this specific circumstance, the PUC would have jurisdiction over rates for those extra-territorial customers, over the extra-territorial service and would be able to order infrastructure extensions upon demand. See *Solicitor's Handbook* at 122 and cases cited therein. See also Public Utility Code, 66 PA.C.S. § 102 (defining "municipal corporations" to include municipalities); Id. §§ 1102(a)(5) and 1301.

[100] Id. § 101 et seq. See also the regulations promulgated by the Public Utility Commission, 52 Pa. Code § 1.1 et seq. The PUC revised its regulations on April 29, 2006. These revisions can be found in PUC's Final Rulemaking Order, Docs Order No. 583437.

[101] 66 Pa.C.S.A. § 102(1)(ii). Case law has defined "public" to mean the "population at large."

[102] Id. § 1101 (stating that public utilities need a Certificate to begin service) and § 1102(a)(1), (3), (5) (enumerating acts requiring a Certificate).

[103] 52 Pa. Code § 3.501 (information that must be supplied to support an application for a Certificate).

[104] Id. § 3.501(8), (9)(ii) (identity of other public water suppliers and applicant demonstration of better customer service). But see *Chester Water Authority v. PUC*, 581 Pa. 640 (2005) (giving little weight to cost comparisons in a competitive situation).

Certification is a two-step process that aims to ensure compliance with and involvement of state and local entities. First, applicants must provide their own letter showing that they have addressed the requirements of the Department of Environmental Protection (DEP), the Delaware or Susquehanna River Basin Commissions (DRBC or SRBC), the statewide water plan, local watershed areas, and the requirements of the county and municipal comprehensive plans and zoning designations.[105] Second, applicants are required to obtain certification letters from DEP, DRBC, or SRBC, and county and municipal planning agencies.[106] The PUC may request an applicant to supply the applicable county or municipal comprehensive plan and zoning ordinances.[107]

Notice of applications for certificates is published in the Pennsylvania Bulletin and one newspaper of general circulation. Applicants must send copies of applications to each municipality, county planning, "and related planning office" that are partly or wholly in the proposed service area. Copies must also be sent to all water suppliers adjacent to or within one mile of the proposed service area and to DEP's central and regional offices.

The Public Utility Commission holds hearings that are open to the public, which includes municipal officials and other interested parties, in order to make findings for certificates. Protests to applications for certificates must be filed with the PUC within 60 days from the date of publication in the Pennsylvania Bulletin.

[105] Id. §§ 3.501(a)(7)(i) – (iv).

[106] Id. The wording of the section is ambivalent. Based on the explanation of the revised regulations in the Final Rulemaking Order, it appears that applicants must obtain compliance letters from county and local planning agencies. However, the section does not specifically name these entities. Likewise, the regulation states that applicants must certify compliance with the statewide water plan, including local watershed areas, but it is unclear whether this mean compliance with all local watershed plans, such as the regional and critical water plans in the WRPA, not just the statewide plan.

[107] Id. § 3.501(a)(2)(vi). These are new regulations enacted to implement the Letter of Understanding discussed in State Agency Policy.

APPENDIX B: EXPANDING WATER SYSTEMS

This section discusses how public utilities, municipal systems, and municipal authorities expand their water infrastructure to serve the public. Because public utilities are regulated by the PUC, a state agency, public utilities must adhere to established PUC regulations, policies, and procedures to obtain approval of infrastructure extensions into new or different service territories through a Certificate of Public Convenience (certificate). PUC hearings are open to the public. On the other hand, municipal authorities and municipal systems are not regulated directly by any single state agency. Consequently, municipal authorities and systems do not have a consistent regulatory hearing process for infrastructure expansions, and information about the practices of authorities and municipal systems is lacking. This section does not intentionally focus on PUC-regulated companies as opposed to municipal authorities or municipal systems.

Certificates of Public Convenience

Water service and infrastructure for public utilities are regulated through the granting of Certificates of Public Convenience (certificates). In order to make a determination on a certificate, the PUC holds public hearings. The PUC will grant the certificate where it finds that the proposed project "is necessary or proper for the service, accommodation, convenience, or safety of the public."[108] The PUC may also impose conditions on certificates it grants. An applicant for an expanded service territory must satisfy four evidentiary criteria for the PUC to grant the certificate:

1. There must be a public demand or need for the proposed service.
2. The applicant is technically and financially fit to provide the proposed service and has a history of lawfulness. (A utility that holds a previous certificate is given a rebuttable presumption of fitness and lawfulness.)
3. The expanded area represents an orderly growth of the applicant's water system.
4. Where there are competing water companies, the PUC determines which entity has the better ability to provide water service.[109]

The PUC has stated that evidence of demand or need for public water service does not have to be of any particular type and depends on the circumstance of each case. For example, demand for public water can be demonstrated with written request by a developer and a single resident of a proposed subdivision that has no public water service.[110] Also, the lack of public water service is a factor in the PUC's needs analysis.[111] Other factors demonstrating need include the benefits of public water service as compared to individual wells—public water service provides a dependable, potable supply; sufficient pressures for community fire protection; better assurance of water quality; and installation of meters to monitor usage.[112] These factors implicitly weigh in favor

[108] 66 Pa.C.S.A. § 1103.

[109] 52 Pa. Code § 3.501(9).

[110] *Application of Newtown Artesian Water Company,* 2003 Pa. PUC Lexis 54 (March 18, 2003), aff'd by 2003 Pa. PUC LEXIS 54 (July 1, 2003).

[111] 2003 Pa. PUC Lexis 54, at 21 (where the court states that a developer and resident of a proposed subdivision "have requested that service be provided to an area in which there is no public water service. By definition, this means that there is a need for service. When the Commission looks at the issue of need for water service, it does not consider whether the proposed development can be supplied by wells.")

[112] Id. These are benefits of public water supply that are perceived and have been discussed by the PUC and other Pennsylvania courts. There are numerous cases that have found public water systems superior to individual wells. See id. (citing *Citizens for Personal Water Rights v. Borough of Hughesville*, 815 A.2d 15 (Pa. Comm., 2002) and other cases cited therein). According to some in the environmental community, some of the perceived benefits of public water such as reliability and quality may not always be accurate depending on specific circumstances (ex., drought) or specific supplier.

of building public water infrastructure. Of course, if an application for a certificate is protested based on the availability of water through individual wells, the PUC would be bound to hear the case; however, the PUC does not actively consider whether water for a development can be better supplied by individual wells.[113]

An applicant for a certificate to a new service area does not need to demonstrate a demand for service in every square mile of the proposed territory; case law has stated that proof of necessity within the general area is sufficient.[114] Therefore, proposed service territories may not have to be tightly drawn around known or anticipated future customers, resulting in granted franchises that are larger than needed. In practice, water purveyors may only apply for enlarged service areas specifically based on developer requests and locally designated public service areas. Additionally, per its new regulations requiring letters certifying compliance with local plans, the PUC is attempting to correlate service areas granted with requests for needed water service. However, without the regulations further defining "service area," there remains an open question as to how tightly drawn granted service areas must be in relation to the demonstrated request for water supply. In order to avoid cases where service areas are granted that are significantly greater than specific service requests, which occurred in Application of Superior Water Company discussed in the case law section below, the regulations should be re-written.

A public utility extending service into a new territory for which it does not hold a certificate would have to apply for one. As previously noted, PUC certification requires letters of compliance from DEP, DRBC, or SRBC, and county and municipal planning agencies, and the PUC may request the applicant to supply the applicable plans and zoning ordinances. However, a utility does not have to apply for a certificate to extend water lines within its existing certificated territory. This means utilities may extend infrastructure within their territories without having to go through any PUC application and hearing process to obtain a certificate. In this case, local governments would have to proactively bring an action before the PUC in order to protest infrastructure extensions within a certificated territory.[115] In addition, the PUC is only required to consider local land use plans and ordinances in reviewing applications for certificates;[116] it is not required to rely on them in making decisions. Further, PUC regulations are clear that incomplete applications may be rejected, but rejection is not mandatory.[117] This means that there may be cases where local governments do not provide the applicant with letters concerning the project's consistency with local land use and the PUC may still review the

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[113] 2003 Pa. PUC Lexis 54 (March 18, 2003) at 21. Indeed, in affirming the Administrative Law Judge's decision, the Public Utility Commission stated that "the lack of any public water service in the Township… is a factor that must be considered in assessing public need for service." 2003 Pa. PUC Lexis 40, at 15.

[114] *Modern Transfer Co. v. PA PUC*, 115 A.2d 887 (Pa. Super. 1955)

[115] A complaint may be brought by any interested party claiming a violation of the Public Utility Code or commission order at any time. The complaint will be resolved through a public hearing. PUC cases can be appealed to the Pennsylvania Commonwealth Court and Supreme Court. 66 Pa. C. S. §§ 701, 703.

[116] 52 Pa Code § 3.501(b).

[117] In deciding whether to support an application, PUC staff may obtain incomplete information through the agency's discovery process. Additionally, the commission may make inquiries before or after its hearing in order to enable it to reach a finding on the certificate.

certificate application anyway. However, PUC staff may obtain missing information through the agency's discovery process.

A PUC certificate for service territory is exclusive to a specific water utility. This means that within a granted franchise area, competing utilities will not be able to operate. Courts have interpreted the exclusive right to serve customers within a franchise area as a duty to serve customers.[118] The utility has an obligation to provide water to new customers within a granted franchise area where service is reasonable. Where a customer within a franchise area is refused water service, the customer has the ability to petition the PUC and the PUC has the power to order the utility to provide water, unless the service would create a hardship for the utility, such as a water source that does not have enough capacity for the new service. In practice, utilities rarely refuse to provide service within a franchise area.

Installation

Municipal water systems, municipal authorities, and public utilities have three options to install water infrastructure. They can acquire land or easements through purchase or other voluntary means, they can condemn land through eminent domain, or they may install infrastructure under public roads.

Eminent Domain

The Business Corporation Law of 1988 ("BCL")[119] grants public utilities the power of eminent domain. The BCL states that a public utility has the right to "take, occupy and condemn property for . . . [t]he transportation of . . . water . . . for the public . . . . [or] [t]he diverting, developing, pumping, impounding, distributing or furnishing of water from either surface or subsurface sources to or for the public."[120] Where a water utility exercises its power of eminent domain, PUC approval of the utility action is not necessary under the BCL.[121] But per the Public Utility Code, the utility must receive a certificate of public convenience from the PUC in order to exercise the power.[122] In practice, water utilities do not often exercise the power of eminent domain as they can occupy roads and rights-of-ways for infrastructure. Furthermore, developers building subdivisions often create rights-of-way for use by utilities, so that the need for eminent domain to supply water to the subdivision does not become an issue.

Eminent domain power is also provided for municipal authorities and municipal water systems. Municipalities operating water supply systems clearly have eminent domain power to acquire property and water sources within their corporate limits.[123] Water sources specified by the codes include springs and surface waters; there is no mention of the power of eminent domain for

[118] Conversation with staff attorney in the Law Bureau, PUC. See Lukens Steel Co. v. Pennsylvania Public Utility Commission, 499 A.2d 1134 (Pa. Commw. Ct., 1985).

[119] 15 Pa.C.S. § 1101.

[120] Id. §§ 1511(a)(2) and (4).

[121] Id. § 1511(c) (PUC approval of eminent domain actions is required only to aerial electric, intrastate aerial telephone or intrastate aerial telegraph facilities). See also, *Tompkins v. Pennsylvania American Water Company*, 1992 Pa. PUC Lexis 107 (PUC approval of eminent domain for water transmission main is unnecessary).

[122] 66 Pa.C.S. § 1104

[123] General Municipal Law, 53 P.S. §§ 2905 and 2906 (procedure); 3rd Class City Code, 53 P.S. § 38505; Borough Code, 53 P.S. § 47411; 1st Class Township Code, 53 P.S. § 56901 (the language of the statute is unclear as to the township's authority to exercise its eminent domain authority against properties located outside its boundaries as compared to the language of the other municipal statutes).

acquiring groundwater sources. An authority can exercise its power of eminent domain to obtain land, water, and water rights but cannot use the power against the Commonwealth, a local government, another authority, or a public service company.[124] The Property Rights Protection Act explicitly limits the power of municipalities and municipal authorities to exercise eminent domain authority outside of their corporate limits or prescribed geographic boundaries without the approval of the municipality in which the property will be taken.[125] This restriction may impair the ability of municipalities and authorities to develop needed new supply facilities, treatment plants, and infrastructure outside of their service areas.

Public Roads

The BCL provides public utilities the right to occupy streets, highways, waters, and other public ways in order to transport water for the public or divert, pump, distribute or furnish water, including the placement and maintenance of surface and subsurface utility facilities.[126] In order to install infrastructure, utilities must obtain any permits required for street occupation and comply with regulations controlling streets.[127]

The municipal codes clearly give authority to municipal water systems to occupy roads outside of their municipal bounds in order to build extensions to water infrastructure.[128] This authority is well established. The right to occupy public roads may only require approval and permit from the Pennsylvania Department of Transportation (PENNDOT) or other entity that owns the road. With regard to state highways, municipal water systems and authorities are authorized to use them for water infrastructure.[129] Private developers are excluded from applying directly for state highway occupancy permits; instead, permits must by executed by the entity that will supply water.[130] PENNDOT regulations specifically allow a corporation, authority, political subdivision, or other person in the business of providing utility service to apply for a highway occupancy permit. Consistency with land use is not required.

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[124] 53 Pa.C.S. § 5607(a)(1) and (2), (d)(15)

[125] Act 25 of 2006. See §§ 206(a), (b)(2).

[126] 15 Pa.C.S. § 1511(e)

[127] Id. See also, State Highway Law, 36 P.S. § 670-411. 67 Pa. Code Chapter 459 sets out regulations for occupancy of state highways by utilities, municipalities, and municipal authorities.

[128] General Municipal Law, 53 P.S. § 2905 (stating authority of cities to conduct water obtained outside its territorial limits by laying "pipes across, under and over any lands, streams, public highways and railroads."); 3rd Class City Code, 53 P.S. § 38505; Borough Code, 53 P.S. § 47411; 1st Class Township Code, 53 P.S. § 57703 (stating that in providing and extending its water distribution system, the township may "occupy streets, roads, or highways, and may take, injure or destroy private property."); 2nd Class Township Code, 53 P.S. § 67606.

[129] 67 Pa. Code § 459.3(b).

[130] Id.

APPENDIX C: STATE LAWS AND AGENCY POLICY

Pennsylvania water law is piecemeal and scattered throughout many statutes. While there is very little state regulation of Pennsylvania's water resources, there is even less regulation of the miles of pipes put in place to carry water to people and businesses across the region. There are, however, several state and federal agencies involved in water management whose laws directly or indirectly impact infrastructure placement. These include DEP, PUC, PENNVEST, DCED, Commonwealth Financing Agency, PENNDOT, and DRBC. Local governments, the entities charged with planning for land use, are essentially excluded from controlling water infrastructure placement. However, the land use planning and zoning decisions local government officials make, and the resulting land development and water service needs, directly influence where water infrastructure is located. Loose regulation over water management and the location of infrastructure, and the many agencies and entities involved in water management decisions, facilitate haphazard infrastructure placement and land development patterns that threaten water and other natural resources.

Common Law Water Rights

Pennsylvania still relies on the body of case law developed since the 1800's to determine water rights where state and federal laws do not apply. This means that outside of the jurisdiction of specific river basin compacts and where specific state laws, such as the Water Rights Act or the Safe Drinking Water Act, do not apply, courts use common law doctrines to settle water disputes. Because common law developed before scientific understanding that ground and surface waters are connected, Pennsylvania's common law applies different rules of law to different water sources — such as streams, diffused surface waters, underground streams, and percolating groundwater.

In relation to surface water from streams, the riparian rights doctrine states that all riparian landowners have equal rights to use water reasonably. Where there is a water dispute, the court determines what water use is reasonable. Domestic uses of water—for example, water used for drinking, bathing, laundry, etc.—are favored over the use of water for irrigation, industrial and commercial uses. Municipal water use is not considered a domestic use.[131] The location of water use also plays into the reasonableness test. Water diverted off riparian land is per se unreasonable even if there is little impact on stream flow or downstream users and the diversion exposes the diverter to liability.[132]

In relation to surface water for public use, the Water Rights Act, discussed below, enables water purveyors to carry surface waters off of the riparian land without liability. To do so, public water suppliers must receive a DEP-issued water allocation permit, which allows the purveyor to obtain rights to use surface water through acquisition, eminent domain, contract or other means.

Most of the Pennsylvania's groundwater is considered percolating and diffuse.[133] Courts apply the reasonable use rule, which allows a landowner to withdraw as much groundwater as he wants for use on the overlying land regardless of the impacts to neighboring wells. Under this common law doctrine, the "deepest well and most powerful pump wins."[134]

[131] Pennsylvania Bar Institute, *Water Law*, Chapter 1 (2000).

[132] Id.

[133] Id.

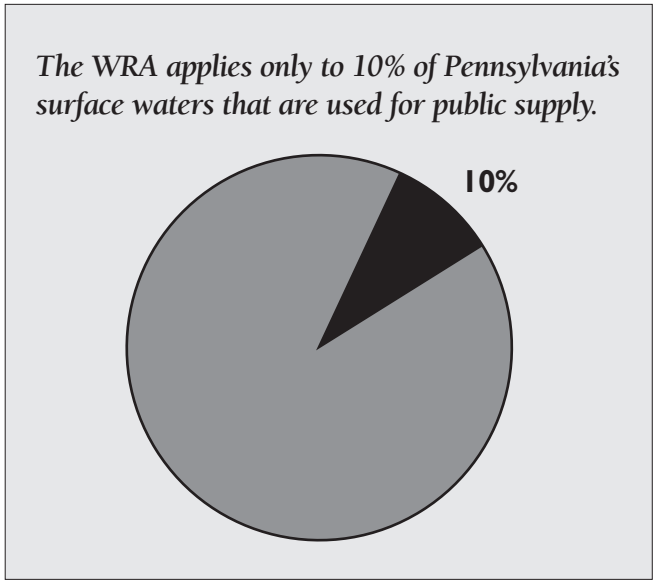
[134] Id.

There is no state groundwater allocation statute. As stated above, outside of river basin jurisdictions and specific state statutes, common law reasonable use theory applies to percolating waters. While there is substantial case law stating that use of percolating groundwater off of the overlying land is unreasonable and would create liability for the diverter, case law appears to be changing.[135] Precedent prohibits the diversion of groundwater off of the land if other wells are impacted. A more recent case used equitable remedies to allow a water authority to divert groundwater while requiring the purveyor to provide water service to landowners with impacted wells. This may represent the new direction of the common law.[136]

Water Rights Act

The Water Rights Act of 1939[137] (WRA) is the *only* state statute pertaining to water acquisition and allocation in Pennsylvania, which illustrates how weak the state water management "system" is. The preamble states the purpose of the WRA is to provide an "adequate and safe supply of water for the public," to use water equitably and to develop public water supplies for present and future needs.[138]

The scope of the WRA is very limited. While the act applies to all "public water supply agencies"—i.e., all entities incorporated in Pennsylvania with the power to supply public water—it controls only withdrawals from *surface waters*.[139] The WRA does not apply to groundwater resources, which makes the WRA an "imperfect allocation mechanism." Over a third of Pennsylvania residents rely on groundwater sources for domestic water needs.[140] "Surface water withdrawals by public water supply agencies represent only ten percent of the surface water



[135] Id.

[136] Id. See *Rothrauff v. Sinking Spring Water Co.*, 339 Pa. 129 (1940) (enunciating common law precedent); but see *Hatfield Twp. V. Lansdale Municipal Authority*, 19 Pa. D.& C. 2d 281 (1959), aff'd 403 Pa. 112 (1961) and *State College Borough Water Authority v. Benner Township*, 165 Pa. Cmwlth. 405 (1994) (allowing water purveyor to divert groundwater off land with remedies provided to impacted owners of wells).

[137] Water Rights Act of June 24, 1939 (P.L. 842, No. 365), 32 P.S. § 631. There are no regulations related to the WRA.

[138] 32 P.S. § 631 (Historical and statutory note following the section).

[139] 32 P.S. §§ 631(b), (e).

"Public water supply agency" is defined as "any corporation or any municipal or quasi-municipal corporation, district, or authority… incorporated under the laws of the Commonwealth of Pennsylvania and vested with the power, authority, right, or franchise to supply water to the public in… the Commonwealth… "

"Water rights" is defined as "the right to take or divert water from any rivers, streams, natural lakes and ponds, or other *surface waters*… [of] the Commonwealth… " (emphasis added)

[140] *Groundwater Protection and Management in Pennsylvania*, The League of Women Voters of Pennsylvania—Citizen Education Fund and Penn State Cooperative Extension, The Pennsylvania State University, June 2001, Third Edition.

uses"[141] in Pennsylvania. The WRA does not regulate the diversion of surface waters by private riparian owners that account for 90 percent of the surface water used in the Commonwealth.[142]

In order for water purveyors to withdraw surface waters, they must obtain a water allocation permit from DEP. A permit is required where the purveyor needs to "acquire new water rights, a new source of water supply, or to acquire an additional quantity of water or water rights from an existing source."[143] The permit requirement applies whether the purveyor is obtaining water directly from a water body or indirectly by buying bulk water from another purveyor.[144] As part of the application, the purveyor must name and map the proposed water source, and justify the quantity of water requested based on what is reasonably necessary for the purveyor's present purposes and future needs.[145] DEP generally allows applicants to justify their requests for water based on a 20 to 30-year projection.[146] The applicant must determine the safe yield[147] of water for each proposed source. A system map, including transmission and delivery lines, is part of the application.

As part of its permit review, DEP determines whether there is a water conflict and has the power to modify or impose conditions on permits.[148] Where there is no conflicting water use, the permit request is reasonably necessary for the present and future needs of the purveyor,[149] and the water acquisition will not interfere with navigation, jeopardize public safety, or cause substantial injury to the Commonwealth, DEP must approve the application.[150] As a condition of the permit, purveyors must develop and implement water conservation programs, such as metering

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[141] *Pennsylvania Environmental Law and Practice*, PBI, section 9-1.2 (2002).

[142] *Philadelphia Suburban Water Co. v. DEP*, 1989 Pa. Envirn. LEXIS 129 at 4 and 7.

[143] WRA § 636.

[144] DEP, *Water Allocation Application and Instructions*, DEP 3900-PM-WM0001, 9/2001, at 1. See also, *DEP Guide to DEP Permits and Other Authorizations*, Document # 8000-BK-DEP0341.pdf

[145] WRA §§ 636 and 637. See also, *Water Allocation Application and Instructions*, DEP 3900-PM-WM0001, 9/2001, at 1.

[146] *Water Allocation Application and Instructions*, DEP 3900-PM-WM0001, 9/2001, at 1. According to the application, the total allocation requested should be related to projected population served, historical (10-year) water use data, and present water use data and population served.

[147] Regulations to the Safe Drinking Water Act define "safe yield" as "the amount of water that can be withdrawn from an aquifer without causing an undesired result, such as adverse dewatering of an aquifer, induced potential health threats or impacts upon stream uses." 25 Pa. Code §109.503(a)(1)(iii)(C).

[148] WRA § 637.

[149] As part of reviewing the application for present and projected future needs, DEP considers the net yield of water from the source. Where there is more than one source available, the safe yield of each source does not have to be equal to or greater than the requested water allocation; an allocation may be granted that is greater than the safe yield to allow for flexibility in operation. (emphasis added). *Water Allocation Application and Instructions*, DEP 3900-PM-WM0001, 9/2001, at 5. This practice could lead to a harmful impact on the integrity of the Commonwealth's water resources.

[150] Id. As part of the application process, DEP requires additional submittals and approvals from its programs, including a PA Historical and Museum Commission Cultural Resource Notice, PA Natural Diversity Inventory, Environmental Assessment, Water Obstruction and Encroachment Permit, Public Water supply Permit, Dam Safety Permit, and a Susquehanna River Basin Commission or Delaware River Basin Commission approval. *DEP Guide to DEP Permits and Other Authorizations*, Document # 8000-BK-DEP0341.pdf, at 310.

In order to protect aquatic resources (naturally reproducing trout populations) in certain cold-water streams, DEP imposes minimum flow requirements in surface water allocation permits. While this policy protects fish and water resources in these streams, the policy is limited in scope. It applies only to those streams located within the Susquehanna River Basin Commission jurisdiction that have a 100 square mile drainage area or less and are designated Special Protection waters. See, *Policy for Protecting Aquatic Resources and Related Stream Uses in Processing Approvals for Water Rights Acquisitions in Selected Waters of the Commonwealth*, DEP Document # 382-2130-013.

and education, and a drought contingency plan. Public notice of the water allocation permit is provided in the Pennsylvania Bulletin with a 30-day comment period. Notice of the application is also provided by the applicant to each relevant municipality and county. Permits can be issued for up to 25 years,[151] but are generally issued for 10 to 20 years[152] and can be revoked if water is not taken within four years.[153] Once a purveyor has a water allocation permit, it can acquire its water rights through purchase, lease, gift, appropriation, or otherwise.[154] In fact, the permit gives the purveyor the right of eminent domain to waters and land covered by the waters.[155] The WRA permit does not provide the "right" to surface water; it provides state approval for the use of the water. The purveyor must still obtain water rights from the riparian owner to access the water.

Under the WRA, water infrastructure associated with withdrawals and local land use concerns are left out of the law. Because the WRA does not directly deal with infrastructure, DEP does not consider local land use in issuing water allocation permits under the act.

Water Well Drillers License Act

The Water Well Drillers License Act of 1956[156] (WWDLA) is essentially a licensing and record-keeping program for drillers of groundwater wells. Recognizing that groundwater is a renewable natural resource that should be developed in a reasonable manner and without waste "to assure sufficient supplies," the Act was passed with the purpose of encouraging the "orderly development of this resource."[157] However, the WWDLA does nothing to manage groundwater resources in any way.

The WWDLA requires that water well contractors apply for and obtain a license to drill water wells on an annual basis from the Department of Conservation and Natural Resources (DCNR), Bureau of Topographic and Geologic Survey. The license enables the contractors to excavate wells intended for the location, diversion, or acquisition of groundwater.[158] While the license requirement applies not only to water supply wells but also to groundwater monitoring wells,[159] it does not apply to wells used for farming purposes or residences.[160] Before drilling a well, contractors are only required to provide notice of its intent to drill and where the well is

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[151] Water Allocation Application and Instructions, DEP 3900-PM-WM0001, 9/2001, at 1.

[152] *Pennsylvania Environmental Law and Practice*, PBI, 9-1.2.

[153] WRA § 638.

[154] Id. § 631. The WRA permit itself does not confer a legal right to withdraw water from a water source; a public water system still must obtain a water right pursuant to common law riparian rights for surface water sources and pursuant to the reasonable use theory for groundwater, or by purchasing or condemning affected private rights. See Dellapena, Developing a Suitable Water Allocation Law for Pennsylvania, *17 Vill. Envtl. L.J. 1* (2006).

[155] Id. § 639.

[156] 32 P.S. § 645.1 and associated regulations at 17 Pa. Code § 47.1.

[157] Id. § 645.1

[158] Id. § 645.3

[159] *Water Resources Management Law*, PBI, 2001.

[160] 32 P.S. § 654.4(b)(1), (2).

located.[161] As part of the program, contractors are required to keep records, including such information as geographic location, size and depth, static and pumping water levels and yield, for a period of 10 years.[162]

Safe Drinking Water Act

The primary purpose of Pennsylvania's Safe Drinking Water Act[163] (SDWA) is to assure safe, sanitary, adequate, and potable public water by establishing standards for drinking water. As the counterpart to the federal law, the state drinking water program includes drinking water standards and maximum contaminant levels for water quality; monitoring, reporting, and public notification of water quality; and standards and a permitting process for the construction, operation, and modification to water systems.[164] The SDWA applies to both ground and surface water sources and to all but the smallest water systems that provide water to the public.[165] There are over 10,000 public water systems in Pennsylvania that serve more than 11 million residents.[166] DEP carries out the state's drinking water program.

While much of the drinking water program is not relevant to this study, the permitting program for the construction, operation, and modification of water systems is worth some discussion. The SDWA requires public water systems to obtain a permit from DEP in order to construct, operate, or substantially modify[167] its collection, treatment, storage, or distribution facilities.[168] *Waterline extensions are specifically excluded from the permit requirement*.[169] However, public water suppliers must create and update annually a detailed map of its transmission and distribution facilities, including such information as the quantity, pressure, and direction of flow from the sources to the customers, and the type and size of pipes within the distribution system.[170] SDWA regulations do not consider local land use in the permitting process except in the context of construction permits for new or substantially modified water systems. These permits require submission of a comprehensive sanitary survey, which includes land use, of new water sources to ensure water quality and quantity. Before a water supplier develops a new water source or modifies an

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[161] Id. 645.10(c).

[162] Id. § 645.10(a).

[163] SDWA, 35 P.S. § 721.1- 721.17 and associated regulations 25 Pa. Code Chapter 109.

[164] Id. §§ 721.5(a),(b).

[165] Id. § 721.3. The SDWA defines "public water system" as:

> A system for the provision to the public of water for human consumption which has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The term includes: (1) Any collection, treatment, storage and distribution facilities under control of the operator of such system and used in connection with such system. (2) Any collection or pretreatment storage facilities not under such control which are used in connection with such a system. (3) A system which provides water for bottling or bulk hauling for human consumption.

The SDWA distinguishes between "community water systems" (those that have at least 15 service connections or serve at least 25 year-round residents) and "noncommunity water systems" (all other public water systems that do not fall under the definition of a community water system). Examples of noncommunity water systems are motels, schools, hospitals, commercial establishments, industrial parks, restaurants, churches, and campgrounds.

[166] *Permit Guide to Public Water Systems*, DEP Document # 383-2100-108 (January 1, 2005), p. 1.

[167] "Substantial modification" is defined as "a change in a public water system that may affect the quantity or quality of water served to the public or which may be prejudicial to the public health or safety and includes the addition of new sources; the expansion of existing facilities changes in treatment processes; addition, removal, renovation or substitution of equipment or facilities; and interconnections." 25 Pa. Code § 109.1.

[168] SDWA §§ 721.7(a), (b).

[169] Id. § 721.7(c).

[170] Id. § 721.7 (d). See also 25 Pa. Code § 109.706.

existing source, the water supplier must make "reasonable efforts to obtain the highest quality sources available" and locate new sources to minimize contamination or diminution.[171]

DEP has the authority to grant a permit if it determines that the proposed system will not impact public health and complies with the SDWA as well as other laws administered by DEP[172]. Through its regulations, DEP's permit approval "is limited to the sanitary features of design and other features of public health significance,"[173] although DEP may consider other environmental statues.[174] DEP publishes notice of applications for new systems and major modifications to existing systems in the Pennsylvania Bulletin and has the standard 30-day public comment period; formal notice from the water supplier to municipalities or counties is not required. Under the SDWA and its regulations, local land use as it relates to water infrastructure is an issue that is left out of the law. Again, per the MPC, DEP must consider and may rely upon local land use during the permitting process.

Water Resources Planning Act

The Water Resources Planning Act[175] (Act 220) establishes an information gathering framework for updating the State Water Plan, which must be completed by 2008 and amended every 5 years thereafter. Act 220 does not provide regulatory authority for the management or control of the Commonwealth's surface or groundwaters; it does not expand DEP's authority to regulate or require permits for water use or withdrawals;[176] nor does it directly impact local land use or water supply infrastructure. Rather, the law is an attempt to grapple with water resource information questions, such as, how much water there is, how much water is used, and how much water is needed.[177]

Act 220 envisions that the state water plan will serve as a policy and guidance document by providing information, priorities, and recommendations. Specifically, the plan will be used to guide investment and economic development based on water availability, help to balance multiple water uses, identify opportunities for improving existing water infrastructure, educate public officials, and guide state water policy.[178] However, Act 220 has been criticized by many for being under-funded, which will seriously limit its potential for success.[179]

As part of its information gathering effort, Act 220 requires water users to register and report annually on their water use. The registration and reporting requirement is applied to each public water supply agency and hydropower facility and any user whose total withdrawal or use exceeds

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[171] 25 Pa. Code §§ 109.603(a), 109.604(b). At least one court has interpreted this section to mean that a water supplier must make comparisons between new sources of supply. *Ambler Borough Water Department v. Department of Environmental Resources*, 1995 EHB 11.

[172] SDWA § 721.7(j). The regulations define "environmental acts" to include the Clean Streams Law; the Air Pollution Control Act; the Radiation Protection Act; the Surface Mining Conservation and Reclamation Act; the Noncoal Surface Mining Conservation and Reclamation Act; the Dam Safety and Encroachment Act; the Solid Waste Management Act; the Plumbing System Lead Ban and Notification Act; and "any other state or Federal statues relating to environmental protection or to the protection of the public health, safety and welfare." 25 Pa. Code § 109.1.

[173] 25 Pa. Code § 109.503(d)(5).

[174] Id. § 109.503(d)(6).

[175] Act 220, 27 Pa.C.S.A. § 3101. At the time of researching this section of the paper, DEP had not issued regulations for Act 220.

[176] Id. § 3136(a).

[177] Pennsylvania State Water Plan, DEP Document 3900-FS-DEP 2162, 7/2004.

[178] 27 Pa.C.S.A. § 3116.

[179] Interviews with Act 220 Regional Planning Committee members and staff at DEP and DRBC.

10,000 gallons per day in a 30-day period.[180] Those entities subject to the registration requirement must annually report to DEP their surface and/or groundwater sources, location, withdrawal, or use amounts; locations and amounts of discharges; and quantities of water transferred between public water supply agencies.[181] In order to provide accurate data, entities are required to monitor or, alternatively, use reasonably accurate estimates.[182] The data should provide fairly accurate information so that water usage could potentially be tracked based on specific aquifers and even public water suppliers. To capture the data, the law also establishes a statewide data system within DEP to gather and distribute information about water use, availability, distribution, and quality.[183] The data will probably be fed into future amendments of the state plan, making the plan increasingly accurate as to the big picture of the Commonwealth's water resources.

The state plan will be composed of many small plans—six regional plans and, potentially, many Critical Water Planning Area Plans. The Commonwealth is divided into six regions, each of which is spearheaded by a Regional Planning Committee, charged with the responsibility of guiding DEP in completing a Regional Plan.[184] One of the six regions is the Delaware River watershed, which is pertinent to this study's geographic scope.[185] Specific elements that the state and regional plans must include and consider are numerous.[186] What is important to note is that the plans must consider ground and surface water as a "single hydrologic resource," a new approach for a state that has considered its water resources in piecemeal fashion. Essentially, the regional plans will create regional water budgets by inventorying surface and ground water resources in relation to safe yields, assessing in-stream water needs in addition to present and future withdrawal demands. Besides identifying potential water use conflicts, the plans will evaluate laws, policies, and institutional arrangements regarding water resources. In addition to the six regional plans, the state water plan will include plans for Critical Water Protection Areas where water demand may exceed the safe yield of available resources, i.e., areas where there may be water shortages.[187]

Under Act 220, there are at least a couple of points during the planning process where local land use can feed into and influence the water plans. Both regional and state plans must also consider "the needs and priorities reflected in comprehensive plans and zoning ordinances" where there is consistency between county and municipal plans and zoning ordinances, there is multi-municipal planning, or the county is carrying out planning and zoning responsibilities for municipalities.[188] How these local priorities will be integrated into the larger scope of the regional and state water plans remains to be seen.[189] Also, draft plans for Critical Water Protection Areas will be

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[180] 27 Pa.C.S.A. § 3118.

[181] Id. § 3118(b)(1). Notably, Act 220 does not require entities to report on water quality from these sources. This could be an important gap in inforation, unless the statewide data system gathers that information from other programs at DEP and EPA.

[182] Id.

[183] Id. § 3117.

[184] Id. § 3113(c), 3114(c).

[185] Id. § 3113.

[186] Id. §§ 3112(a), (b).

[187] Id. § 3112(d). DEP issued technical guidance for Critical Water Planning Areas that discusses the criteria and process for their identification, nomination, and designation. The guidance document may be found on DEP's website at http://164.156.71.80/WXOD.aspx?fs=2087d8407c0e0000800006ee000006ee&ft=1.

[188] Id. § 3112(b)(4).

[189] As of the time of this report, the Regional Committee for the Delaware River Basin had been briefed by several of the county planning departments.

submitted to each affected municipality's planning agency and governing body, county planning agency and regional planning agency for review and comment regarding consistency with other plans and programs.

The most important and relevant impact of Act 220 to local control over water resources lies in the last section of the law. Section 3136 states:

The General Assembly reiterates… the need to manage water resources on a watershed basis without respect to political boundaries and the understanding that water management programs should be based upon an accurate and current State water plan. Accordingly, no political subdivision shall have any power to allocate water resources or to regulate the location, amount, timing, terms or conditions of any water withdrawal by any person . . . .

Nothing… shall affect the power of any municipality to… regulate the use of land pursuant to the Pennsylvania Municipalities Planning Code or other laws. Further, each municipality shall retain and may exercise such authority as conferred by other statutes to adopt ordinances and regulations concerning: …mandatory connection to and use of available public water supplies; and… the prohibition or regulation of withdrawals from particular sources of water that may be contaminated in order to protect public health and safety…. [190]

The section emphasizes that the plan is a guidance document and does not authorize legally binding regulations. The section's bar against local regulation of water allocation and, in turn, water infrastructure seems almost unequivocal and speaks to several of the cases discussed in the case law section below.

The state water plan has the potential to influence local land use based on the MPC provisions relating to comprehensive plans. Because the MPC specifies that all comprehensive plans must be generally consistent with the state water plan,[191] the updated plan and its amendments could come into play on a local level. All counties are required to prepare comprehensive plans, while local municipalities (counties are municipalities under the MPC) have discretion to plan, as well as zone. If a local municipality chooses to plan, local zoning and subdivision regulations that guide local land development must be "generally consistent" with the plan.[192] Therefore, the state water plan should influence county and municipal plans and associated local zoning and subdivision ordinances. Local land use decisions could be based on the plan, which may provide data to support land use actions on water quantity, quality, stormwater discharges, recharge areas, and a number of other factors. Data from the plan could be used to support increased densities or development in certain watersheds based on water availability or water quality of stormwater discharges, data to limit development for watersheds that are over-tapped, or even data to support open space designations in prime aquifer recharge areas.[193]

The impact that the updated state water plan may have on local planning is yet to be determined. It could be that the plan will go the way of its predecessor—the original state plan was not actively used on a local level. However, because Act 220 mandates annual reporting and a mecha-

[190] 27 Pa.C.S.A. §§ 3136(b), (c) (emphasis added).

[191] 53 Pa.C.S.A. § 10301(b).

[192] 53 Pa.C.S.A. § 10303(d).

[193] See Davies and Ercole, "Saving Spaces, Smart Growth and Beyond: Water Resource Planning Act," *23 Temp. Envtl. L. Tech. J 1* (2004) for an in-depth discussion as to how Act 220 may impact local development and state agency permitting decisions.

nism to process that data through the statewide data system, the plan and its amendments will most likely play an increasingly important role on the local level as the plan is updated with more detailed information over time. Of course, its influence over local land use will depend heavily on the scale at which water data is processed, distributed, and incorporated into future plan amendments.[194] The finer the scale and detail of information, the more the plan will support local land use decisions based on water resources.

Clean Streams Law

The purpose of the Clean Streams Law (CSL)[195] is to protect, maintain, and improve the quality of the Commonwealth's waters. The declared policy of the CSL is to prevent pollution of the Commonwealth's waters and to reclaim and restore to a clean condition every stream that is polluted. While the CSL does not directly impact the issue of water infrastructure placement, a brief description is included to complete the overview of state water law.

In order to achieve the goal of protecting and maintaining water quality, the CSL prohibits pollution of the Commonwealth's waters. "Pollution" is defined broadly under the act and regulations to include erosion and sediments, heat, or any substance that will or is likely to make the water harmful to public health, livestock, wild animals, birds, aquatic life, or to impact the domestic, municipal, agricultural, recreational, or other beneficial uses of water. Similarly, "waters" is defined broadly to include both surface and groundwater.

DEP's power to issue permits and develop water quality standards and criteria are the heart of the CSL. To assure protection of water quality, discharges of pollution from a point source—any discrete conveyance, such as a pipe—are unlawful unless permitted by DEP through a National Pollutant Discharge Elimination System (NPDES) permit. The permit requirement generally applies to sewage treatment facilities, industrial dischargers, and even concentrated animal feeding operations (CAFOs). It is the permit that determines the amount of pollution that can be discharged from a source. If the point source discharge releases pollutants in greater concentrations than is allowed by the permit, then there is a violation of the CSL.

All water bodies, streams, or segments thereof are classified by their existing and designated uses. DEP bases the water quality standards and criteria in the NPDES permits on the existing and designated uses in order to determine how stringent a discharge permit must be. An "existing use" is the use attained in the water body after 1975. In order to determine the existing use of a water body, DEP must assess every stream in the Commonwealth. A "designated use" is based on preserving the stream's use for Special Protection (these are Exceptional Value or High Quality Waters), Aquatic Life (such as, Cold Water or Trout Stocking Fisheries), Water Supply (such as Potable Water Supplies or Irrigation) or Recreation (such as, Boating or Esthetics). To reiterate, the existing and designated uses of a water body determine the quality of a discharge needed to protect those uses. For example, the water quality standards and

[194] Act 220 does not specify the scale at which surface and groundwater resources should be inventoried and assessed, only referring to "significant watersheds" for surface water resources, "aquifers" or "basins" for groundwater. 27 Pa.C.S.A. §§ 3112(a)(1),(2). Likewise, the Critical Water Planning Areas (CWPA) are vaguely referred to as "any significant hydrologic unit." Id § 3112(a)(6). At the time of this report, DEP guidance for Critical Water Planning Areas define the CWPA as a minimum of 15 square miles. See, *Guidelines for Identification of Critical Water Planning Areas* (DEP Doc. No. 392-2130-014, September 30, 2006). A scale of 15 square miles would provide enough detail for planning agencies to make development and land use decisions based on data in the plan, at least for the Critical Water Planning Areas. Whether "significant watersheds" and "aquifers" are defined on a similar scale will depend on the regulations for Act 220, which were not been published as of the time of the researching of this chapter.

[195] CSL, 35 P.S. §§ 691.1-691.1001 and corresponding regulations, 25 Pa. Code Chapters 91–102. For a deeper discussion of the CSL, refer to *Pennsylvania Environmental Law and Practice*, PBI, Chapter 6, 2002.

criteria for a discharge to an Exceptional Value or High Quality Water will be very strict and a permit will be difficult to obtain. This is the basis for the growing movement among some environmental groups to try to upgrade stream uses in order to create more stringent treatment requirements or to entirely prevent discharges. In this way, the CSL can indirectly impact land use and development.

Besides the NPDES permits, DEP issues permits for the construction of sewage treatment facilities and for erosion and sediment control on construction sites over a certain size. These are parts of the CSL that will not be discussed in this paper, but are also critical to the sustainable management of the Commonwealth's water resources.

Deleware River Basin Compact

The Delaware River Basin Compact (compact)[196] recognized that the Basin's water resources were administered by many overlapping and uncoordinated state and federal agencies and, therefore, created the DRBC in order to meet all present and future water demands through comprehensive planning, programming, and management. DRBC is the single administrative agency that oversees the basin's waters with joint participation of Pennsylvania, New York, New Jersey, Delaware, and the federal government. The compact authorizes DRBC to adopt uniform policies and regulations for water conservation, use, and management; to allocate water and regulate water withdrawals and diversions of surface and groundwater; to establish standards for planning, design, and operation of all projects and facilities that affect water resources; to conduct and sponsor water research; to enact water quality standards; to create protected areas based on water shortages; to develop a Comprehensive Plan and Water Resources Program for the basin; and to permit projects. The basin includes Pike, Monroe, Carbon, Northampton, Lehigh, Bucks, Montgomery, Philadelphia, Chester, Delaware Counties and parts of Chester, Berks, Lancaster, Lebanon, Schuylkill, Luzerne, Lackawanna, and Wayne Counties.

Through its authority to authorize projects, DRBC acts as a permitting agency. The compact directs DRBC to review any project that may have a substantial effect on the basin's water resources to determine consistency with its comprehensive plan.[197] DRBC may approve, modify, or disapprove projects. Specifically, the agency reviews any project withdrawing more than 100,000 gallons per day. Within its designated Ground Water Protected Area (GWPA), a program that addresses depleted and conflicted water resources within a 1,000-square mile area in southeastern Pennsylvania, DRBC reviews projects withdrawing more than 10,000 gallons per day. DRBC limits withdrawals based on groundwater availability in each of the 76 small sub-basins of the GWPA. As part of the application for a permit, water purveyors must supply maps of their service areas. DRBC also requires justification of withdrawal amounts requested from the purveyor based on actual and estimated future water needs. The agency is becoming increasingly aware of inter-watershed and inter-basin transfers of water through infrastructure development.

Per regulation, projects that are deemed not to substantially affect the basin's water resources and do not require DRBC permitting include "local water distribution lines and appurtenances… unless such lines would involve significant disturbance of ground cover affecting water resources" and "major water transmission lines and appurtenances unless they would pass in, on, under, or across an existing or proposed reservoir or recreation project areas as designated in the

[196] Compact, 32 P.S. § 815.101-815.106 and corresponding regulations, 18 CFR Chapter III (the Water Code and Administrative Manual, Part III, Water Quality Regulations can be found on DRBC's website).

[197] Compact, 32 P.S. § 815.101, Article 3, § 3.8 (referral and review of projects) and 18 CFR § 401.34 (project submission). "Project" is defined as "any work, service or activity… for the conservation, utilization, control, development or management of water resources." Compact, 32 P.S. § 815.101, Article 1, § 1.2(g).

Comprehensive Plan [or] unless such lines would involve significant disturbance of ground cover affecting water resources."[198] DRBC generally does not review and permit water distribution line projects. However, a state agency can refer excluded projects to DRBC for review if there may be a substantial effect on the basin's water resources.

DRBC encourages innovative watershed planning in Pennsylvania. Within the GWPA, the agency has developed guidelines to help municipalities develop integrated resource plans (IRPs)[199] with the goal of encouraging multi-municipal planning for water and integrating comprehensive water resource planning and land use planning in local comprehensive plans. Once an IRP is completed and adopted by all of the municipalities within a sub-basin of the GWPA, DRBC may lower the withdrawals limits beyond the current 10,000 gallons per day permitting threshold. This mechanism may better protect water resources by filling the statutory gap in water management, albeit through DRBC rather than the state.

Within the Special Protection Waters, which includes parts of Bucks County, DRBC requires the development of Non-Point Source Pollution Control Plans (NPSPCs) as part of the application for a permit.[200] The plan must document which best management practices will be used to control non-point source loads from the project. Permitting for new or expanded water withdrawals, which may involve new infrastructure, are conditioned on approval of the NPSPC. As an exception, public authorities and private corporations that do not have the legal authority to implement non-point source controls do not have to follow the NPSPC policy.

Municipalities Planning Code

In Pennsylvania, the state legislature delegated land use authority to all 2,565 local governments and 67 counties through Act 247, the Municipalities Planning Code (MPC).[201] The general purposes of the MPC include promoting public health, accomplishing coordinated development, guiding the use of land and facilities, and preserving natural resources.[202] The MPC grants municipalities considerable control over local land use decisions and includes provisions for comprehensive plans, subdivision and land development ordinances, zoning ordinances, and other land use powers. The decisions local governments make under the MPC, state agency policies based on that law, and its interpretation by the courts have powerful consequences on the economic, social, and environmental health of the state.[203] Since almost all land uses require water services, land use regulation has significant influence over where water infrastructure is located and the quality and quantity of water resources.

Local municipalities are authorized, but are not required, to prepare comprehensive plans. If a local government chooses to plan, it must include the following elements related to water service: a plan for land use, which may include provisions for the amount, intensity, character, and timing of land use for utilities; a plan for community facilities and utilities, which may include water supply and distribution; and a plan for the protection of

[198] 18 CFR §§ 401.35(a)(11), (12).

[199] See DRBC Resolution No. 2002-7 and *Guidelines for Developing an Integrated Resource Plan Under the Delaware River Basin Commission Southeastern Pennsylvania Ground Water Protected Area Regulations*, http://www.state.nj.us/drbc/Res2002-7.htm.

[200] *Water Quality Regulations, Administrative Manual, Part III*, DRBC, 2005 at www.state.pa.us/drbc/WQRegs092005.pdf.

[201] Counties and local governments are both "municipalities" under the MPC. The City of Pittsburgh and the City of Philadelphia, which is also a county, are excluded from the MPC.

[202] MPC, 53 P.S. § 10105.

[203] Denworth, et. al., *Planning Beyond Boundaries*, 10,000 Friends of Pennsylvania, 2002.

natural resources, such as aquifer recharge zones, to the extent not preempted by Federal or State law.[204] The comprehensive plan must include a plan for the reliable supply of water and provisions to protect water supply sources.[205] The comprehensive plan may also identify growth areas, so that public water infrastructure services can be planned and provided to accommodate growth.[206] Although municipalities are authorized to plan to protect water resources, the comprehensive planning requirements of the MPC focus on maintaining reliable water supplies and providing water services to support growth and development.

Under the MPC and as interpreted by the courts, the comprehensive plan is treated as an advisory document and does not itself determine whether a particular land use may be authorized in a specific area of the municipality. In the case of water infrastructure, all proposed actions of a municipal water system or municipal authority concerning the construction or extension of any water line must be submitted to the planning agency for its recommendation as to the action.[207] However, even where the construction or extension of a water line is inconsistent with the comprehensive plan, the action can be valid under the MPC.[208]

While comprehensive plans are advisory in nature, subdivision and zoning ordinances have legal weight in determining where and what types of development may occur within a municipality. Like the comprehensive plans, legitimate purposes of zoning ordinances include the provision of a safe, reliable, and adequate water supply as well as the preservation of natural values and aquifers.[209] Zoning ordinances may regulate, restrict and determine uses of land, watercourses, and other water bodies except to the extent that they are preempted by federal or state law; promote and preserve natural resources and environmentally sensitive areas; and regulate the siting and density of development in order to assure the availability of reliable, safe and adequate water supplies to support intended land uses within the capacity of available water resources.[210]

The MPC includes a notice provision to local governments concerning new water infrastructure.[211] Municipal authorities and water companies that intend to expand water service by increasing the number of individual service connections must notify the municipality. The notice provision applies when the intended expansion is for a proposed development that has not received any municipal approvals; conceivably, a municipality that has approved a development proposal might have been given notice about infrastructure extensions through the planning process. The provision applies not only to authorities, but to all water companies that provide public water for compensation, including municipal water systems operating beyond their corporate boundaries.[212] Authorities and water companies do not have to provide notice where a service expansion is court-ordered or the number of individual service

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[204] 53 P.S. §§ 10301(a)(2), (4), (6).

[205] Id. § 10301(b).

[206] Id. § 10301(d). The MPC includes "water lines and facilities for the pumping and treating of water" within the definition of "public infrastructure services." Id. § 10107.

[207] Id. § 10303 (a)(4).

[208] Id. § 10303(c).

[209] Id. § 10604.

[210] Id §§ 10603(b), (c), (d), and (g)(2).

[211] Id § 10608.1.

[212] As previously stated, where a municipality has adopted a comprehensive plan, a municipal water system operating within its corporate boundaries (or MA) that plans to construct or extend a water line must obtain a recommendation from the planning agency about the proposed action. However, again, even if the action controverts the comprehensive plan, the construction or extension may still occur.

connections is not increased. In the case where the number of individual connections is not increased and the authority or water company is locating transmission lines, interceptors, wells, reservoirs, aquifers, pump stations, water storage tanks, or other facilities in a new area of the municipality, no notice is required.[213]

The notice provision does not allow municipalities to take any action to control water infrastructure. The MPC clearly states that the notice provision does not "authorize a municipality to regulate the allocation or withdrawal of water resources by any person, authority, public utility, or municipal water system that is otherwise regulated by the PUC or other Federal or State agencies or statutes."[214] Rather, the purpose of the provision is to make the authority, utility, or municipal water system aware of how the infrastructure expansion may potentially support or conflict with municipal land use planning.[215] Implicit in this subsection of the MPC is the recognition that water purveyors may be expanding water service in a way that is inconsistent with local planning.

Besides individual municipal planning, the MPC provides for multi-municipal land use planning. Purposes of multi-municipal planning include ensuring that development is compatible with surrounding land uses; preventing the unnecessary development of agricultural lands; providing coordinated public services and development; maximizing the use of existing public water systems before new systems are built; ensuring that new or major extensions of existing public water systems are constructed only in areas where growth is anticipated and sustainable; and identifying growth areas so that public water services can be adequately planned and provided.[216] These purposes are focused on the efficient use of existing infrastructure, planning for growth in relation to infrastructure and services, and preserving agricultural and undeveloped lands. Multi-municipal comprehensive plans must include the same elements as individual municipal plans discussed above, and may also designate growth areas where publicly financed infrastructure will be provided and rural resource areas where rural uses are planned for and development compatible with rural areas uses limited public infrastructure.[217] As part of carrying out the multi-municipal plan, participating municipalities must determine their responsibility for providing public infrastructure, and counties are authorized to convene all potential water purveyors—municipal water systems, authorities, public utilities, etc.—to negotiate service agreements and facilitate municipal decisions related to infrastructure.[218] As discussed above in the section on notice provision, the same restrictions apply in the case of intergovernmental cooperation. The notice provision does not allow multi-municipal planning participants to control water or limit the PUC.[219] Specifically, municipalities that participate in intergovernmental planning cannot regulate the allocation or withdrawal of water resources by an authority or water company that is otherwise regulated by the PUC or other federal or state agency or statutes.

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[213] 53 P.S. § 10608.1(e).

[214] Id. § 10608.1(f). The section drives the point home about the lack of municipal authority over water resources by reiterating that "nothing in this act [i.e., the MPC] shall be construed as limiting the authority of the [PUC]… over the implementation, location, construction and maintenance of public utility facilities." Id § 10608.1(d).

[215] Id. § 10608.1(b).

[216] Id. § 11101.

[217] Id. § 11103(a).

[218] Id. §§ 11105(b)(3), (d).

[219] Id. §§ 11105(c) and (d).

The benefit to municipalities trying to control water infrastructure that have comprehensive plans and consistent zoning ordinances is derived from sections 10619.2 and 11105, which dictate that state agencies must consider local plans and ordinances in relation to state permitting and funding. "General consistency"[220] is key to obtaining state agency consideration and several factors must be satisfied. In the case where the municipality has its own zoning ordinances, the county and municipality must have generally consistent comprehensive plans, and, additionally, the municipal zoning ordinance must implement and be generally consistent with the municipal comprehensive plan and the county comprehensive plan.[221] Once these factors are satisfied, the MPC dictates that state agencies "shall consider and may rely upon comprehensive plans and zoning ordinances when reviewing applications for the funding or permitting of infrastructure or facilities."[222] Similarly, those municipalities that adopt joint zoning ordinances based on joint plans are entitled to the same state agency consideration of local plans and ordinances.[223] Lastly, in the case where there is intergovernmental cooperative planning, municipalities that have adopted county or multi-municipal comprehensive plans through cooperative agreements and are implementing them with consistent ordinances are also entitled to state agency consideration of their plans and ordinances in agency permitting and funding of infrastructure and facilities.[224]

The land use consideration provisions are extremely important, as they are the only mechanism for local planning to be recognized by state agencies.[225] It should be emphasized that the MPC dictates that state agencies only consider such local plans and ordinances. How agencies consider local planning and the factors they use in making permitting and funding decisions are left unanswered under the MPC and is in the purview of individual agency policy. Once local planning is considered by the agencies in their permitting and funding process, the agencies are not bound to accept the results—state agencies can permit and fund water infrastructure projects that directly undermine local comprehensive plans and zoning ordinances. From the standpoint of water infrastructure, state agencies that are affected by the MPC consideration provisions and that permit or fund water projects include DEP, PUC, PENNVEST, DCED, and PENNDOT. Entities that do not fall under the provisions include the river basin commissions, such as DRBC, and any federal agency.

The MPC gives the PUC nearly unfettered control over public utility facilities and service. Like other state agencies, the MPC directs the PUC to consider local planning where there is consistency. But the MPC goes further with the PUC—enabling the PUC to disregard local zoning for the location of public utility buildings where it finds that the building is reasonably necessary for the public welfare.[226] Furthermore, in the sec-

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[220] The MPC defines "general consistency" and "generally consistent" as "that which exhibits consistency." "Consistency" is defined as "an agreement or correspondence between matters being compared with denotes a reasonable, rational, similar connection or relationship." Id. § 10107.

[221] Id. § 10619.2(a).

[222] Id.

[223] Id. § 10619.2(c).

[224] Id. § 11105(a).

[225] According to the legislative history of these provisions, House Bill 14 (Act 67) contained language requiring state agencies to be consistent with local comprehensive plans in their permitting process. This requirement was softened in the final bill to require agency consideration but to give agency discretion regarding local plans. *Legislative Journal*, House, June 6, 2000 at 1219.

[226] 53 P.S. § 10619. Provisions of HB 14 related to water purveyors led one representative to comment: "… the water companies have succeeded in having themselves completely written out of the purview of this legislation, and if not completely written out, they have certainly . . . made it unclear … I think to leave things as the status quo as it relates to our water utilities will seriously dilute the effectiveness of this legislation. . . . because were the water pipes go, the development follows it, and if we have the PUC, which is untouchable under this legislation . . .continue to grant franchise territories and allow pipes to be run through rural areas, the development pressures will come to those areas; make no mistake about it." *Legislative Journal*, House, June 6, 2000 at 1233.

tions concerning notice to the municipality about expanded service and the effect of intergovernmental planning, the MPC repeats twice that the "authority of the PUC over the implementation, location, construction, and maintenance of public utility facilities and the rendering of public utility service to the public" is only limited by the land use consideration provisions.

Infrastructure Financing

Financing for water infrastructure is provided through PENNVEST, DCED, and the Commonwealth Financing Authority. Although infrastructure financing and costs are not the focus of this study, a brief summary of three state statutes are included, since where state agencies choose to fund facilities impacts the location of development.

PENNVEST

Through the Pennsylvania Infrastructure Investment Authority Act[227] PENNVEST offers various financial incentives for water suppliers, in the form of low interest loans and grants, loan guarantees, and bond insurance. Eligible projects include the acquisition, construction, improvement, expansion, extension, repair or rehabilitation of any publicly or privately owned facility for the collection, treatment, storage, or distribution of drinking water, or collection, conveyance, and treatment of wastewater. PENNVEST also finances remediation of brownfield sites and can provide funding for other non-point source activities as well.[228] PENNVEST currently requires a letter from the appropriate county planning agency, agriculture board, or conservation agency that establishes whether a project is consistent with comprehensive land use plans and policies for the area. Local officials may also provide comments. PENNVEST is basing decisions on these comments and is beginning to prioritize projects that are consistent with county land use plans.

In southeastern Pennsylvania, PENNVEST also requests DVRPC, the metropolitan planning organization for the region, to review applications for consistency with its regional long-range plan. DVRPC identifies existing developed areas and growth areas in the plan where infrastructure could be expanded to accommodate new or infill development. DVRPC collects a review from the county planning agency where the proposed project is located and presents the information to its Board to vote on an action of support. The DVRPC decision is then forwarded to the Executive Director of PENNVEST.

The Small Water Systems Assistance Act[229] was enacted in 1992 to encourage regionalization of small water supply systems in order to create a larger, more reliable water supply. The Act offers grants for feasibility studies and provides training and technical assistance.

DCED

The Infrastructure Development Act[230] (IDA) authorizes DCED to make grants, grants-to-loans, and loans to municipalities, authorities, and private entities to support specific infrastructure improvements for development projects that would not otherwise be possible. The purpose of the IDA is to help stimulate private development and, indirectly, increase jobs, taxes, and commerce throughout the Commonwealth. As defined by the IDA, "infrastructure improvements" include water supply facilities (and water lines) in addition to the acquisition of lands, easements, or rights-of-way necessary to construct the infrastructure. The IDA facilitates cooperation between public and private entities as it is the public entity—local

[227] 35 P.S. § 751.1

[228] Id. § 751.3

[229] 35 P.S. § 724.1.

[230] 73 P.S. § 393.21, P.L. 677, No. 116, § 1 (1996).

government or authority—that is the applicant for support. The intent of the IDA is to spur development in economically distressed "targeted communities," although other areas may be considered for loans. Interestingly, the IDA restricts funding for projects in "greenfields" where private companies are not involved. Where private companies are involved, there is no funding restriction for greenfield development. The IDA also sets a minimum amount of annual funding for projects located on former industrial sites.

Commonwealth Financing Authority

The Commonwealth Financing Authority administers the Water Supply and Wastewater Infrastructure Program (PennWorks), established by the General Assembly in 2004. The program provides grants and loans "for projects which construct, expand or improve water and wastewater infrastructure which are related to economic development."[231] Eligible projects cannot be used solely for residential purposes and "must involve the investment of capital in Pennsylvania enterprises and communities or result in the creation of new or the preservation of existing jobs."[232] Applicants must demonstrate that the project "generally is in compliance with county or local comprehensive plans" and priority consideration is given to projects that are "integral for the development or redevelopment of sites which are planned for development" or are "identified as a priority project in a local comprehensive or economic development plan."[233]

State Agency Policy

Since the land use consideration provisions were enacted in 2000, the Governor's Economic Development Cabinet has facilitated the development of statewide principles and criteria along with an interagency Letter of Understanding (LOU). Both the principles and LOU hold the promise of providing some consistency in the way state agencies act with respect to local land use policies.[234]

State Led Efforts: LOU and Keystone Principles

On May 31 2005, Governor Rendell's Economic Development Cabinet approved the *Keystone Principles and Criteria for Growth, Investment and Resource Conservation*.[235] The principles and criteria were developed by the Interagency Land Use Team, an ambitious project to coordinate efforts among 23 state agencies and programs to foster sustainable economic development, conservation of resources, and integrate common land use and smart growth goals across state agencies. The agencies actively involved in the effort include DCED, DEP, DCNR, PENNDOT, PENNVEST, Pennsylvania Housing Finance Agency (PHFA), Pennsylvania Historical and Museum Commission (PHMC), and the Pennsylvania Department of Agriculture (PDA).

The principles are general objectives for agencies to achieve through state grant or loan programs. While the principles and implementing criteria do not apply to permitting programs, several of the principles should impact the develop-

[231] *PennWorks Guidelines*, Pennsylvania Department of Community and Economic Development and The Commonwealth Financing Authority, PA DCED, March 2006.

[232] Ibid.

[233] Ibid.

[234] It is important to note that the Keystone Principles for Growth, Investment and Resource Conservation are separate from the land use considerations established in sections 10619.2 and 11105 of the MPC. They were developed by the Interagency Land Use Team as principles and criteria that will apply to all relevant funding decisions, whether agency grants and loans to public and private applicants or expenditure of agency funds, such as for transportation or economic development. The LOU applies to permitting decisions as well as funding decisions.

[235] The Keystone Principles and Criteria are published on DEP's Growing Smarter website at www.depweb.state.pa.us/pubpartcenter/lib/pubpartcenter/Keystone_Principles_and_Criteria.pdf.

ment of new water infrastructure. Among these are to provide efficient infrastructure by using and improving existing infrastructure, providing public water in designated growth areas and on-lot or community systems in rural areas, and by requiring expansions to be consistent with local land use; to concentrate and integrate development with existing water services; and to plan regionally with local implementation, including infrastructure. The criteria breakdown each of the principles into specific measures that will be used by the state agencies to evaluate proposals. For example, a criterion for the efficient infrastructure principle is whether the project uses or improves existing water capacity and services.

How each of the state agencies will implement the principles and criteria is left to agency discretion, although there is a review committee of the Interagency Land Use Team evaluating how the criteria are used and applied in each program. The first year, the criteria may be integrated into existing program criteria or used as additional considerations in evaluating proposals.

While the Keystone Principles are general objectives for agencies to achieve through implementation of the criteria in agency funding programs, the Letter of Understanding (LOU) attempts to provide a specific, consistent approach across the agencies that make decisions impacting land use, development, and conservation. The LOU provides a specific process for considering county and local land use plans and ordinances in their permitting and funding decisions.[236] Among the ten agencies that signed the LOU are DEP, DCNR, PENNDOT, PENNVEST, DCED, and PUC.

The LOU sets out a fairly specific procedure for the participating agencies to follow in considering local land use. The LOU specifies several land use related questions that must be integrated into applications for funding or permitting. Specifically, the applicant answers yes or no as to whether municipal, county, multi-municipal, or multi-county comprehensive plans exist; whether municipal or joint municipal zoning ordinances exist; and whether its proposed project is consistent with the plans and ordinances.

One of the first questions agencies must address is whether the proposed project is consistent with local plans and ordinances. Applicants are asked to provide written certification from municipal and county governments or planning agencies that the proposed project is consistent with local land use. If an applicant fails to provide a project consistency letter, the agency will request municipal and county governments to supply a written determination of whether the project is consistent with local land use. While the LOU achieves notice to local governments, it does not specify whether all local governments affected by the proposed project are notified. If the agency receives no written, timely response from the relevant county or municipal governments,[237] then the agency assumes the project *is consistent* with local land use, which favors the applicant. Because of the assumption of consistency, it is particularly important for local governments to respond in writing and within given timeframes to identify proposed projects that are inconsistent with local land use plans and ordinances. Where an agency assumes the project is consistent—but it is not—land use will not be considered as an impediment to the project, which could actually be bolstered by the application of the Keystone Principles and Criteria. Applicants or government entities may challenge local government responses concerning project consistency.

The second question to be addressed is whether local plans and ordinances are consistent with each other. Per the MPC, state agencies are

[236] *Interagency Letter of Understanding Regarding Consistency in Implementation of 2000 Amendments to PA MPC* is published on DEP's Growing Smarter website at www.dep.state.pa.us/hosting/growingsmarter/LOU.doc.

[237] Based on the language of the LOU, it is unclear whether all relevant county and municipal governments must reply to the agency request for consistency between the project and local land use.

directed to take notice of local land use where plans and ordinances are generally consistent. The LOU relieves agencies from making this determination by providing plans and ordinances an assumption of consistency. However, each agency must make provisions for applicants and government entities to challenge this assumption. Where there is a challenge, the agency requests a determination from the county and municipal governments or planning agencies (or from a designated entity) as to the consistency between plans and ordinances. If there is no timely, written response from the relevant local governments[238] regarding consistency, then the agency assumes that plans and ordinances are not consistent and, thus, the agency is not bound to consider local land use in its decision. This assumption again favors the applicant. Timely, written response by local governments is needed to ensure local land use policies are considered.

The LOU is unclear as to what happens in cases where there is a challenge to the consistency between plans and ordinances and the local government responds and affirms that there is. In this case, where a project applicant claims there is inconsistency and the local government argues that there is consistency, the LOU is silent. The agencies may review the matter and make the decision as to whether there is consistency themselves.

Once the application is complete and the agency has information concerning project consistency and consistency among plans and ordinances, the agency begins its review. Agencies are provided discretion in determining their internal review procedures and policies. However, the LOU states that agencies will confirm the requirements of the MPC are satisfied by ensuring that local governments have provided "sufficient information" to determine the consistency of projects with local land use and the consistency of plans and ordinances. As discussed, whether an agency relies on local land use in making its decision is left up to agency discretion under the MPC. Further, as comprehensive plans are merely advisory, it will be the zoning ordinance that is most persuasive to any agency decision. The factors that are considered by agencies in relation to local land use, and the weight each carries, are left entirely open to agency policy and discretion and are not discussed within the LOU.

Once an agency has reviewed a proposal, the agency may take any one of several actions. In relation to funding or permitting actions, the agency may approve, approve with conditions, deny, or, potentially, suspend review. With regard to requests for competitive funding, the agency must give priority consideration to applications that are consistent with county or multi-municipal comprehensive plans.

Agency Policies

The signatory agencies to the LOU agreed to take reasonable measures to integrate the agreed upon procedures into their programs by July 1, 2005. As of May 2006, only two agencies have published any policies related to the MPC and LOU in the *Pennsylvania Bulletin*—DEP and PUC.

DEP

Prior to the LOU, DEP developed the Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure.[239] With DEP's agreement to the LOU, the policy is being revised and a final version has not been published as of May 2006.[240] This discussion is based on the November 2005 draft revision of the policy.

The stated purpose of the policy is to implement the MPC in the agency's programs so as to avoid or minimize conflicts with local land use

[238] Based on the language of the LOU, it is unclear whether all relevant local governments, county and municipal, must respond to a consistency challenge in order to enable an agency to consider local land use.

decisions. The policy applies to DEP staff, counties and local municipalities covered by the MPC, and applicants for "authorizations," which is broadly applied to include permits, plan approvals, certificates, licenses, and registrations from many of the agency's programs, including the SDWA. The Safe Drinking Water Program requires permits for bottled water, bulk water haulers, retail and vended water systems, and, most importantly, for the construction and operation of community water systems. As previously discussed, DEP issues permits to construct, operate or substantially modify a community water system that provides public water and serves at least 15 service connections used year-round, or regularly serves at least 25 year-round residents. Waterline extensions are not included in the definition of "substantial modification" and, therefore, are not required to undergo DEP's permitting process or the corresponding land use review discussed here.

The draft revision of the policy closely mirrors the procedure outlined in the LOU. As part of the permit application process, applicants are requested to answer the questions posed in the LOU with the addition of whether the project will require a zoning approval and whether the zoning ordinances are subject to a legal proceeding. Applicants must obtain the project consistency letter from the county or municipality. Where the applicant certifies that it was unable to obtain the letter, DEP requests a determination of project consistency from all county planning agencies, the county commissioners, and municipal secretaries affected by the project. Local governments are given 30 days to respond.

The Policy Office and the Office of Chief Counsel become involved with the application where the applicant or local government determines that the project is inconsistent with local land use. Where DEP can rely on local land use (i.e., when comprehensive plans and zoning ordinances are generally consistent), the Policy Office evaluates all of the information submitted by the applicant and local governments to make a recommendation as to whether the review should be suspended or permit should be granted, denied or approved with conditions. According to interviews with DEP staff, the agency usually suspends review of the application to facilitate the applicant and local governments to reach agreements on their own. In addition to land use factors, the revised policy states that DEP may also evaluate a project based on other factors, such as, the benefit to public health or the environment and whether the project complies with environmental laws and regulations.

The criteria and weight given those criteria that DEP finds significant in relying on or opposing local land use is not discussed within the policy. According to its website, there were a total of 10 applications going through the agency's land use review process in 2005.

PUC

As of April, 2006, the PUC published final rules implementing the LOU. Unlike the DEP, which has a single comprehensive policy regarding LOU implementation, the PUC has implemented the LOU through changes to its regulations concerning certificates of public convenience, as previously discussed. The PUC regulations ensure that county and local governments are involved in the application process as they must provide letters regarding compliance of the applicant's project

[239] DEP, *Final Revision of Policy for Consideration of Local Comprehensive Plans and Zoning ordinances in DEP Review of Permits for Facilities and Infrastructure*, #012-0200-001, March 6, 2004. A great deal about the policy is published on the agency's website, such as, public comments and DEP responses, the list of affected permits, a fact sheet, agency review process charts, sample municipal and county notice letters, etc. In response to the MPC, DEP also developed the *Policy for Consideration of Comprehensive Plans and Zoning Ordinances in DEP Review of Grants and Funding for Facilities and Infrastructure and Policy for Applications for Technical or Financial Assistance Proposals Consistent with Multi-Municipal Planning under Acts 67 & 68*, which are not applicable to this study.

[240] The proposed revision of the *Policy for Consideration of Local Comprehensive Plans and Zoning ordinances in DEP Review of Permits for Facilities and Infrastructure*, #012-0200-001, November 12, 2005, can be found on the eLibrary of DEP's website at http://164.156.71.80/WXOD.aspx and go to "Technical Guidance Draft Documents."

with comprehensive plans and zoning ordinances. Also, local planning agencies are supposed to receive copies of completed applications for certificates directly from applicants.

Besides the land use related changes to the regulations concerning certificates, the PUC has a land use policy. The policy simply states that the PUC "will consider the impact of its decisions *upon* local comprehensive plans and zoning ordinances. This will include reviewing applications for certificates of public convenience and siting a public utility "building" under . . . the MPC."[241] The wording of the policy should be re-phrased based on the MPC, which is clear that state agencies must consider local land use during their decision-making process rather than making a decision and, then, determining how that decision impacts local land use. Further explanation of how the policy is incorporated into the agency's review process is left unanswered. This policy should be greatly expanded to in order to fully implement all aspects of the LOU.

PENNVEST, PENNDOT, DCED

As of May, 2006, none of these agencies have published notice of draft policies concerning the land use consideration provisions of the MPC or the LOU in the Pennsylvania Bulletin. With regard to PENNDOT, applicants for occupancy of state highway permits, which include water purveyors installing water infrastructure under state roads, are not required to complete land use information in order to obtain highway occupancy permits.[242]

[241] 52 Pa. Code § 69.1101 (emphasis added).

[242] However, applicants applying for permits for driveway access onto state highways must complete form M-950MPC through which the PENNDOT carries out the directives of considering local land use under sections 10619.2 and 1105 of the MPC.

APPENDIX D: CASE LAW

Since the enactment of the land use consideration provisions of the MPC, the PUC has decided only two cases for certificates of public convenience that have been protested by local governments based on local concerns. As of 2005, no cases had come before the Environmental Hearing Board, which adjudicates decisions made by DEP. However, there are several cases pertaining to pre-emption of local control over water resources, which are very relevant to this study.

PUC Practice

The two PUC cases demonstrate how difficult it is for local governments to convince the PUC to rely on local comprehensive plans and how important it is for local governments to zone accordingly. However, it should be noted that these cases were decided under the PUC's current land use policy discussed above; how the commission may consider local land use after the LOU process is incorporated into agency procedures may be different.

In Application of Newtown Artesian Water Company, PUC Lexis 40 (2003), Wrightstown Township protested Newtown Artesian Water Company's (NAWC) application for a certificate of public convenience. The township is described as being "semi-rural" with no public water service—all developments in the township were served by on-site wells. Furthermore, the township is part of the Newtown Area Joint Municipal Comprehensive Plan that stated that public water service is a growth facilitator and should be permitted in areas planned for higher density residential development and not provided in areas intended to maintain a rural character. However, the township granted a developer's Conditional Use Permit for a subdivision with the condition that the extension of public water to the development be prohibited. Despite the conditional use permit, the developer supported NAWC's application to the PUC so that NAWC could supply water to its subdivision.

The PUC addressed the township's three main arguments against NAWC's application. First, the township argued that public demand or need was not established as well water could satisfy the requirements of the residential subdivision, including fire service. The PUC denied the township's argument based on several factors. The PUC considered the developer's letter request to NAWC for public water supply a demonstration of public need along with the lack of public water service in the township. Well tests revealed the possibility that several indicators (turbidity, color, iron and manganese) were at or above water quality standards; although further sampling and testing was recommended to determine whether elevated samples were due to test pumping conditions. Lastly, the PUC determined that NAWC had sufficient volume of water to serve the development. In its discussion, the PUC essentially dismissed the on-site wells as an alternative to public water. In fact, the Administrative Law Judge (ALJ) stated that "[w]hen the Commission looks at the issue of need for water service, it does not consider whether the proposed development can be supplied by wells."

In its last argument, the township opposed NAWC's application because it is inconsistent with the joint comprehensive plan and local zoning ordinances. The PUC denied the township's argument stating that the proposed extension of water service was not in conflict with the rural character of the area. The PUC supported that ALJ's consideration of local land use in the case. Factors that influenced the ALJ's decision were that the township had conditionally approved the subdivision plan and had offered to expedite its development if the developer withdrew its support for public water service. The ALJ stated that

…the only reason presented for the Commission to deny a properly supported Application for expansion would be to further the township's desire to prohibit further development, even where there is no evidence whatsoever

that denial of the Application would accomplish that objective. Therefore, the Commission should not rely on the . . . Comprehensive Plan . . . . If Wrightstown Township is opposed to growth, then it needs to pursue appropriate zoning to reflect this goal.[243]

In its decision, the PUC reiterated "that the Township, by means of its land use regulations may not regulate or obstruct the grant of authority by this Commission to render public utility service."[244]

Application of Superior Water Company[245] presented a similar case as the NAWC situation above. A developer made a letter request to Superior Water Company ("Superior") to provide public water service to an 85 acre development zoned R-1 Residential. Superior filed an application for a certificate of public convenience for the 85-acres plus an additional 665 acres for which it indicated that it would provide water service upon the request of the next developer or bona fide applicant. After the PUC granted the application, Douglass Township petitioned the PUC for a rehearing arguing that the proposed service territory of 750-acres was nine times greater than necessary and was inconsistent with the R-1 zoning district and comprehensive plan. In fact, the township pointed out that the PUC's staff had recommended approval of the application only for the requested 85-acres.

The PUC denied the township's petition and affirmed the approval of Superior's application for the 750 acres stating that "[i]t is beyond dispute that the extension of public utility service is a matter of statewide concern that has been appropriately delegated to the Commission" and that the MPC "confirms the Commission's continuing jurisdiction over the expansion of utility service."[246] In relation to the township's land use, the PUC stated that because Superior's proposed service territory was zoned R-1 residential the Commission was "not encouraging development in an area that the local planning/zoning authorities are trying to preserve."[247] The PUC concluded that if the township is opposed to growth, then it needs to pursue appropriate zoning.

Preemption of Local Control

There is substantial case law speaking to preemption by state and federal laws over local control of water resources.

In the case of Worcester Township,[248] North Penn Water Authority wanted to build a pumphouse and preexisting well for public water supply in an area zoned for agriculture with other uses permitted by special exception. The water project was approved by DRBC and DER (now DEP) issued a water supply permit to operate the pumphouse and well. The township denied the special exception, building, use and occupancy permits needed by the authority stating that the project did not meet its zoning ordinance. The court found that the township could not render the DER and DRBC permits ineffective. It determined that allocation of water resources is under the joint authority of DRBC and DER, which pre-empted the township's zoning ordinance. The court stated that "[t]he purpose of the DRBC compact and one

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[243] 2003 Pa. PUC Lexis 54 at 8.

[244] Id. In the alternative, the township asked the PUC to "remand" the case back to the township so that it could negotiate further with NAWC. The township wanted NAWC to sell bulk water to the township so that it could control water flow rate and location availability. Lastly, the township asked the PUC to grant the NAWC application with the condition that the main extension be a smaller pipe in order to limit further expansion of water service within the township. The PUC rejected both of these arguments.

[245] *Application of Superior Water Company to Begin to Offer, Render, Furnish or Supply Water Service to the Public in Portions of Douglass Township, Montgomery County, PA*, 2004 pa. PUC Lexis 16.

[246] Id.

[247] Id.

[248] *North Penn Water Auth. V. Zoning Hearing Board of Worcester Twp*, 24 Pa. D. & C.3d 357 (Pa. Com. Pl., 1981); affirmed by *North Penn Water Authority v. Zoning Hearing Board of Worcester Township*, 454 A.2d 699 (Pa. Cmwlth., 1983).

of the purposes of . . . DER, was to coordinate and unify the procedures for water use within the region and the Commonwealth, rather than to have each state or municipality . . . pursue its own plan for water resources management."[249]

Likewise, in the case of Halfmoon Township,[250] a municipal authority wanted to develop wells located in an agricultural district where the zoning ordinance permitted public service and utility uses as conditional uses. DER (now DEP) and the Susquehanna River Basin Commission granted the authority permits to develop the wells and withdraw the requested amount of groundwater for public water supply. Afterwards, the township approved the authority's conditional use permit with the condition that the authority repair existing wells, and provide interconnections and water to other water systems affected by the authority's new wells. The issue before the Commonwealth Court was the extent of SRBC's authority to regulate water resources in relation to the power of local government to impose conditions on permits under the MPC. The court found that the township's authority under the MPC was pre-empted by SRBC's regulatory power over water resources as SRBC had jurisdiction to regulate the water volume withdrawn by the authority.

The court in Benner II[251] found that local regulation over the use of wells and groundwater was pre-empted by SRBC authority to regulate water resources. In this case, a municipal water authority applied for a conditional use permit to use land in an Airport Commercial District for wells, treatment, and pipes to its system. SRBC approved the authority's permit, but the zoning board imposed numerous conditions on the authority's conditional use permit pertaining to monitoring of surrounding wells, providing water service and line extensions to surrounding land owners in the case of failure of their wells, and rates. The court determined that SRBC's authority and regulations cover the same issues of monitoring, reduced draw, well failure that the township board tried to regulate through the conditional use permit and, therefore, the local permit conditions were pre-empted. The decision was affirmed by the Pennsylvania Supreme Court in 1997.

These cases stand for the proposition that local land use permits can be pre-empted by state and river basin authority where local regulation tries to accomplish what the state and river basin commissions are empowered to do. A question arises where local governments carry out their land use power in areas geographically outside of the jurisdiction of the river basin commissions and in areas outside of the purview of DEP and PUC authority. However, the areas where local government authority is not pre-empted is probably very narrow and is supported by the MPC, which limits local regulation over the allocation or withdrawal of water resources by entities otherwise regulated by federal or state agencies or statutes and gives almost unfettered control to the PUC.[252]

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[249] Id.

[250] *State College Borough Water Authority v. Board of Supervisors of Halfmoon Township*, 659 A.2d 640 (Pa. Cmwlth., 1995); appeal denied *State College Borough Water Authority v. Board of Supervisors of Halfmoon Township*, 543 Pa. 700 (1995).

[251] *Levin v. Board of Sup'rs of Benner Township*, 669 A.2d 1063 (Pa. Cmwlth, 1995); appeal granted by *Levin v. Board of Sup'rs of Benner Township*, 545 Pa. 66 (1996); affirmed by *Levin v. Board of Sup'rs of Benner Township*, 547 Pa. 161 (1997).

[252] MPC §§ 10608.1(d) and (f), 10619, 11105(c) and (d).

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