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Sub-Dividing the Waters: The Need for an Adequate and Sustainable Water Supply in Exurban Subdivisions

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COMMENT

Sub-Dividing the Waters: The Need for an Adequate and Sustainable Water Supply in Exurban Subdivisions

*Jason Johnson**

I.	INTRODUCTION	474
II.	BACKGROUND	475
	A. <i>Population Growth Leading to Exurban Growth</i>	475
	B. <i>Existing Subdivision Law</i>	477
	1. <i>Subdivision Definition</i>	477
	2. <i>Procedure for Attaching or Detaching Existing Water Rights</i>	479
	C. <i>Existing Water Law</i>	482
	1. <i>Surface Waters</i>	482
	a. <i>Instream Direct Flow Rights</i>	482
	b. <i>Reservoir or Storage Rights</i>	485
	2. <i>Groundwater</i>	487
	a. <i>The Growth of Groundwater Wells</i>	487
	b. <i>Groundwater Permitting and Availability</i>	488
	c. <i>Groundwater Control Areas</i>	489
	3. <i>Waters Located in an Irrigation District</i>	490
III.	ANALYSIS.....	491
	A. <i>Surface Water Appropriations</i>	491
	1. <i>Direct Flow Rights</i>	491
	2. <i>Reservoirs or Storage Waters</i>	494
	B. <i>Groundwater</i>	495
	1. <i>Pervasive Issues</i>	495
	2. <i>Individual, On-Lot Wells</i>	496
	3. <i>Centralized System</i>	498
	C. <i>Plan of Augmentation</i>	500
	1. <i>The Benefits of a Plan of Augmentation</i>	500
	2. <i>Colorado's Law on Augmentation Plans</i>	501
	3. <i>The Glacier View Meadows Case</i>	502
	D. <i>Restrictive Covenants</i>	503

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E.	<i>The Conflict Between Developers and Homebuyers</i>	505
1.	<i>The Inherent Tension</i>	505
2.	<i>Recommendations for the Wyoming Boards of County Commissioners</i>	508
3.	<i>Recommendation for the Wyoming Legislature</i>	509
IV.	CONCLUSION	510

“In the West, when you touch water, you touch everything.”

—Wayne Aspinall¹

I. INTRODUCTION

With populations projected to increase rapidly, and farming becoming less profitable every year, developers are creating subdivisions where farm lands once existed.² The growing population is spurring development on previously rural lands in a concept known as exurban development.³ Nearly one-third of the three million acres annually converted from agricultural to non-agricultural uses in the United States are lands located on the exurban fringe.⁴ These new subdivisions will need to secure a sustainable and adequate source of water for the future.⁵ Because municipalities usually do not supply water to these lands, water must come from alternative sources such as surface water and groundwater wells.⁶

¹ Gary Pitzer, *Western Water: The Struggle to Secure Water in the Southwest*, WATER EDUCATION FOUNDATION, May/June 2007, at 1 (quoting Wayne Aspinall) (internal quotation marks omitted).

² Teri E. Popp, *A Survey of Agricultural Zoning: State Responses to the Farmland Crisis*, 24 REAL PROP. PROB. & TR. J. 371, 371 (1989) (“Farmland preservation is a growing concern in the United States, especially in rural areas surrounding major metropolitan cities.”).

³ *Id.* Residential lands are differentiated using three primary land density calculations. Suburban land density is calculated at one housing unit per 0.6 to 1.7 acres, exurban land density consists of one housing unit per 1.7 to 40 acres, and rural land density consists of one housing unit per 40 acres and above. Diana Hulme et al., *Wyoming’s State of the Space: A Comprehensive Review of Land Use Trends in Wyoming*, WYOMING OPEN SPACES, May 2009, at 2.

⁴ Popp, *supra* note 2, at 373.

⁵ Jamey Volker, Note, *Water Supplies Finally Take Center Stage in the Land Use Planning Arena*, 35 ECOLOGY L.Q. 573, 608 n.203 (2008) (“Before new water-demanding growth is allowed, localities and water purveyors should ensure that they have an adequate water supply buffer . . . to protect their water users in times of drought.”); see also ARIZ. REV. STAT. ANN. § 45-108.04 (2011) (providing that the approval of any subdivision plats must demonstrate a 100-year assured water supply if in an Active Management Area); N.M. STAT. ANN. § 3-20-9.1 (West 2013) (stating that a subdivider must first acquire sufficient water rights before being approved for a subdivision plat).

⁶ In the fortunate event the developer purchases land abutted to property within municipal boundaries, the municipality may choose to annex the subdivision in order to attain any water right or rights attached to the land. Telephone interview with Jeff Fassett, former Wyoming State Engineer and current Vice President of HDR Engineering, Inc. (Apr. 29, 2013). If the municipality were to annex the subdivision, in exchange for the water rights, the municipality would put the subdivision on a centralized water and sewer system, significantly increasing the property’s value. *Id.*

In order to grow, Wyoming must convert land from agricultural to residential use.⁷ Because Wyoming's continued growth is inevitable, both local and state governments must be proactive in guarding the state's finite supply of water in order to best serve its constituents. In addition, the local boards of county commissioners must strictly follow the statutory confines regarding domestic water in subdivisions to ensure that every community needing water will be allocated a sufficient share.

First, this comment covers the extent of the need for continual subdivision development.⁸ Second, this comment discusses the existing law of subdivisions, surface water, and groundwater sources.⁹ Third, this comment weighs the benefits and detriments of using surface water or groundwater as sources for subdivisions.¹⁰ Finally, this comment addresses how a developer would proceed to prove an adequate water supply, the various methods he could implement in doing so, and how local and state governments can take the necessary steps to assure each newly-created community will have a sustainable water supply.¹¹

II. BACKGROUND

A. Population Growth Leading to Exurban Growth

While annual water availability and precipitation from year to year are unknown, there is one thing that is known: population growth is inevitable.¹² The population is growing, and exurban development accommodates growth by allowing migration from dense cities to the outskirts.¹³ The appeal of selling

⁷ See Dan Tarlock & Sarah Bates, *Western Growth and Sustainable Water Use: If There Are No "Natural Limits," Should We Worry About Water Supplies?*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10582, 10582–83 (2008) ("The current growth management debate continues to accept growth as inevitable and seeks only to accommodate it through conservation, reallocation of agricultural supplies, and possibly denser urban development.").

⁸ See *infra* notes 12–23 and accompanying text.

⁹ See *infra* notes 24–146 and accompanying text.

¹⁰ See *infra* notes 147–223 and accompanying text.

¹¹ See *infra* notes 224–94 and accompanying text. This comment analyzes the law and makes recommendations based on the law while keeping in mind economic considerations.

¹² See *Binning v. Miller*, 102 P.2d 54, 62 (Wyo. 1940) ("The water is always different from year to year.").

¹³ From 2000 to 2010, the United States' population increased by 27.3 million people to a total of 308.7 million people. Dr. Wenlin Liu, *Has Wyoming Changed in the Last 10 Years?*, WYO. LAW., February 2012, at 38. Meanwhile, the overall Wyoming population increased from 493,782 people to 563,626 people. *Id.* This total growth amounted to a 14.1% increase, which was the twelfth fastest in the nation from 2000 to 2010. *Id.* Cheyenne, Wyoming had a population forecast of 81,676 in 2011; this included the surrounding suburbs such as Burns, Carpenter, and Pine Bluffs. Cheyenne Area Metropolitan Planning Organization, *Community Plan Snapshot*, PLAN CHEYENNE: REFLECTIONS AND PROGRESS (Mar. 2012), <http://www.plancheyenne.com/sites/default/files/Community%20Plan%20Snapshot%20-%20March%202012%20Revised.pdf>. In 2060, the population is projected to reach 135,829. *Id.*

exurban land is increasing as farmers realize that the profits from selling their land are greater than their meager annual agricultural income.¹⁴ The aggregate net Wyoming agricultural proprietor income reached a peak of \$200 million in 1993.¹⁵ Since 1993, the average net agricultural income has dropped below 40 million dollars per year through 2006, with net negative incomes in 2002 and 2006.¹⁶ One scholar estimates “residential growth in Wyoming from 1990 to 2020 could consist of 80% exurban development.”¹⁷ Many Wyoming citizens disfavor dense development and would prefer to live in rural lands.¹⁸ If the trends in Wyoming continue, “by the year 2020, 80 percent of new development in Wyoming will be on lots of 10 to 40 acres in size for each housing unit.”¹⁹ Although subdivision development has temporarily slowed because of the recent recession, building will likely increase as the population grows and the economy recovers.²⁰

There are many water issues associated with the creation of exurban subdivisions located outside municipal boundaries.²¹ The principal water-related issue is how to ensure a sustainable supply of domestic water for an exurban subdivision.²² Generally, two sources exist to supply domestic water to an exurban subdivision: surface water and groundwater.²³

¹⁴ See Popp, *supra* note 2, at 372–73.

¹⁵ Hulme et al., *supra* note 3, at 11.

¹⁶ Popp, *supra* note 2, at 377.

¹⁷ *Id.* at 8.

¹⁸ *Id.* at 2.

¹⁹ *Id.* at xi.

²⁰ Liu, *supra* note 13, at 41 (noting that Wyoming’s home ownership rate decreased from seventy percent in 2000 to 69.2 percent in 2010, which is still the sixteenth highest in the nation); see Jon Talton, *Slow Population Growth is the Post-Recession Rule*, THE SEATTLE TIMES, (Dec. 30, 2013), <http://blogs.seattletimes.com/jontalton/2013/12/30/slow-population-growth-is-the-post-recession-rule/> (discussing how the recent recession has curbed growth).

²¹ See *supra* note 6 and accompanying text.

²² To understand how much water would be needed, each household uses approximately one-half acre-foot for a surface water supply calculation, or alternatively, the average person uses 158 gallons per day; neither of these calculations takes into account the most water intensive use—outdoor use. An acre-foot is the amount of water necessary to cover one acre of land to a depth of one foot—approximately 325,851 gallons. *Basin Elec. Power Co-op. v. State Bd. of Control*, 578 P.2d 557, 568 n.12 (Wyo. 1978) (citing Frank Trelease, *WATER LAW*, at 21 (2d ed. 1974)); *Living on a Few Acres: A landowners guide for developing small acreages in Natrona County*, NATRONA COUNTY CONSERVATION DISTRICT AND THE UNIVERSITY OF WYOMING COOPERATIVE EXTENSION UNIT, 2001, at 6 (discussing the number of gallons used the average person used per day).

²³ See generally J. David Aiken, *The Western Common Law of Tributary Groundwater: Implications for Nebraska*, 83 NEB. L. REV. 541 (2004) (arguing Nebraska law needs to incorporate the laws of groundwater and surface waters into a single set of statutes).

B. Existing Subdivision Law

1. Subdivision Definition

Wyoming has several comprehensive statutes regarding the development of subdivisions but relatively little case law.²⁴ Before analyzing the statutes regulating subdivision water supplies, a definition of “subdivision” is necessary to understand when those statutes apply. The Wyoming Legislature has defined “subdivision” as follows: “the creation or division of a lot, tract, parcel or other unit of land for the immediate or future purpose of sale, building development or redevelopment, for residential, recreational, industrial, commercial or public uses.”²⁵ Each board of county commissioners is authorized to regulate and control subdivisions in unincorporated areas in each county.²⁶ To create a subdivision, a developer must submit various documents to the board of county commissioners, including “[a] study evaluating the water supply system proposed for the subdivision and the adequacy and safety of the system.”²⁷ The study’s results must describe the type of water supply system—a centralized system or individual, on-lot wells—that will serve the subdivision.²⁸

Further, the developer must submit a report signifying the adequacy and safety of the proposed water supply system.²⁹ A developer establishing a centralized water supply system must submit, at a minimum: (1) the total estimated number of gallons consumed per day; (2) the water rights, both surface and groundwater, that are to be affected; and (3) plans to mitigate the water rights conflicts arising from the system, if the study identifies any.³⁰ The statute also provides specific

²⁴ WYO. STAT. ANN. §§ 18-5-301 to 318 (2013). This suggests the relatively new phenomenon of subdivision rural sprawl in conjunction with either the current adequacy of the water supply or, more likely, the time lapse necessary to deplete all of the available water supplies has not yet occurred. In *Northfolk Citizens for Responsible Development. v. Board. of County. Commissioners of Park County*, the Wyoming Supreme Court held that there was substantial evidence for the Park County Board of Country Commissioners to find an adequate water supply for a developer to construct a subdivision. 2010 WY 41, ¶ 42, 228 P.3d 838, 853 (Wyo. 2010). In a letter from the Wyoming Department of Environmental Quality (DEQ) to the State Engineer’s Office, the DEQ wrote: “As was the case with the first submittal for this subdivision proposal, existing water rights as outlined under Wyoming Statute [§] 18-5-306(a)(xi) have yet to be addressed.” *Id.* at ¶ 38, 228 P.3d at 852.

²⁵ WYO. STAT. ANN. § 18-5-302(a)(vii) (2013).

²⁶ WYO. STAT. ANN. § 18-5-301 (2013). Again, if the property is within an incorporated area, it is inside municipality jurisdiction. See generally WYO. STAT. ANN. § 15-1-103 (2013) (allowing cities and towns to regulate conduct within their corporate limits).

²⁷ WYO. STAT. ANN. § 18-5-306(a)(vi) (2013).

²⁸ § 18-5-306(a)(vi)(A).

²⁹ § 18-5-306(a)(vi)(B)–(C).

³⁰ § 18-5-306(a)(vi)(C).

requirements for evaluating the water supply of a centralized system, and the requirements a developer must meet before receiving approval for a subdivision.³¹

The requirements for individual, on-lot wells are similar to those for a centralized water system.³² When a developer plans to supply water using individual, on-lot wells, the developer must demonstrate to the board of county commissioners: (1) the total estimated number of gallons consumed per well per day; (2) the available quantity and quality of the groundwater, including nearby working wells and drilling logs consisting of “soil types, depth, quantity and quality of water produced from the test well;” (3) surface and groundwater rights to be affected; and (4) plans to mitigate any conflicts with present water rights.³³

Typically, the State Engineer’s Office governs the waters within the borders of Wyoming.³⁴ The State Engineer’s Office will not, however, determine the physical adequacy of the proposed available water supplies.³⁵ Rather, the Department of Environmental Quality (DEQ) must determine the adequacy and the safety of the proposed sewage and water systems.³⁶ The DEQ will issue an adverse or non-adverse recommendation for both the sewage and water systems.³⁷ If the DEQ issues a non-adverse recommendation, the board of county commissioners can accept or reject it.³⁸ The board of county commissioners may deny a subdivision permit over concerns of water quantity or quality even if the DEQ made a non-

³¹ See § 18-5-306(a)(vi)(B)(VI) (2013) (requiring the report to demonstrate the sufficiency in quality, quantity, and sustainability of the water source for the subdivision, including: (1) where groundwater is the source of water, the “geologic setting of the water supply system source,” affects on nearby communities, sources of pollution, surface water sources, and known aquifers; (2) the quantity, quality and source of the water to be used; (3) the proposed water disposal method of water not consumed; (4) all of the potential sources of water including seasonal sources; (5) a graphic location of all water supply and treatment sources and facilities; (6) available surface and groundwater; (7) past stream flows and well levels; (8) senior water rights; (9) flood damage and protection; (10) mitigation and assurance of sustainable water supply in the event of a shortage).

³² Compare § 18-5-306(a)(vi)(B), with § 18-5-306(a)(vi)(C).

³³ § 18-5-306(a)(vi)(C).

³⁴ See *About the State Engineer’s Office*, WYOMING STATE ENGINEER’S OFFICE, <http://seo.wyo.gov/home/about> (last visited on April 3, 2014) (“The Wyoming State Engineer’s Office is charged with the regulation and administration of the water resources in Wyoming.”).

³⁵ See Patrick T. Tyrrell, State Engineer’s Office of Wyoming, *Subdivision Water Right Issues*, May 5, 2000, at 2 (on file with author).

³⁶ *Id.* at 1–2; see also § 18-5-306(c) (2013).

³⁷ See LOU HARMON, WYOMING SUBDIVISIONS IN UNINCORPORATED AREAS, at 6 (on file with author). For a flowchart showing the process, see *Waste and Wastewater Program: Water Subdivision Program*, WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY, <http://deq.state.wy.us/wqd/www/Docs/Subdivision%20Flow%20Chart.pdf> (last visited on April 11, 2014). Although the DEQ has not defined “adverse” recommendation, for purposes of this comment, an “adverse” recommendation means the DEQ has found that the proposed water supply is inadequate or unsafe.

³⁸ HARMON, *supra* note 37, at 10 (stating “The County Commissioners have Control!”).

adverse recommendation.³⁹ Similarly, the board of county commissioners has discretion to reject the DEQ's adverse recommendation and allow the subdivision to be developed.⁴⁰ If the local board of county commissioners rejects the DEQ's adverse recommendation, the DEQ is allowed sixty days to provide alternative recommendations.⁴¹ The Legislature anticipated the problems arising from this approval process.⁴² It adopted a statute requiring the developer to "furnish to all potential purchasers a copy of the [DEQ's] recommendation prior to sale" if the board of county commissioners approved the permit over the DEQ's adverse recommendation.⁴³

In sum, the developer submits an application to the local board of county commissioners and the DEQ with a report of the proposed water and sewer systems.⁴⁴ The DEQ then makes an adverse or non-adverse recommendation based solely upon the scientific information provided in the developer's application.⁴⁵ Next, the State Engineer's Office provides comments about the application.⁴⁶ Then, the ultimate decision rests with the board of county commissioners to either approve or deny the application.⁴⁷

2. Procedure for Attaching or Detaching Existing Water Rights

In subdivision construction, developers are trying to limit upfront capital costs in order to increase profitability.⁴⁸ Usually the cheapest method to obtain water for the development would be utilizing the surface water or groundwater irrigation well rights that are already attached to the lands to be subdivided.⁴⁹ When applied to a beneficial use, existing water rights are appurtenant to the

³⁹ *Id.*

⁴⁰ *See id.* (discussing the board of county commissioners ability to reject DEQ's recommendation); *see also id.* at 8–9 (presenting an overview of the Department of Environmental Quality's review process); Fassett, *supra* note 6 (claiming that certain communities are pro-development, so the local government chooses growth over DEQ's recommendation).

⁴¹ *Waste and Wastewater Program: Water Subdivision Program, supra* note 37, at 10.

⁴² WYO. STAT. ANN. § 18-5-308(c) (2013).

⁴³ *Id.*

⁴⁴ *Waste and Wastewater Program: Water Subdivision Program, supra* note 37, at 8–9. A Wyoming licensed engineer must complete the report. *Id.*

⁴⁵ *See id.*

⁴⁶ *See id.* at 9. This is the only time during the subdivision application process that the State Engineer's Office gets involved.

⁴⁷ *See id.* at 1; *see also* WYO. STAT. ANN. § 18-5-301 (2013).

⁴⁸ *See* Aswath Damodaran, *Applied Corporate Finance: A User's Manual* 5.3 (3d ed. 2010) (stating "[t]he decision rules that analyze revenue-generating projects attempt to evaluate whether the earnings or cash flows from the projects justify the investment needed to implement them").

⁴⁹ *See* King v. White, 499 P.2d 585, 588 (Wyo. 1972) ("A water right is a 'property right of high order,' . . . and it is real property.").

land and are conveyed with the deed unless the deed expressly says otherwise.⁵⁰ Through attachment, the developer could use all or part of the water rights in demonstrating an adequate water supply to the board of county commissioners.⁵¹ If there are no water rights appurtenant to the subdivided lands, the developer must obtain a confirmation from the State Engineer's Office, which is then submitted to the board of county commissioners.⁵²

If water rights are appurtenant to the land, a developer must go through one or more of the following procedures depending on the developer's intentions regarding those rights.⁵³ First, a developer may relinquish and detach part or all of the water rights by submitting documentation to the Board of Control.⁵⁴ If the water right is adjudicated, the developer shall submit a petition for voluntary abandonment.⁵⁵ On the other hand, if the right is not adjudicated, the developer shall submit a request to the State Engineer for the cancellation of the permit.⁵⁶

The second procedure available for the developer is to change the permit to authorize domestic use; this procedure is used when the developer wants to maintain and utilize the attached water rights.⁵⁷ Generally, a farmer's beneficial use is limited under the original permit or adjudicated right to agricultural purposes.⁵⁸

⁵⁰ *White v. Bd. of Land Comm'rs*, 595 P.2d 76, 81 (1979); *Frank v. Hicks*, 35 P. 475, 484 (Wyo. 1894). Appurtenant means that the right is attached to the land with which it is being used and not to the person holding the right. 78 AM. JUR. 2D *Waters* § 7 (claiming that “[a] water right is generally appurtenant to and severable from the land on or in connection with which the water is used, and such water right passes as an appurtenance with a conveyance of the land by deed, lease, mortgage, will, or other voluntary disposal or by inheritance.”).

⁵¹ See *supra* notes 29–33 and accompanying text.

⁵² See *supra* notes 29–33 and accompanying text.

⁵³ 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012) (State Engineer's Office Rules and Regulations).

⁵⁴ *Id.* The Board of Control consists of the state engineer and the four superintendents. WYO. CONST. art. 8, § 2. The Board of Control ultimately has the rights to determine water rights and to develop regulations governing water rights. See *id.* Detaching a water right means to remove it from the land to which it is appurtenant. See *Basin Elec. Coop. v. State Bd. of Control*, 578 P.2d 557, 562 n.7 (Wyo. 1978) (quoting the 1909 Legislature when stating, “[w]ater rights cannot be detached from the lands, place or purposes for which they are acquired, without loss of priority”).

⁵⁵ 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012). To adjudicate a water right means that the Board of Control has determined “that water has been or is being beneficially applied to the land to the extent and by the means set in the permit.” *Adjudicate*, WYOMING STATE ENGINEER'S OFFICE, <http://seo.wyo.gov/adjudication> (last visited May 4, 2014). Once a water right is adjudicated the priority date is finalized and a Certificate of Appropriation is issued and must be filed in the local county clerk's office. *Id.*

⁵⁶ 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012).

⁵⁷ *Id.*

⁵⁸ See WYO. STAT. ANN. § 41-3-101 (2013) (“Water being always the property of the state, rights to its use shall attach to the land for irrigation, or to such other purposes or object for which acquired in accordance with the beneficial use made . . .”).

When a farmer sells his land to a developer, the beneficial use would change from agricultural use to domestic use.⁵⁹ Thus, the developer would need to petition the Board of Control for a change of use to dedicate the water supply to a new use.⁶⁰ The petition must “set forth all pertinent facts about the existing use and the proposed change in use.”⁶¹ A change in use permit may be granted if the quantity of water diverted does not: (1) exceed the amount of water historically diverted under the preexisting use, (2) exceed the historic rate of diversion, (3) increase the consumptive amount, (4) decrease the historic amount of return flow, or (5) injure lawful appropriators.⁶² The statute also allows the Board of Control broad discretion in considering “all facts it believes pertinent.”⁶³

In addition to detaching the water rights or going through a change of use, the developer may also get approval from the State Engineer to maintain any appurtenant water rights by submitting a Water Distribution Plan.⁶⁴ A professional engineer or a professional land surveyor must certify the plan.⁶⁵ The Water Distribution Plan must include a description of all existing water rights attached to the subdivided lands.⁶⁶ The plan must also describe the means of conveyance from the water source to the proposed subdivision land and the method of delivery.⁶⁷ Finally, the plan must also set forth the acreage of each lot to which the water right remains appurtenant, and include a map.⁶⁸

The final option for a developer is to detach the water rights for a period of five years.⁶⁹ This requires the developer to submit a Water Distribution Plan

⁵⁹ *Id.* (“Beneficial use shall be the basis, the measure and limit of the right to use water at all times, not exceeding the statutory limit demonstrating that beneficial use is the basis, measure, and limit of a water right. . .”).

⁶⁰ WYO. STAT. ANN. § 41-3-104(a) (2013); 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012) (regarding the petition for a change of use). The petition for a change of use must be accompanied by a map certified by a professional engineer or professional land surveyor licensed to practice in Wyoming. *Id.* The developer could also limit the surface water to outdoor use only via a covenant and avoid the change of use process. *See infra* notes 253–66 and accompanying text. Thus, under the already attached surface water right, landowners could use the water right strictly outdoors, thereby avoiding the change of use process.

⁶¹ § 41-3-104(a).

⁶² *Id.*

⁶³ Among the factors that the Board of Control may consider, the statute explicitly includes in the factors of the economic loss if the right under the preexisting use is transferred, the extent to which that economic loss is offset by the new use, and whether other sources exist to provide water for the proposed use. *Id.* at (a)(i), (a)(ii), and (a)(iii).

⁶⁴ 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012).

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

with an Authorization to Detach Water Rights.⁷⁰ During development, this allows a developer to avoid statutory forfeiture by retaining the water rights without having to put the water to a beneficial use.⁷¹ During this five-year period, the developer can petition the State Engineer to allow another user to utilize the developer's water elsewhere.⁷² The developer voluntarily abandons the water rights by failing to file a petition for a change of use, or change in place of use, within five years of the accepted Authorization to Detach Water Rights.⁷³ The State Engineer also considers a water right voluntarily abandoned if the developer timely files a petition, but the petition is denied.⁷⁴

C. Existing Water Law

1. Surface Waters

a. In-Stream Direct Flow Rights

As previously discussed, a developer can attach or detach any appurtenant surface water rights to the land by satisfying the Board of Control's procedures.⁷⁵ However, if no water right is attached to the lands for proposed development, then the first method a developer could utilize would be applying for a new surface water direct flow right.⁷⁶ The State Engineer's duty is "to approve all applications made in proper form, which contemplate the application of the water to a beneficial use and where the proposed use does not tend to impair the value of existing rights, or be otherwise detrimental to the public welfare."⁷⁷ If all

⁷⁰ *Id.* The Board of Control's review is contingent upon the developer's petition to place the water rights on the proposed subdivision lands if an approved Water Distribution Plan supplements the petition. *Id.*

⁷¹ See WYO. STAT. ANN. § 41-3-401(a) (2013) (statutory forfeiture occurs where the holder of an adjudicated or unadjudicated water right fails to put water to a beneficial use for a period of five successive years; consequently, "he is considered as having abandoned the water right and shall forfeit all water rights and privileges appurtenant thereto").

⁷² 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012).

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ See *supra* notes 48-74 and accompanying text.

⁷⁶ WYO. STAT. ANN. § 41-4-501 (2013). This assumes that there is surface water available for appropriation. The application must include the applicant's name and mailing address, the water supply source, the nature of the beneficial use, the location of the ditch or canal, when construction will commence, when construction will be completed, and the length of time to put the water to a beneficial use. § 41-4-501(a). The State Engineer then reviews the application. WYO. STAT. ANN. § 41-4-502 (2013). The State Engineer can accept the application or send it back to the developer for correction. *Id.* If correction is required, the the developer then has ninety days to comply. *Id.*

⁷⁷ WYO. STAT. ANN. § 41-4-503 (2013). While the term "impair existing water rights" is not statutorily defined, the Supreme Court vaguely explained it as "only those situations in which no existing water rights, appropriations or priorities are impaired, would be inconsistent, impractical,

of the water in the proposed source of supply is already appropriated, or if the use will conflict with existing rights, then the State Engineer has a duty to reject the application or refuse to issue the permit.⁷⁸ It is difficult to secure new surface water appropriations given the limited amount of unappropriated water available throughout Wyoming.⁷⁹ Nevertheless, in the event of approval, the permit is recorded and the applicant—here, the developer—can proceed to construct the “necessary works” and take all the steps required to apply the water to a beneficial use in order to perfect the proposed appropriation.⁸⁰ When the developer builds all of the “necessary works” and water is applied to a beneficial use, the developer will receive a certificate of appropriation.⁸¹

Second, a developer could also seek a statutory change of use of any existing water rights.⁸² Under the change of use statute, the developer petitions the Board of Control for permission to make such a change.⁸³ The amount of water permitted under the change of use cannot exceed the historic consumptive use, historic rate of diversion, or historic amount of return flow.⁸⁴ The “no-injury” requirement further limits the amount of water under a change of use.⁸⁵ The “no-injury” rule

and would have the effect of charging the legislature with the passage of a useless act.” *Associated Enter., Inc. v. Toltec Watershed Imp. Dist.*, 578 P.2d 1359, 1363 (Wyo. 1978). “Beneficial use” is “elementary of Wyoming water law”; it is the basis, measure, and limit of a water right. *Belle Fourche Pipeline Co. v. Elmore Livestock Co.*, 669 P.2d 505, 511 (Wyo. 1983). The Wyoming Supreme Court, however, has yet to define “beneficial use,” particularly because of the society’s changing dynamics. *See John Meier & Son, Inc. v. Horse Creek Conservation Dist. of Goshen Cnty.*, 603 P.2d 1283, 1288 (Wyo. 1979) (stating that “[b]eneficial use is dependent upon the particular circumstance”); *see also infra* note 113.

⁷⁸ § 41-4-503.

⁷⁹ *See* James J. Jacobs & Donald J. Brosz, *Wyoming’s Water Resources*, COOPERATIVE EXTENSION SERVICE 1, 1–2, available at <http://library.wrds.uwyo.edu/wrp/93-12/93-12.pdf> (noting the amount of available water in each major water source); *see also Associated Enter.*, 578 P.2d at 1363 (“The rivers and streams of Wyoming are so completely appropriated that it is now virtually impossible to undertake construction of a reservoir without in some manner affecting an existing water right.”).

⁸⁰ WYO. STAT. ANN. § 41-4-504 (2013).

⁸¹ WYO. STAT. ANN. § 41-4-511 (2013). Under the “relation back” doctrine, as long as the developer works diligently to perfect his right, the priority date of the appropriation is at the date the permit application was filed—not when the project was finally completed. *See* WYO. STAT. ANN. § 41-4-512 (2013). The time from permit to applying the water to beneficial use is limited to five years unless an extension is granted. *See* WYO. STAT. ANN. § 41-4-506 (2013).

⁸² *See* WYO. STAT. ANN. § 41-3-104(a) (2013). The statutory change of use requirements are separate from those required for attaching or detaching of water rights appurtenant to the land in new subdivisions. *See supra* notes 57–63 and accompanying text.

⁸³ § 41-3-104(a).

⁸⁴ *Id.*; *see also supra* note 62 and accompanying text. Generally, “any act that increases the quantity of water taken from and not returned to the source of supply constitutes an increase in historic consumptive use.” David P. Jones, *Meeting Idaho’s Water Needs Through the Water Right Transfer Process: A Call for Legislative Reform*, 38 IDAHO L. REV. 213, 241 (2001).

⁸⁵ § 41-3-104(a); *see also* *Montana v. Wyoming*, 131 S. Ct. 1765 (2011); *Basin Elec. Power Co-op v. State Bd. of Control*, 578 P.2d 557 (Wyo. 1978).

stands for the proposition that an appropriator may not change a water right if it will injure other appropriators with vested rights.⁸⁶ A farmer only needs to go through the statutory change of use process if he sells only a portion of his lands, as the purpose of the water right changes from agricultural use to domestic use; otherwise the subdivision development requirements would need to be met.⁸⁷

If an adjudicated water right is appurtenant to the land and the developer decides to attach the water right to the land, the water right may still be insufficient to show an adequate supply of water to acquire a land subdivision permit.⁸⁸ First, the amount of water available for surface water diversion is generally limited to one cubic foot per seventy acres.⁸⁹ Second, sometimes appropriation rights limit the time of use.⁹⁰ For example, if the diversion is for agricultural purposes, it is limited to the growing season of the crop for which the water right was sought.⁹¹ A surface water diversion used strictly for agriculture would not be able to satisfy a year-round need.⁹² Third, the system of conveyance may be inadequate to deliver water throughout the development.⁹³ Even if the ditches to divert the water were adequate to get the water to each parcel of land, the developer would still need to seek a source to supplement the water supply in order for the developer to meet the statutory requirements.⁹⁴

⁸⁶ See Jones, *supra* note 84, at 228 (“The clear purpose of the rule is to protect the rights of junior appropriators, who because of the order of priority, are vulnerable when senior rights are changed.”).

⁸⁷ Compare § 41-3-104(a) with 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012).

⁸⁸ See *supra* notes 48–74 and accompanying text.

⁸⁹ WYO. STAT. ANN. § 41-4-936 (2013). However, if surplus water or excess water exists, the amount may be bumped up to an additional one cubic feet per seventy acres. WYO. STAT. ANN. § 41-4-322 (2013). Surplus water is the quantity of water “in excess of the total amount required to furnish to all existing appropriations from said stream system the maximum amount of water for which all said appropriations have been granted.” WYO. STAT. ANN. § 41-4-318 (2013); see also WYO. STAT. ANN. § 41-4-329 (2013) (defining excess water). The key difference between surplus water and excess water is that surplus water applies to any permitted or adjudicated water right prior to March 1, 1945, and excess water is any permitted or adjudicated water right after March 1, 1945, and before March 1, 1985. Compare § 41-4-318 (defining surplus water), with § 41-4-329 (defining excess water).

⁹⁰ See *Nichols v. Hufford*, 133 P. 1084, 1088 (Wyo. 1913) (stating “the appropriation must be limited to the amount reasonably required for the proper and successful cultivation of the land or other use to which the water is applied”).

⁹¹ *Id.*

⁹² See *id.*

⁹³ See Michael Toll, *Reimagining Western Water Law: Time-Limited Water Right Permits Based on A Comprehensive Beneficial Use Doctrine*, 82 U. COLO. L. REV. 595, 610 (2011) (“Flood irrigation is a commonly use method of watering agricultural fields. . . . [T]remendous inefficiency results from flood irrigation . . .”).

⁹⁴ See *Wheatland Irrigation Dist. v. Two Bar-Muleshoe Water Co.*, 521 P.2d 1334, 1336 (Wyo. 1974) (claiming water for the “irrigation season” in a lease meant the “period of time during each growing season in which water was needed for beneficial use of the type of crops grown”).

Further, surface water as a general source may be inadequate if the lands to be developed are too far away from the water source.⁹⁵ Consequently, many exurban lands have turned to groundwater as the primary source of water supply.⁹⁶ For example, most of the streams and waters near Cheyenne, Wyoming are over-appropriated and practically dry by the time the streams reach eastern Laramie County, where most of these exurban subdivisions are being created.⁹⁷ The preferred use gives preference to, first and foremost, water for “drinking purposes for both man and beast.”⁹⁸ Then, in descending order, preference is given to municipal purposes, water for steam engines, culinary, laundry, bathing, refrigerating, and steam power plants, and finally industrial purposes.⁹⁹

b. Reservoir or Storage Rights

Reservoirs are a second possible source of surface water.¹⁰⁰ A reservoir could be constructed to supply water to exurban developments, but construction of a reservoir may not be possible due to a lack of priority, economic feasibility, and potential liability.¹⁰¹ If a reservoir already exists, an appropriator could also sell his reservoir water rights to a nearby subdivision.¹⁰² Alternatively, there may be

⁹⁵ Interview with Buck Holmes, Vice Chairman, Laramie County Board of Commissioners, in Cheyenne, Wyoming (April 22, 2013). Many Wyoming exurban lots may be close to, and have a use for surface water, as Mr. Holmes’ reference was specific to Laramie County. In those instances, the water supply dynamics may change significantly. *See* *Northfolk Citizens for Responsible Dev. v. Bd. of Cnty. Comm’rs of Park Cnty.*, 2010 WY 41, ¶ 36, 228 P.3d 838, 851 (Wyo. 2010) (noting surface water was the primary available source of water supply).

⁹⁶ Holmes, *supra* note 95; *see infra* notes 116–34 and accompanying text (discussing groundwater law).

⁹⁷ Crow Creek is the main tributary flowing through Cheyenne, Wyoming. The City of Cheyenne has an appropriation right of 12,481 cubic feet per second out of Crow Creek, so the creek is overappropriated. *Holt v. City of Cheyenne*, 137 P. 876, 878 (Wyo. 1914). This issue is by no means limited to Laramie County, Wyoming. *See generally* Jacobs & Brosz, *supra* note 79 and accompanying text.

⁹⁸ WYO. STAT. ANN. § 41-3-102(b) (2013).

⁹⁹ *Id.* Section 41-3-907 of the Wyoming Statutes bolsters the preference statute by stating that domestic and stock watering shall have preferred rights over all other rights regardless of their priorities. WYO. STAT. ANN. § 41-3-907 (2013).

¹⁰⁰ *See, e.g.*, State Engineer’s Office, *About the Surface Water Division* <http://seo.wyo.gov/surface-water> (last visited Apr. 11, 2014) (describing the permitting process of surface water to include storage in reservoirs).

¹⁰¹ *See* WYO. STAT. ANN. §§ 41-3-301 to -329 (2013) (regarding permitting for a reservoir and other general requirements); *see also* *Laramie Rivers Co. v. Wheatland Irr. Dist.*, 708 P.2d 20, 35 (Wyo. 1985) (“An appropriator has a duty to maintain its reservoir or diversion facilities in a condition which allows it to use the water available under its appropriation. Failure to do so constitutes a failure to use water for the beneficial purposes for which it was appropriated and can result in the forfeiture of the water right . . .”).

¹⁰² *See* § 41-3-323 (allowing a reservoir water right to “be sold, leased, transferred and used in such manner and upon such lands as the owner of such rights or partial rights may desire, provided, that such water must be used for beneficial purposes”).

reservoirs, such as a Bureau of Reclamation project or a private reservoir, with unused water near the subdivision.¹⁰³

The Bureau of Reclamation is the largest water wholesaler in the country, supplying water to a total of thirty-one million people.¹⁰⁴ Originally, Bureau of Reclamation projects supplied water to small-scale farms in remote areas, where obtaining water was impossible due to the remote location and excessive cost of delivery.¹⁰⁵ Because Bureau of Reclamation projects were intended for small-scale farms, the projects were not intended to be a municipal water supply.¹⁰⁶ However, the Bureau of Reclamation can qualify and designate its projects to provide municipal water.¹⁰⁷ Relatively few Reclamation projects allow for municipal water supply in Wyoming, but Glendo Reservoir and Keyhole Reservoir are the exceptions.¹⁰⁸

¹⁰³ See *State v. Laramie Rivers Co.*, 136 P.2d 487, 497–99 (Wyo. 1943) (allowing common carriers to contract for the sale of water including Reclamation projects); see also § 41-3-325 (allowing for the sale of private reservoir water).

¹⁰⁴ *Bureau of Reclamation—Summary of Projects*, DEP'T OF THE INTERIOR, RECOVERY INVS., <http://recovery.doi.gov/press/bureaus/bureau-of-reclamation/summary-of-projects/> (last visited May 4, 2014).

¹⁰⁵ See Martin J. Jackley, Comment, *Reclamation Law and the Belle Fourche Irrigation District: A Desperate Fight for A Way of Life in Times of Change*, 40 S.D. L. REV. 478, 483 (1995) (“The Reclamation Act of 1902 had specifically provided, ‘No right to the use of water for land in private ownership shall be sold for a tract exceeding one hundred and sixty acres to any one land owner’” (citation omitted)).

¹⁰⁶ See *Mission of the Bureau of Reclamation*, NPS.GOV, http://www.nps.gov/nr/travel/ReclamationDamsAndWaterProjects/Mission_of_the_Bureau_of_Reclamation.html (last visited May 5, 2014).

¹⁰⁷ See *Facilities in the State: Wyoming*, U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, <http://www.usbr.gov/projects/FacilitiesByState.jsp?StateID=WY> (last visited May 4, 2014).

¹⁰⁸ See *id.* The construction of Glendo reservoir began in December of 1954 and was completed in 1958. *Glendo Unit*, U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, http://www.usbr.gov/projects/Project.jsp?proj_Name=Glendo%20Unit (last visited May 4, 2014). Glendo can furnish up to 40,000 acre-feet annually to Wyoming and Nebraska irrigation users along the Platte River. *Id.* Glendo also provides electrical power to Wyoming, Colorado, and Nebraska residents. *Id.* Finally, Glendo provides “flood control, fish and wildlife enhancement, recreation, sediment retention, pollution abatement, and improvement of the quality of municipal and industrial water supply in the North Platte River Valley.” *Id.*

Wyoming and South Dakota entered into a compact in 1944 allocating the water of the Belle Fourche River (90% to South Dakota and 10% to Wyoming). *Keyhole Unit*, U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, www.usbr.gov/projects/Project.jsp?proj_Name=Keyhole%20Unit (last visited May 4, 2014). The compact gave Wyoming the unrestricted use of Belle Fourche River for domestic and stock use. *Id.* Keyhole Reservoir is a supplemental water source to the Belle Fourche Project, which is 146 miles downstream in South Dakota. *Id.* The construction of Keyhole Reservoir began on June 29, 1950, and Keyhole Reservoir was completed on October 25, 1952. *Id.* Keyhole Reservoir also provides water for irrigation, recreation, and flood control. *Id.*

Another method for a developer to obtain storage water is by contracting with a private party for rights to a private reservoir that has available water.¹⁰⁹ Construction of a reservoir requires a primary permit from the State Engineer's Office to build the reservoir, and a secondary permit from the State Engineer's Office to appropriate the reservoir waters and put them to a beneficial use.¹¹⁰ The primary permit is expressly conditioned on the secondary permit, as the secondary permit puts the water to beneficial use.¹¹¹ Moreover, as a contract for private reservoir water, the right is not conditioned on being used for agricultural purposes, so the water is available as a year-round supply.¹¹² The sole limitation requires the water to be applied to a beneficial use; domestic use satisfies this limitation given its preferred use priority.¹¹³

Additionally, it is possible that lands a developer purchased have a water permit for storage water already attached. In *Condict v. Ryan*, the Wyoming Supreme Court stated that when a permit is granted for the construction of a reservoir on the basis that the "impounded water" is to be used upon specific lands, the right created therein "is not a mere personal right, but is a right running with the land and it passes with a conveyance of the land even in the absence of special mention."¹¹⁴ Therefore, reservoir water may be attached to the land if the construction of the reservoir was conditioned on the reservoir water being put to a beneficial use on certain tracts of land, thus requiring the process of either attachment or detachment.¹¹⁵

2. Groundwater

a. The Growth of Groundwater Wells

In Wyoming, ninety-five percent of the rural population depend on groundwater to meet their domestic water needs.¹¹⁶ In 2004, Laramie County,

¹⁰⁹ See *Anderson v. Wyoming Development Co.*, 154 P.2d 318, 345 (Wyo. 1944) ("Even at present the owner of a reservoir has a right, as we have seen, to contract with others in interest as to the use of storage water . . ."); see also WYO. STAT. ANN. § 18-5-306(a)(vi)(B)(V)(1) (2013) (providing that the developer of a subdivision must submit "[d]ocumentation that public or private water suppliers can and will supply water to the proposed subdivision, stating the amount of water available for use within the subdivision and the feasibility of extending service to that area").

¹¹⁰ See *Condict v. Ryan*, 333 P.2d 684, 688 (Wyo. 1958).

¹¹¹ *Id.*

¹¹² See *State v. Laramie Rivers Co.*, 136 P.2d 487, 498 (Wyo. 1943) ("Not being an independent appropriator from a stream, his rights are limited by his contract with the canal company as well as by the provisions of law.").

¹¹³ See *In re General Adjudication of All Rights to Use Water in Big Horn River Sys.*, 835 P.2d 273, 279 (Wyo. 1992) ("Beneficial use" is, however, an evolving concept and can be expanded to reflect changes in society's recognition of the value of new uses of our resources."); see also *supra* notes 98–99 and accompanying text.

¹¹⁴ *Condict*, 333 P.2d at 689.

¹¹⁵ See *supra* notes 48–74 and accompanying text.

¹¹⁶ Hulme et al., *supra* note 3, at 23.

Wyoming had more than 12,000 permits issued for groundwater wells.¹¹⁷ The two types of groundwater wells are irrigation wells and domestic/stock wells.¹¹⁸ Irrigation wells are classified as a well pumping fifty gallons per minute or more.¹¹⁹ The irrigation well total for Laramie County was 220 in 1964 with the total growing to 992 in 2004.¹²⁰ The majority of the irrigation wells are on the eastern side of the county.¹²¹ In 2004, the majority of the domestic wells were within the greater Cheyenne, Wyoming metropolitan area.¹²² Recent trends in domestic groundwater well permits demonstrate a movement to rural subdivisions.¹²³

b. Groundwater Permitting and Availability

Groundwater is a potentially feasible water supply for exurban subdivisions.¹²⁴ The process for acquiring a groundwater right is similar to surface water appropriations.¹²⁵ The groundwater priority system does not necessarily grant a priority right senior to other rights, but merely grants a right to use the water.¹²⁶ The right also does not guarantee a level of water or artesian pressure if it is an artesian well.¹²⁷ Lastly, the right to use water vests when the well is completed.¹²⁸

¹¹⁷ JR ENGINEERING, WATER RESOURCE ATLAS OF LARAMIE COUNTY WYOMING 5-1 (2008), available at http://library.wrds.uwyo.edu/wwdcrept/Laramie_County/Laramie_County-Water_Resource_Atlas-2008.pdf. Although this data is somewhat out-of-date, it does show the greater trend towards groundwater use, as the years of 1900 to 1925, saw a total of 625 groundwater wells, 710 wells in 1926 to 1950, 2,133 wells in 1951 to 1975, and up to 7,613 wells in 1976 to 2004. *Id.* at 5-2, 5-3, 5-4. The number of permits spiked in the 1970s due to the 1969 Act requiring registration for all new wells. *Id.* at 5-1.

¹¹⁸ See WYO. STAT. ANN. § 41-3-907 (2013).

¹¹⁹ JR ENGINEERING, *supra* note 117, at 5-5.

¹²⁰ *Id.* at 1-1.

¹²¹ *Id.* at 5-5. The population is not as dense on the eastern side, so well-to-well interference becomes less of an issue.

¹²² *Id.* at 5-6.

¹²³ *Id.* at 2-10.

¹²⁴ See *supra* note 23 and accompanying text.

¹²⁵ See WYO. STAT. ANN. § 41-3-930(a) (2013) (laying out the permitting and application process for groundwater).

¹²⁶ WYO. STAT. ANN. § 41-3-933 (2013). Essentially, in low times, a senior well user cannot shut off a junior well user, but the priority system grants a right to the use the water. See WYO. STAT. ANN. § 41-3-936 (2013).

¹²⁷ § 41-3-933. Artesian wells are

artificial wells in which water from the lower stratum rises by its own pressure and flows continuously above the surface of the ground. The word 'artesian' is, however, often used to refer to underground water, which rises above the level on which it ordinarily flows, though not to the surface, if the stratum is pierced by an artificial well.

G.S.G., Annotation, *Right to conduct and use artesian water out of artesian basis*, 31 A.L.R. 906, (1924); see also John H. Davidson, *South Dakota Groundwater Protection Law*, 40 S.D. L. REV. 1, 20 (1995) (defining artesian wells as wells which "occur where groundwater is confined under pressure greater than atmospheric by overlying relatively impermeable strata" (citation omitted))

Groundwater is given the same use preference as surface water rights.¹²⁹ Exurban lots are typically next to the borders of municipalities and municipalities are second in priority for water rights behind water for domestic purposes.¹³⁰ Wyoming's preferred use statute gives significant preference to domestic wells.¹³¹ Thus, if no water is available, then under the preferred use statute, a developer could condemn an irrigation well for subdivision use because water for drinking has priority.¹³² To condemn a water right, a developer must go through a condemnation proceeding, and developers must pay "just compensation."¹³³ The statute goes on to limit the withdrawal in domestic or stock uses to a maximum rate of 0.056 cubic feet per second or twenty-five gallons per minute.¹³⁴

c. *Groundwater Control Areas*

In some places, the Wyoming Legislature has been proactive and anticipated population growth by authorizing the State Engineer to adopt and implement groundwater "control areas."¹³⁵ Groundwater control areas are created when the State Engineer submits a report to the Board of Control, which decides

(internal quotation marks omitted)); Luke W. Harris & Christopher J. Sanchez, *Considerations for Analyzing Colorado Ground Water: A Technical Perspective*, 15 U. DENV. WATER L. REV. 105, 109 (2011) ("If an aquifer is completely saturated, overlain by a confining unit and under pressure, the aquifer is considered a confined aquifer. As a result of the pressure, the water level in a well drilled into a confined aquifer will rise above the top of the aquifer If the water level rises above the ground surface resulting in water flowing out of the well, this is commonly referred to as an artesian flowing well.").

¹²⁸ WYO. STAT. ANN. § 41-3-905 (2013).

¹²⁹ See WYO. STAT. ANN. § 41-3-906 (2013); see also *supra* notes 98–99 and accompanying text. The groundwater use preference is subject to the "change of use" requirements, but has less stringent standards than surface water. See WYO. STAT. ANN. § 41-3-103 (2013); see also *supra* notes 82–87 and accompanying text.

¹³⁰ See *supra* notes 98–99 and accompanying text.

¹³¹ See § 41-3-103; see also *supra* notes 98–99 and accompanying text.

¹³² See § 41-3-103. A developer could condemn a municipal well under the statute, but this would not be feasible due to the high "just compensation" to be paid. U.S. CONST. amend. V; WYO. CONST. art. 1 § 32.

¹³³ § 41-3-906 (discussing just compensation in the context of a change of use proceeding for a preferred use); U.S. CONST. amend. V; WYO. CONST. art. 1 § 32. "Just compensation" for water in a groundwater control area will yield a much higher fair market value than where water is not as scarce, thus a condemnation proceeding would likely be necessary in a groundwater control area. See Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 192 (1996) (stating "that a market system promotes an efficient allocation of water resources. An efficient allocation is one in which water is used to support the highest valued use. In a competitive market this is determined by supply and demand, which determine price. Thus, in a pure market, water prices will be bid up until there is a match between the amount of water purchasers want to buy and the amount of water sellers wish to convey.").

¹³⁴ WYO. STAT. ANN. § 41-3-907 (2013).

¹³⁵ WYO. STAT. ANN. §§ 41-3-912 to -915 (2013).

to designate the area as a “control area.”¹³⁶ The decision to designate “control areas” is based on factors such as whether: (1) the use of the aquifer equals the amount of recharge; (2) the aquifer level is declining or has declined excessively; (3) groundwater user conflicts are occurring or are foreseeable to occur; (4) water is or may be wasted; and (5) other conditions exist requiring regulation to protect the public interest.¹³⁷

When the Board of Control designates a groundwater control area, an advisory board is created, consisting of five landowners or groundwater right holders in the control area.¹³⁸ While the Wyoming statutes are silent on the groundwater control area advisory board’s authority, the State Engineer’s Office has adopted a rule requiring only wells in the groundwater control area pumping twenty-five gallons per minute or more to go through the groundwater control area advisory board prior to approval for a new groundwater well permit.¹³⁹ Currently, there are only three groundwater control areas in Wyoming, and they are located in prime development areas.¹⁴⁰

3. *Waters Located in an Irrigation District*

An anticipated subdivision may face difficulties obtaining water if the new subdivision will be located within an irrigation district.¹⁴¹ In this situation, a developer must include in the subdivision application “a review and recommendations from the irrigation district regarding the attached water rights and irrigation district’s easements.”¹⁴² If the irrigation district’s recommendation and the developer’s plan conflict, the developer’s application for a permit must certify that he has met with the irrigation district and made a good faith effort to try to resolve any conflicts.¹⁴³ Also, if the subdivision is located within lands served or crossed by a ditch or irrigation company, the developer must submit evidence of the subdivision plan to the irrigation company or association, ditch

¹³⁶ § 41-3-912(a).

¹³⁷ *Id.* Recharge occurs when water is added to the saturated zone of an aquifer; this process can occur naturally or artificially. 40 C.F.R. § 149.2(b) (2013).

¹³⁸ § 41-3-913(a).

¹³⁹ See *Groundwater Control Areas and Advisory Boards*, WYO. STATE ENG’R OFFICE, <http://seo.wyo.gov/ground-water/groundwater-control-areas-advisory-boards> (last visited May 4, 2014).

¹⁴⁰ *Groundwater Control Areas and Advisory Boards*, *supra* note 139. The three groundwater control areas are in Laramie County, Platte County, and Prairie Center (near Torrington, Wyoming). *Groundwater Control Areas and Advisory Boards*, *supra* note 139.

¹⁴¹ See WYO. STAT. ANN. § 18-5-306(a)(xi)(D) (2013). An irrigation district is an “artificial person,” created to promote the public welfare, with its authority derived through state statutes. See Harriet M. Hageman, *Irrigation Districts as “Public Corporations”—the Latest Inductee into the Governmental Immunity Club*, WYO. LAW., Oct. 2009, at 16, 17–18 (explaining the Wyoming Supreme Court ruling in *Krenning v. Heart Mountain*, 200 P.3d 774 (Wyo. 2009)).

¹⁴² § 18-5-306(a)(xi)(D).

¹⁴³ *Id.*

company, or appropriator for its review and recommendations for the water rights attached to the land.¹⁴⁴ A developer must provide this evidence at least sixty days before applying for a subdivision permit.¹⁴⁵ The developer must also submit a mitigation plan “[i]f the subdivision will create a significant additional burden or risk of liability to the irrigation district, company, association or remaining appropriators including appropriators on an unorganized ditch”¹⁴⁶

III. ANALYSIS

With the growth of subdivisions and the need for an adequate water supply during a time of declining water supplies, one must look to the available options when deciding the best route.¹⁴⁷ This analysis first covers the issues involved with utilizing surface waters and ground water in exurban subdivisions.¹⁴⁸ Next, the other methods a developer may use to demonstrate an adequate water supply to the board of county commissioners are analyzed, such as creating a plan of augmentation and using restrictive covenants to limit water usage.¹⁴⁹ Finally, this comment ends with a recommendation to the local boards of county commissioners and to the Wyoming Legislature based on the inherent tension between developers and home purchasers.¹⁵⁰

A. *Surface Water Appropriations*

1. *Direct Flow Rights*

Even if a developer secures a surface water right, it may be inadequate because the methods of conveyance are insufficiently constructed to serve homeowners in these new developments.¹⁵¹ The original surface water systems and diversion canals were designed to deliver surface water for agricultural irrigation, including flood irrigation.¹⁵² The systems were not built to deliver water to small, individual acreages.¹⁵³ As a result, only certain lands in the subdivision will receive water unless ditches are constructed to carry the water to all of the other lands not directly adjacent to a ditch.¹⁵⁴ Therefore, although available as a potential source,

¹⁴⁴ § 18-5-306(a)(xi)(B).

¹⁴⁵ *Id.*

¹⁴⁶ § 18-5-306(a)(xi)(E).

¹⁴⁷ *See supra* notes 75–146 and accompanying text.

¹⁴⁸ *See infra* notes 151–223 and accompanying text.

¹⁴⁹ *See infra* note 224–67 and accompanying text.

¹⁵⁰ *See infra* note 268–95 and accompanying text.

¹⁵¹ *See Toll, supra* note 93, at 610–11.

¹⁵² *See id.*

¹⁵³ *See id.*

¹⁵⁴ *See id.*

utilizing surface waters may not necessarily be feasible because only certain tracts of land attached to the ditch canal can use the water without further construction.¹⁵⁵ Additionally, even if the conveyance is suitable for the lots involved, the efforts needed to purify the water to make it consumable may limit the water to outdoor use only.¹⁵⁶

In the event the developer wants to attach surface water rights to the land, the water may be limited to use during the irrigation season.¹⁵⁷ Also, the surface water may only be available if the land has a senior right.¹⁵⁸ If the right is relatively junior to others on the same stream, water may be unavailable from this source during dry years.¹⁵⁹ As an alternative, the developer can apply for a new surface water diversion appropriation.¹⁶⁰ Such an appropriation may provide for year-round use, but water may not be available from July to September, when senior appropriators are diverting their permitted amount for irrigation purposes.¹⁶¹

A surface water appropriation is costly to construct in order to deliver water to small acreages.¹⁶² Only in limited circumstances would it be beneficial to construct the proper conveyances, such as places where money is not a limiting factor.¹⁶³ Moreover, if this is a new appropriation, a whole ditch with a headgate, as well as separate ditches necessary to deliver water to each individual lot, would need to be constructed.¹⁶⁴ Furthermore, if the land is located within an irrigation district, getting a new surface appropriation may be even more difficult, as irrigation districts generally prefer to supply water for larger projects—not

¹⁵⁵ See *supra* notes 151–54 and accompanying text.

¹⁵⁶ Undoubtedly, the surface water, particularly after the creation of a subdivision, will face many more water quality concerns such as run-off from roads, pesticides, vehicles, etc. See Hulme et al., *supra* note 3, at 24.

¹⁵⁷ This arises on the assumption that the original right was procured for agricultural purposes. See *supra* notes 90–92 and accompanying text.

¹⁵⁸ This principle is fundamental to the common law doctrine of prior appropriation. See *Wheatland Irr. Dist. v. Pioneer Canal Co.*, 464 P.2d 533, 540 (Wyo. 1970) (quoting the well-known phrase, “he who is first in time is first in right” (citation omitted) (internal quotation marks omitted)).

¹⁵⁹ See *id.*

¹⁶⁰ See *supra* notes 76–81 and accompanying text.

¹⁶¹ See, *Frequently Asked Questions*, FARMER’S IRR. DIST., <http://www.fidhr.org/faqs.htm> (last visited May 4, 2014) (stating that water use peaks in mid-July). A developer could go through a condemnation proceeding based on the preferred use status given to domestic use, but due to issues with water impurity and inadequate conveyances, this still may not be a practical water source. See *supra* notes 129–34 and accompanying text.

¹⁶² Fassett, *supra* note 6.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

small acreages.¹⁶⁵ While applying for new surface water rights is legally possible, unless the purchasing population demands it, the expense makes it impractical for a developer.¹⁶⁶

When a developer seeks to detach a surface right, the developer faces the same issues in applying for a new surface water appropriation, with additional issues such as legal liability.¹⁶⁷ The ditches constructed are likely to attract children, which could lead to tort liability if an accident occurs.¹⁶⁸ From both an economic and legal point of view, detaching the water rights due to liability concerns seems to be the viable option.¹⁶⁹ Additionally, when considering the need to construct a sufficient delivery system to avoid waste, detachment appears to be the most viable option.¹⁷⁰ In any event, if the rights are not going to be used, the developer should either pass them back to the irrigation company or district, or go through the detachment procedures of these rights to clear title to the lands due to liability concerns.

If the water rights in the area have a potentially high value, the developer may attempt to sell the water rights and go through the change of use process.¹⁷¹ Again, significant limitations exist, possibly prohibiting a developer from transferring rights. In a change of use proceeding, the historic consumptive use is taken into account.¹⁷² If the farmer applies the water to a beneficial use at the level of the historic consumptive use, the farmer preserves the water rights' value.¹⁷³ If the

¹⁶⁵ Irrigation districts also require yearly assessment fees, so the lot purchasers would have to pay the yearly assessment fees in order to get surface water.

¹⁶⁶ Fasset, *supra* note 6.

¹⁶⁷ See *supra* notes 151–66 and accompanying text.

¹⁶⁸ See generally *ABC Builders, Inc. v. Phillips*, 632 P.2d 925, 932 (Wyo. 1981) (stating that a builder has a duty to the buyer to disclose any condition that may be an unreasonable risk); see also *Thunder Hawk ex rel. Jensen v. Union Pac. R. Co.*, 844 P.2d 1045, 1048 (Wyo. 1992) (finding that land possessors must “exercise reasonable care for the safety of child trespassers under certain circumstances”).

¹⁶⁹ See Fasset, *supra* note 6.

¹⁷⁰ See *id.*

¹⁷¹ 037-040-005 WYO. CODE R. § 6 (LexisNexis 2012); WYO. STAT. ANN. § 41-3-104(a) (2013). One downside of either selling the surface water appropriation right or detaching it from the land is the loss of aquifer recharge. “The realities of the hydrologic cycle are that many aquifers have little or no recharge. Thus, when groundwater withdrawals exceed a negligible rate of recharge, the water supply is depleted.” Lawrence J. Wolfe & Jennifer G. Hager, *Wyoming’s Groundwater Laws: Quantity and Quality Regulation*, 24 LAND & WATER L. REV. 39, 66 (1989).

¹⁷² § 41-3-104(a).

¹⁷³ Krista Koehl, *Partial Forfeiture of Water Rights: Oregon Compromises Traditional Principles to Achieve Flexibility*, 28 ENVTL. L. 1137, 1139 (1998) (stating that there are “two bedrock principles of western water law, ‘use it or lose it’ and ‘beneficial use without waste,’ to accomplish flexibility and encourage conservation”). During drought years, historic consumptive use of junior rights may not even be applicable if the farmer has not been able to exercise his or her right.

farmer lets the land go into disrepair knowing of the land's salability, he may not have been using the full extent of his water right, thus lowering the value of this right. Therefore, a competent attorney should advise a developer to have the farmer, even during negotiations, continue to put the water to beneficial use in an area where water rights are highly valuable, in order to maintain the historic consumptive use.¹⁷⁴

In the end, surface water will generally be insufficient as a source of water supply for subdivision development. The conveyances used to carry water to individual tracts of land are deficient.¹⁷⁵ Also, a new appropriation would be necessary to provide for a year-round supply.¹⁷⁶ Thus, it would benefit both developers and local boards of county commissioners to seek alternative sources.

2. *Reservoirs or Storage Waters*

Reservoirs and storage waters, as a potential subdivision water source, suffer all of the same challenges direct flow rights present.¹⁷⁷ Reservoir waters are surface waters whose conveyances are limited to the insufficiency of the conveyance structures and the subdivision's physical realities.¹⁷⁸ If the reservoir water rights are attached to the land, the water right holders remain liable for the reservoir dams' structural deficiencies.¹⁷⁹ Thus, a developer attaching reservoir water rights to the subdivision lands could place unwanted, unknowing, and burdensome liabilities on potential purchasers should problems arise with the reservoir.¹⁸⁰

Additionally, an upstream water user with a senior priority, diverting under his or her rights, may mistakenly divert some of the reservoir water. As a result, in order to provide an adequate supply of water to an exurban subdivision, additional water might need to be purchased.¹⁸¹ On the other hand, there are benefits to

¹⁷⁴ See *supra* notes 82–87 and accompanying text; see also Jacobs & Brosz, *supra* note 79, listing the North Platte River as being fully appropriated. Therefore, waters on the North Platte would sell for more money than the Green and Little Snake Rivers, where a surface water appropriation is easily obtainable. See *id.*

¹⁷⁵ See *supra* notes 93, 152–53 and accompanying text.

¹⁷⁶ See *supra* notes 157–61 and accompanying text.

¹⁷⁷ See *supra* notes 151–76 and accompanying text.

¹⁷⁸ See *supra* notes 152–53 and accompanying text.

¹⁷⁹ See *Wheatland Irr. Dist. v. McGuire*, 537 P.2d 1128, 1142 (Wyo. 1975) on reh'g sub nom. *Wheatland Irrigation Dist. v. McGuire*, 562 P.2d 287 (Wyo. 1977) (claiming that owners of a reservoir shall be liable for damages caused from leakage or overflow); see also Fassett, *supra* note 6.

¹⁸⁰ Again, such liability will only occur where the reservoir rights are attached to the land, not in a contract with a Bureau of Reclamation project.

¹⁸¹ See *Northfolk Citizens for Responsible Development v. Bd. of Cnty. Comm'rs of Park Cnty.*, 2010 WY 41, ¶ 36, 228 P.3d 838, 851 (Wyo. 2010) (requiring the developer, in addition to obtaining surface water from the river, to get water from the downstream reservoir).

the use of reservoir water, including limited state regulation and oversight, and year-round water availability.¹⁸² Ultimately, because this is still a surface water right, the liability for the dams of the reservoirs, the liability of the ditches, the impurity of the water, and the insufficiency of the ditches carrying water to all of the available plots, makes storage water a generally insufficient water supply.¹⁸³ For these reasons, the board of county commissioners must strictly scrutinize surface or storage waters as a feasible long-term source if the developer decides to use this method to supply water to the proposed subdivision.¹⁸⁴

B. Groundwater

1. Pervasive Issues

Groundwater issues are becoming pervasive for subdivision development.¹⁸⁵ The obvious concern is that an increased population escalates the likelihood of interference with other water users' rights.¹⁸⁶ The first issue a developer encounters is whether an irrigation well water right is attached to the land.¹⁸⁷ The second issue is whether there is a sufficient aquifer underlying the subdivision.¹⁸⁸ If there is a sufficient underground supply, then the developer needs to decide which type

¹⁸² Interview with Lawrence MacDonnell, Professor of Law, University of Wyoming (Mar. 3, 2013).

¹⁸³ However, in *Northfolk Citizens*, the developer initially proposed individual, on-lot wells, which faced public opposition. 2010 WY 41, ¶ 36, 228 P.3d at 851. So instead, the developer chose a centralized system, using converted irrigation rights. *Id.* Again, public comment and opposition led the developer to change from a centralized system to a surface water plan. *Id.* The surface water was to come from a river, as well as a reservoir. *Id.* The water right was for 200 gallons per minute with a 2005 priority date. *Id.* The Park County Board of County Commissioners approved the proposed water supply, as an "adequate and dependable water source." *Id.* at ¶ 40, 228 P.2d at 852 (internal quotation marks omitted).

¹⁸⁴ See *supra* notes 151–83 and accompanying text.

¹⁸⁵ See *infra* notes 186–92 and accompanying text.

¹⁸⁶ See Ronald Kaiser & Frank F. Skillern, *Deep Trouble: Options for Managing the Hidden Threat of Aquifer Depletion in Texas*, 32 TEX. TECH L. REV. 249, 253 (2001) (claiming that "[t]he core groundwater management issues that must be addressed are: (1) how to resolve the conflicts over domestic well interference caused by high capacity wells; (2) how to prevent aquifer overdrafting and promote safe, sustainable aquifer yields; and (3) how to address aquifer mining").

¹⁸⁷ See John C. Peck, *Title and Related Considerations in Conveying Kansas Water Rights*, 66 J. KAN. B. ASS'N 38, 38 ("A water right is usually purchased with the land, such as when a purchaser buys an irrigated tract of land."). Based on the facts and circumstances of the area in question and the farmer's use, a developer can decide whether to attach or detach the water rights, or even sell it if it has significant value. Undeniably, groundwater control areas, where getting a permit for new irrigation wells may be nearly impossible, would warrant a higher value than where irrigation well permitting areas are not as limited.

¹⁸⁸ See *supra* notes 136–40 and accompanying text. This will involve demonstrating an adequate water supply in getting approval for the permit. See *supra* notes 141–46 and accompanying text.

of well system to use.¹⁸⁹ There are two different types of wells typically used in subdivisions: a centralized system and individual, on-lot wells.¹⁹⁰ The third issue is the impact on the quality and quantity of groundwater arising from population growth.¹⁹¹ The final issue is the liability concerns.¹⁹²

2. *Individual, On-Lot Wells*

Individual, on-lot wells are increasingly common for developers due to upfront costs and the minimal work involved.¹⁹³ Consequently, many well permits are being issued, which can cause well-to-well interference.¹⁹⁴ To mitigate well interference in Laramie County Control Area, the State Engineer requires a minimum of ten acres per well permit.¹⁹⁵ The Laramie County Board of County Commissioners has adopted and implemented the State Engineer's Office's order into its subdivision approvals.¹⁹⁶ This is the type of proactive management that the local boards of county commissioners must engage in to ensure that there will be an adequate and sustainable supply of water for the residents of each

¹⁸⁹ See WYO. STAT. ANN. § 18-5-306(a)(vi)(B)(VI) (2013) (laying out the requirements for a centralized system); see also § 18-5-306(a)(vi)(C) (laying out the requirements for an individual well). If there is no sufficient underlying aquifer, as well as an over-appropriated surface water from which to divert, then the lot purchasers may have to rely on hauling water from the nearest city and utilizing water holding tanks. However, this method is outside the scope of this comment.

¹⁹⁰ See § 18-5-306(a)(vi)(B)(VI) (laying out the requirements for a centralized system); see also § 18-5-306(a)(vi)(C) (laying out the requirements for individual wells). Individual, on-lot wells are "systems that serve five or fewer households from one specific source such as a well." Steven Ferrey, *Water consumption—Potable water*, 1 L. OF INDEP. POWER § 6:145 n.2 (2014).

¹⁹¹ A reduction in surface irrigation because the delivery systems are inadequate can cause groundwater quantity reduction by disabling the recharge of the underlying aquifer, while groundwater quality concerns arise where the sole efficient and cost effective method for water is groundwater extraction. As some scholars note, "[t]he realities of the hydrologic cycle are that many aquifers have little or no recharge. Thus, when groundwater withdrawals exceed a negligible rate of recharge, the water supply is depleted." Wolfe & Hager, *supra* note 171, at 66.

¹⁹² See Kaiser, *supra* note 186, at 262 (stating that when water becomes scarce, the rules governing groundwater have two prongs: "a rights prong and a liability prong").

¹⁹³ See Charles F. Phillips, Jr., *REGULATION OF PUBLIC UTILITIES*, ch. 16 (1988) (affirming centralized water systems "are small, often serve only a few customers, commonly confront severe financial difficulties, and are unable to achieve economies of scale with their deteriorating physical facilities").

¹⁹⁴ See Edward D. Lotterman & John J. Waelti, *Efficiency and Equity Implications of Alternative Well Interference Policies in Semi-Arid Regions*, 23 NAT. RESOURCES J. 323, 323 ("Although the actual number of well interference cases . . . has been relatively small, and aggregate economic damages thus far appear to have been minor, the political impact has been significant. The problem has thus become a major factor in shaping the future course of groundwater policy in these states.").

¹⁹⁵ See Temporary Order Adopting Well Spacing Requirements within the Laramie County Control Area (Apr. 11, 2012), at 2 (requiring a property owner to have at least ten acres in order to have a well); WYO. STAT. ANN. § 41-3-915 (2013) ("[T]he state engineer may temporarily adopt any of the corrective controls.").

¹⁹⁶ Holmes, *supra* note 95.

subdivision created.¹⁹⁷ Consequently, each user's water rights are more protected with the implementation of this regulation, assuring a long-term, sustainable water supply.¹⁹⁸

Individualized, on-lot wells may be a good option for providing water to a subdivision.¹⁹⁹ When a community must share a finite resource, there is an inherent tension between maximum resource utilization and long-term resource preservation.²⁰⁰ People generally take care of long-term rights better than short-term rights.²⁰¹ Additionally, property owned in common or even government-owned property is treated with greater disregard because of its disposable nature.²⁰²

As the trend moves to individual, on-lot wells, certain problems have arisen regarding groundwater quantity and quality.²⁰³ Individual, on-lot wells "can be impacted by septic system failures, pesticides, and the dumping of other household chemicals on the ground."²⁰⁴ Furthermore, the uncontrolled, individual, on-lot wells pumping on a single aquifer prompted the adoption of the ten acre temporary well spacing order.²⁰⁵ Further, each person with a groundwater permit does not have a right to a certain level or pressure of water.²⁰⁶ Thus, if the aquifer levels drop, the only practical remedy for an individual with a well permit is to drill a deeper well, accruing a bill for the drilling, along with the added monthly cost of electricity for running the pump to extract the water from the ground due to the loss in aquifer pressure.²⁰⁷ Although people tend to protect long-term individual rights, one person's water right will inevitably affect another's. Thus, the dynamic

¹⁹⁷ For example, where a developer wants to divide the 160 acres into forty four-acre plots, the Laramie County Board of Commissioners would require the developer to instead develop, at the least, sixteen ten-acre plots. *See supra* notes 195–96 and accompanying text. By adopting and implementing this mitigation technique, the developer's profitability is reduced significantly, and quite possibly may discourage the subdivision development altogether.

¹⁹⁸ *See infra* notes 199–201 and accompanying text.

¹⁹⁹ *See generally* Eric T. Freyfogle, *Water Rights and the Common Wealth*, 26 ENVTL. L. 27 (1996).

²⁰⁰ *See generally id.*

²⁰¹ *Id.* at 33.

²⁰² *Id.*; *see also* WYO. CONST. art. 8, § 1 ("The water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state.").

²⁰³ *See infra* notes 204–08 and accompanying text.

²⁰⁴ Hulme et al., *supra* note 3, at 24.

²⁰⁵ *See supra* note 195 and accompanying text.

²⁰⁶ WYO. STAT. ANN. § 41-3-933 (2013).

²⁰⁷ *See Atlas Const. Co., Inc. v. Aqua Drilling Co.*, 559 P.2d 39, 41 (Wyo. 1977) (finding that a well driller implies no warranty "that he will find and produce water when he agrees to drill a well").

nature of water rights prompts groundwater control areas and other regulations to mitigate interference with users' rights.²⁰⁸

From a developer's standpoint, an individual, on-lot well is both the easiest and cheapest method. For individual, on-lot wells, a developer must hire a professional hydrologist or groundwater geologist to demonstrate an adequate water supply, and then submit the prepared study to the local board of county commissioners for subdivision approval.²⁰⁹ A subdivision developer's duty, under the statutes and the State Engineer's rules and regulations, stops there.²¹⁰ The developer does not even have to drill the wells before sale, and typically the developer does not do so, leaving it to the lot purchaser.²¹¹ Thus, the lot purchaser is the one to appear before the State Engineer to attempt to get a domestic well permit.²¹²

Developers have an incentive to use individual, on-lot wells—even if it is not the best long-term option—because it frees up capital for other projects. Boards of county commissioners must be cautious about this, always keeping in mind the well-being of the constituents they are serving. The focus must be on what is best for the new subdivision, nearby communities, well pumpers, and the long-term health of the aquifer. Indeed, there are instances where individual, on-lot wells are in the best interest of the subdivision. Boards of county commissioners—not economic-driven developers—are responsible for choosing the right system.

3. *Centralized System*

The use of individual wells may provide an incentive for protecting long-term instead of short-term, temporary rights. Nevertheless, on a centralized system, the administrator can control costs by allotting each user a cost based on a certain pre-determined monthly use amount. To protect long-term rights, an individual can be charged a significantly higher cost for any amount used above and beyond the pre-determined amount.²¹³ For example, Castle Rock, Colorado has added a surcharge of \$4.83 per 1,000 gallons for single-family homes that use 30,000

²⁰⁸ See *supra* notes 135–40 and accompanying text.

²⁰⁹ See *supra* notes 27–28, 32–47 and accompanying text.

²¹⁰ See *supra* notes 27–28, 32–47 and accompanying text.

²¹¹ Fassett, *supra* note 6. “Water well drilling contractors” and “water well pump installation contractors” are generally involved in the business of installing individual, on-lot wells. These water well contractors are generally hired by the individual landowners to drill and install an underground well. See WYO. STAT. ANN. §§ 33-42-101 to -117 (2013).

²¹² WYO. STAT. ANN. § 41-3-905 (2013). The permit shall be granted as a matter of course. See WYO. STAT. ANN. § 41-3-931 (2013). If the State Engineer finds the well to be against the public interest, the State Engineer may deny the permit. *Id.*

²¹³ See *infra* notes 214–18 and accompanying text.

gallons or more per month.²¹⁴ The surcharge essentially doubles the per-gallon cost of water if the family uses over 30,000 gallons in a single month.²¹⁵ This surcharge acts as an indirect way to control water use.

Comparatively, Pinery, Colorado, has a five-tiered rate system charging \$9.25 per 1,000 gallons after homes consume more than 120,000 gallons in any two-month period.²¹⁶ Due to this surcharge, the water consumption in the previous year dropped twenty percent.²¹⁷ In sum, where there is more control such as that of a unified system, there is less chance people can exploit the resource; any abuse may be thwarted though by implementing either restrictive covenants or a tiered-rate water consumption system.²¹⁸

A centralized system has many benefits over individual, on-lot wells: first, it uses a single well, so no well interference occurs; second, the system enables reuse of water through water treatment; third, a single sewage system limits the chances of altering the underground water quality; and finally, it allows an entity to control the amount of water used in a given time period.²¹⁹ The major detriment all the benefits cannot overcome, from the standpoint of the developer, is the cost of a centralized system.²²⁰

In the end, an individualized, on-lot well setup seems to be the favored realistic option for a developer in most situations. For a developer to create a centralized system would be the equivalent of constructing a miniature city.²²¹ Further, developers like to invest as little capital as possible to increase their rate of return.²²² Although a centralized system may be best for the overall community in

²¹⁴ Alex C. Pasquariello, *Castle Rock Adds Surcharge for Excessive Water Use*, COLORADO COMMUNITY MEDIA, (Aug. 5, 2004), <http://coloradocommunitymedia.com/stories/Castle-Rock-adds-surcharge-for-excessive-water-use,22819>.

²¹⁵ Pasquariello, *supra* note 214.

²¹⁶ Pasquariello, *supra* note 214.

²¹⁷ Pasquariello, *supra* note 214.

²¹⁸ The concept of utilizing restrictive covenants will be discussed later in this comment. *See infra* notes 253–66 and accompanying text.

²¹⁹ *Benefits of Central Sewer and Water*, OFFICIAL WEBSITE OF THE CITY OF JACKSONVILLE, FL, <http://www.coj.net/departments/independent-boards-and-agencies/water-and-sewer-expansion-authority/benefits-of-central-sewer-and-water.aspx> (last visited May 3, 2014); *see also supra* notes 214–17.

²²⁰ *See Phillips, supra* note 193 (stating “surface water generally requires more treatment than ground water; some water requires only chlorination, while other water requires complex processing that may include softening”).

²²¹ Holmes, *supra* note 95.

²²² *See supra* note 48 and accompanying text. While some developers may be able to step in and incur the upfront costs for a backend profit, the population must both demand it as well as be able to afford it.

the long run, a developer does not want to, and in many instances cannot, pay for such a complex system, which would effectively end the potential development.²²³

C. *Plan of Augmentation*

1. *The Benefits of a Plan of Augmentation*

Wyoming has not utilized all of the available options for interconnected water users to put the greatest amount of surface water and groundwater to beneficial use.²²⁴ Typically, the effects on surface water from groundwater pumping occur when dealing with an alluvial aquifer.²²⁵ While Wyoming recognizes through statutes that there is an effect on surface water caused by groundwater pumping in an alluvial aquifer, the statutes explicitly refer to a single set of priorities in determining rights.²²⁶ Thus, when the surface waters are over-appropriated, and groundwater is diminishing the surface flows because the aquifer is unconfined, the surface water and groundwater are treated as a single source under the priority system.²²⁷ This scheme provides essentially no options for new users. New appropriators cannot get a permit for surface waters because the waters are already over-appropriated.²²⁸ Likewise, groundwater users cannot get a new permit if it would impair another user's rights.²²⁹ A plan of augmentation would be one solution to allow a developer to demonstrate an adequate water supply even where an alluvial aquifer exists.²³⁰

²²³ In dense development, a centralized water and sewer system is the only feasible option to mitigate well interference, for water reuse, and for the overall sanitation of the community. While the city may choose not to annex the property, Wyoming statutes allow cities and towns operating municipal waterworks and sewer systems to provide services outside their boundaries. WYO. STAT. ANN. § 15-7-404(a) (2013).

²²⁴ See Aiken, *supra* note 23, at 542.

²²⁵ An alluvial aquifer is "relatively shallow and proximal to the surface stream systems that created the deposits Alluvial aquifers have a strong connection to stream systems due to the unconsolidated aquifer material, relatively shallow depths, and proximity to surface streams." Luke W. Harris & Christopher J. Sanchez, *Considerations for Analyzing Colorado Ground Water: A Technical Perspective*, 15 U. DENV. WATER L. REV. 105, 111 (2011). "The water in these alluvial aquifers supports the surface flows and is, in turn, recharged by these flows." Lawrence J. MacDonnell, *Colorado's Law of "Underground Water": A Look at the South Platte Basin and Beyond*, 59 U. COLO. L. REV. 579, 580 (1988).

²²⁶ See WYO. STAT. ANN. § 41-3-916 (2013) (stating "where underground waters and the waters of surface streams are so interconnected as to constitute in fact one source of supply, priorities of rights to the use of all such interconnected waters shall be correlated and such single schedule of priorities shall relate to the whole common water supply").

²²⁷ See *id.*

²²⁸ See WYO. STAT. ANN. § 41-4-503 (2013).

²²⁹ See *supra* note 77 and accompanying text.

²³⁰ Even though Wyoming has not explicitly adopted a plan of augmentation, if one came before the State Engineer with a proposed plan similar to Colorado's plan of augmentation, theoretically the State Engineer could exercise his corrective control powers and allow such a plan.

2. *Colorado's Law on Augmentation Plans*

Colorado has allowed water users taking groundwater from an alluvial aquifer to supplement the surface water from a reservoir through a plan of augmentation.²³¹ A “plan for augmentation” is:

[A] detailed program, which may be either temporary or perpetual in duration, to increase the supply of water available for beneficial use in a division or portion thereof by the development of new or alternate means or points of diversion, by a pooling of water resources, by water exchange projects, by providing substitute supplies of water, by the development of new sources of water, or by any other appropriate means.²³²

A plan of augmentation also requires replacement of evaporation, but there is no requirement “to replace the amount of historic natural depletion . . . caused by the preexisting natural vegetative cover on the surface of the area . . . permanently replaced by an open water surface.”²³³ Through a plan of augmentation, a groundwater user replaces depletions from surface water by purchasing available reservoir water.²³⁴ For example, a user can contract to use stored water from a reservoir with available, sellable water, or obtain excess water from a Bureau of Reclamation project.²³⁵

Generally, an augmentation plan is limited to a subdivision located over an unconfined alluvial aquifer.²³⁶ The aquifer must also be physically connected to a

See WYO. STAT. ANN. § 41-3-915 (2013) (allowing the State Engineer to exercise corrective control measures in a groundwater control area); *see also* WYO. STAT. ANN. § 41-3-916 (2013) (allowing the State Engineer to exercise corrective control measures when the water supply is “so interconnected as to constitute in fact one supply”).

²³¹ *See* COLO. REV. STAT. § 37-92-305 (2013).

²³² COLO. REV. STAT. § 37-92-103(9) (2013).

²³³ COLO. REV. STAT. § 37-92-305(12)(a) (2013).

²³⁴ *See id.*

²³⁵ WYO. STAT. ANN. § 41-3-303 (2013) (concerning storage water); *see generally* *Reclamation: Managing Water in the West*, U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION (2011), available at <http://www.usbr.gov/>.

²³⁶ *See* Harris & Sanchez, *supra* note 127, at 108–09 (stating “[a]n unconfined aquifer is defined as an aquifer having a water table, whose surface is at atmospheric pressure. The water level in a well constructed in an unconfined aquifer is equal to the water table in the aquifer. When a well pumps water from an unconfined aquifer, water drains from the aquifer pore space and/or fractures to the well, temporarily dewatering a portion of that aquifer.”). A groundwater well pumping from an unconfined aquifer will lower the water table. *See id.* If the groundwater and surface water are connected, the aquifer water table is at the surface and will be lowered by any groundwater pumping.

fully appropriated stream in order for a plan of augmentation to be appropriate.²³⁷ If a well is drawing water from an aquifer physically separated from the stream, a plan of augmentation may be unnecessary.²³⁸ Similarly, if the aquifer is connected to the stream, but the stream is not fully appropriated, then a plan of augmentation is superfluous, as a new water right could be acquired and there is no interference with others' rights. Nevertheless, a plan of augmentation, under certain circumstances, could be beneficial in allowing for development while still respecting all of the nearby water users' rights.

3. *The Glacier View Meadows Case*

In one Colorado case, Glacier View Meadows was developing residential lots near Fort Collins.²³⁹ The developers wanted to build 1,892 single-family residential units supplied with water from wells pumping from an alluvial aquifer closely linked to the fully appropriated Cache la Poudre River.²⁴⁰ One of the issues in the case was whether 100% of the water needed to be replaced or just the water that would be consumptively used (i.e. water being taken out of the Poudre River) and thus not available for other appropriators.²⁴¹

Of the 1,892 units, only 105 would have a consumptive use of 100%, while the remaining 1,787 units would only consume about 10% of their portion of the pumped water.²⁴² To be able to extract groundwater via a well on these units, the developers needed to account for the loss of surface flow caused by the groundwater pumping of this alluvial aquifer.²⁴³ The augmentation plan was predicated on 3.5 persons per unit using eighty gallons of water per day for 365 days a year.²⁴⁴ The court then looked at the consumptive use of the water for the 1,787 units, which in this case was ten percent, and came to a conclusion that

²³⁷ See *Simpson v. Cotton Creek Circles, LLC*, 181 P.3d 252, 263 (Colo. 2008) (“[T]he rules are based on a finding of fact that a new withdrawal of groundwater . . . will cause injury unless properly augmented This finding provides the basis for a requirement that any new withdrawal must prevent injury to senior rights.”).

²³⁸ See MacDonnell, *supra* note 195, at 581 (“As an alluvial well is pumped the water table surrounding the well is gradually lowered, creating a cone of depression.”). Typically, an alluvial aquifer is unconfined, while a confined aquifer is under artesian pressure. See *Simpson*, 181 P.3d at 264. Consequently, well-to-well interference can occur through the decreasing of artesian pressure. *Id.*

²³⁹ *Cache la Poudre Water Users Ass’n v. Glacier View Meadows*, 550 P.2d 288, 289 (Colo. 1976) (en banc).

²⁴⁰ *Id.* at 290.

²⁴¹ *Id.* at 294.

²⁴² *Id.* at 290.

²⁴³ See *id.* at 293–94.

²⁴⁴ *Id.* at 290.

89.97 acre-feet per year would be consumptively used by all 1,892 units.²⁴⁵ The court took into account a five percent transportation loss due to evaporation.²⁴⁶ In the end, the Colorado Supreme Court determined that the developers had to use fifty-five of their seventy-five “preferred shares” of storage water to replace the loss which was approximately 94.71 acre-feet per year.²⁴⁷

A plan of augmentation requires that the replacement water has a senior priority right to ensure the amount of water necessary will be available.²⁴⁸ The replacement sources available are surface waters.²⁴⁹ Storage water is a more flexible potential source than direct flow rights because of the quantity of water, the year-round availability, and the multiple sources available.²⁵⁰ However, the storage water shares are limited to the amount available for sale in both the Bureau of Reclamation projects and private reservoirs.²⁵¹ Also, the purchaser is only required to replace the consumptive depletions, not all of the water used.²⁵² Although Wyoming has not explicitly adopted a plan of augmentation, if a developer came before a board of county commissioners and the DEQ with a concrete plan demonstrating an adequate water supply, he or she would satisfy the statute. Consequently, a board of county commissioners could adopt such a plan of augmentation.

D. Restrictive Covenants

To comply with the subdivision statute and demonstrate an adequate water supply, the developer must demonstrate the daily water consumption.²⁵³ One option for developers to demonstrate an adequate water supply is by limiting the amount of water used each day.²⁵⁴ A developer can achieve this through restrictive

²⁴⁵ *Id.* The replacement water source was a reservoir, and therefore the depletion amount needed to be converted from gallons to acre-feet; accordingly, the total amount needed to be divided by 325,851 gallons, which is the equivalent to one acre-foot. A. DAN TARLOCK ET AL., *WATER RESOURCE MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY* 1069 (6th ed. 2009).

²⁴⁶ *Cache la Poudre*, 550 P.2d at 291–92.

²⁴⁷ *Id.* The shares were “preferred shares” because the shares entitled the developers to both reservoir water and direct flow water. *Id.* at 290.

²⁴⁸ See *supra* note 226 and accompanying text.

²⁴⁹ See *supra* notes 76–115 and accompanying text.

²⁵⁰ See *supra* notes 100–15 and accompanying text.

²⁵¹ See *supra* note 102 and accompanying text.

²⁵² The reservoir being extracted from is limited to the one-fill rule, so depending on the time and amount of precipitation of the year there may or may not be water available. See TARLOCK, *supra* note 245, at 180.

²⁵³ WYO. STAT. ANN. §§ 18-5-306(a)(vi)(B), 18-5-306(a)(vi)(C) (2013).

²⁵⁴ *Id.*

covenants.²⁵⁵ Wyoming's subdivision statutes allow developers to use covenants to bind the subsequent purchasers of the subdivision lots.²⁵⁶ The written covenants allow for a homeowner's association, or similar entity, to address topics such as "[m]aintenance and responsibility for . . . water supply systems and assessments against all parcels of land in the subdivision to defray the costs thereof."²⁵⁷ At least one state, New Mexico, has utilized this method for restricting water use in new subdivisions.²⁵⁸

In Santa Fe County, New Mexico, there is a "Declaration of Water Covenants and Restrictions" that developers must submit when applying for permits.²⁵⁹ The covenants in Santa Fe have, for example, water limits depending on the type of residential lot (i.e. townhome, live/work unit, patio home, single-family home, and estate home).²⁶⁰ Further restrictions are placed on toilets, bathtub faucets, showerheads, washing machines, and dishwashers.²⁶¹

Restrictive covenants can also limit landscaping.²⁶² The limitations range from the size of the area to be landscaped to the types of landscaping to be used.²⁶³ For example, Santa Fe County utilized the restrictive covenants to limit the use of outdoor grass to native grasses.²⁶⁴ Meanwhile, Wyoming has limited landscaping to one-acre.²⁶⁵ Landscaping irrigation accounts for around one-third of residential water use, totaling more than seven billion gallons of water per day nationwide.²⁶⁶ With landscaping being such a major water use, restrictions are necessary where water is scarce. Nevertheless, restrictions on landscaping can cause plants to dry

²⁵⁵ A restrictive covenant is "a private agreement, usu[ally] in a deed or lease, that restricts the use or occupancy of real property, esp[ecially] by specifying lot sizes, building lines, architectural styles, and the uses to which the property may be put." BLACK'S LAW DICTIONARY (9th ed. 2009).

²⁵⁶ WYO. STAT. ANN. § 18-5-306(a)(xii) (2013).

²⁵⁷ § 18-5-306(a)(xii)(A).

²⁵⁸ See *infra* notes 259–66 and accompanying text.

²⁵⁹ *Declaration of Water Covenants and Restrictions for Residential Lots within Oshara Village - Phase I*, OSHARA VILLAGE, <http://osharavillage.com/images/Files/169-Water%2520Covenants%2520Commercial.pdf> (last visited May 4, 2014).

²⁶⁰ *Id.* at 2.

²⁶¹ *Id.* at 3.

²⁶² See Stacey Rogers Griffin, Annotation, *Validity and Construction of Restrictive Requiring Lot Owner to Obtain Approval of Plans for Construction or Renovation*, 115 A.L.R.5th 251 (2004) (citing a court that allowed the developer/grantor the right to require approval of landscaping, among other things, because the grantee was fully informed of any restrictions).

²⁶³ See *infra* notes 264–66 and accompanying text.

²⁶⁴ See Declaration of Water Covenants, *supra* note 259, at 3.

²⁶⁵ WYO. STAT. ANN. § 41-3-907 (2013).

²⁶⁶ *Outdoor Water Use in the United States*, WATERSENSE, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/WaterSense/pubs/outdoor.html> (last visited May 4, 2014).

up, leading to problems such as fire. By using drought resistant grasses, native grasses, plants, rock landscaping, etc., some of the problems can be combated.²⁶⁷

E. The Conflict Between Developers and Homebuyers

1. The Inherent Tension

Adequate water supplies for exurban subdivision development should be a growing concern in Wyoming.²⁶⁸ For many homeowners, their household water is the only source of water, so an adequate water supply is essential. The supply might not be adequate, however, if the population were more dense.²⁶⁹ For example, if a 160 acre plot was divided into one-half acre sections instead of the ten-acre minimum recommended by the State Engineer's Office, there would be 320 households drawing from the groundwater or utilizing surface water instead of just sixteen.²⁷⁰ As a rough estimate, a single household with four people consumes approximately 0.5 acre-feet per year.²⁷¹ Therefore, the difference between the sixteen, ten-acre plots and the 320 one-half acre plots is approximately 152 acre-feet per year, or 49,529,352 gallons per year.²⁷² The major difference in density either limits or expands the available sources of water supply because the amount of water necessary to supply such a community can change significantly.

A variety of water supply options are available for a new subdivision. Unfortunately, there is conflict between the developers' desire to maximize profit and the law's purpose to protect its citizens. Although the developers' aims are different than that of the water statutes, they attempt to accommodate each other. For example, the law acknowledges the developers' goal is to make a profit, so the law does not require the developer to place wells on each lot before selling.²⁷³

²⁶⁷ This concept is also known as zero-scaping. Marc Dickinson, *X-Rated Yards: Xeriscaping Conserves Your Energy*, HOME ADVISOR, <http://www.homeadvisor.com/article.show.X-Rated-Yards-Xeriscaping-Conserves-Your-Energy.14103.html> (last visited Apr. 12, 2014).

²⁶⁸ As populations continue to climb, there is a substantial probability that many cities and towns in Wyoming will encounter the same issue as Teton County and Laramie County.

²⁶⁹ However, the EPA has suggested that low-density development may not necessarily better protect water resources. See *Protecting Water Resources with Higher-Density Development*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/smartgrowth/pdf/protect_water_higher_density.pdf, at 1 (last visited February 13, 2014).

²⁷⁰ See *supra* note 195 and accompanying text.

²⁷¹ MacDonnell, *supra* note 182 and accompanying text.

²⁷² The calculation is as follows: 325,851 (gallons in one acre-foot) divided by 2 (household uses one-half acre-feet a year in water) to equal 162,925.5 gallons per household; 162,925.5 multiplied by 320 (number of households) equaling a total of 52,136,160 gallons of water used by 320 households; 162,925.5 multiplied by 16 (number of households) equaling a total of 2,606,808 gallons of water used by sixteen households. The difference between the two is 49,529,352 gallons (52,136,160 less 2,606,808). See also *supra* note 19 and accompanying text.

²⁷³ See *supra* notes 32–33 and accompanying text.

Wyoming law merely requires the developer to demonstrate an adequate water supply.²⁷⁴ Meanwhile, the developer goes through all the bureaucratic processes, including attaching or detaching water rights and hiring a professional hydrologist, to demonstrate an adequate water supply.²⁷⁵ If the developer chooses to go a step further and develop a water supply system, he or she acts accordingly because of the profitability involved, not because the law requires him or her to do so.

Wyoming needs to require developers to construct a centralized system, or even attach to a municipal water line, for subdivision development consisting of plots smaller than ten acres.²⁷⁶ An exception to this general rule would require prior approval by both the State Engineer and Department of Environmental Quality to allow individual, on-lot wells.²⁷⁷ By adopting such a requirement, the developer's profit goals may be met, the citizen's needs for an adequate water supply will be met, and the State Engineer's recommendations are satisfied. Boards of county commissioners can be proactive by requiring the developer to implement a centralized system, but it may hinder the growth and development Wyoming wants. The chief financial incentive in using a centralized system for the developer is the opportunity for denser development. However, Wyoming's population prefers vast and open lands, and a centralized system's maintenance may be unaffordable.²⁷⁸ By following these suggestions, the problem can be combated either by allowing the developer to either assure a water right or by providing denser development.

The developer's legal liability and economic prosperity generally favors the detachment of water rights, although there are some areas in Wyoming where surface water rights and irrigation well rights have significant value, or may be utilized for residential purposes.²⁷⁹ In these areas, it might be beneficial to go through the change in place of use or attachment process. From the developer's perspective, groundwater delivered via individual, on-lot wells is only practical

²⁷⁴ See *supra* notes 27–47 and accompanying text.

²⁷⁵ See *supra* notes 48–74 and accompanying text.

²⁷⁶ See *supra* note 195 and accompanying text. Indeed, ten acres is used because of the State Engineer's temporary well spacing order. If the developer uses a centralized water and sewer system, plots could be less than an acre. However, Wyoming citizens may not prefer this. See *supra* notes 18–19 and accompanying text.

²⁷⁷ Prior approval refers to the initial subdivision permit. Thus, the developer would need to have a permit to drill and be cognizant of the five-year statutory water right forfeiture. See *supra* notes 211–12 and accompanying text; see also WYO. STAT. ANN. § 41-3-401 (2013).

²⁷⁸ See *supra* note 220 (discussing issues faced by a centralized system); see also *supra* notes 17–19 and accompanying text (positing that Wyoming citizens generally prefer more space, as opposed to dense development).

²⁷⁹ See Jacobs & Brosz, *supra* note 79 (demonstrating places off the Platte River where a new appropriation direct flow right is impossible to obtain); see also Fasset, *supra* note 6 (listing places such as Jackson, where attaching a surface water right would serve the purpose of watering livestock and money is not as much a limiting factor as elsewhere).

method of efficient water delivery. From a legal perspective, however, giving each user their individual allotted share each month in a centralized system may be more protective of each individual's rights.²⁸⁰ Generally, the developer cannot justify the costs of creating a centralized system. In Wyoming, boards of county commissioners must carefully scrutinize the area and the community's needs, and not simply take developers' proposals at face value. The water delivery method is a fact-and-circumstance driven inquiry, especially as resources begin to deplete.

A developer, regardless of what system he plans to utilize, must validate the estimated water usage and availability in order to gain approval for development.²⁸¹ By doing so, the various decisionmakers can evaluate whether the source is sustainable. If there is a possibility of well interference, or the aquifer is inadequate if uncontrolled pumping is permitted, then the developer must demonstrate an adequate supply. He or she can do this by limiting the total daily consumption through restrictive covenants. Boards of county commissioners must consider that the homeowner's association or other entity enforcing the covenants on individual, on-lot wells can only enforce covenants regarding outdoor use; conversely, indoor use does not need to be intensely regulated because a water consumer only uses a limited amount of water in a day.²⁸²

A plan of augmentation may be useful if the aquifer is an unconfined alluvial aquifer and the stream that is interconnected to the aquifer is fully or over-appropriated.²⁸³ Wyoming, however, does not yet recognize plans of augmentation. The legislature should adopt a statute establishing the procedures for a plan of augmentation in order to accommodate growth, maintain preexisting water rights, and put the greatest amount of water to a beneficial use. Even if the legislature does not adopt a plan of augmentation, boards of county commissioners can still permit implementation of a plan if a developer can demonstrate an adequate supply in its application.²⁸⁴ The State Engineer may even adopt a plan of augmentation, if presented properly, under his corrective control powers.²⁸⁵ However, a plan of augmentation may not even be necessary, given the

²⁸⁰ Again, all of these actions stem from the developer doing a cost-benefit analysis, expecting a return on investment with every decision. *See supra* note 48 and accompanying text.

²⁸¹ WYO. STAT. ANN. § 18-5-306(a)(vi)(C) (2013).

²⁸² On the other hand, if it was a centralized system, the entity could limit indoor and outdoor use, allowing up to a total maximum gallons per month. *See supra* notes 214–18 and accompanying text. While a single metered system is possible, the fee to maintain and check the meters monthly may render this an expensive proposition. *See generally* James Dailey, *Does Your Water System have a Water Metered Program*, ALA. DEP'T. OF ENVTL. MGMT., <http://www.adem.state.al.us/programs/water/waterforms/DoesYourSystemHaveAWaterMeterProgramArticle.pdf> (last visited May 4, 2014) (discussing all of the various costs in implementing a metered system).

²⁸³ *See supra* notes 236–38 and accompanying text.

²⁸⁴ The legislature has impliedly delegated the board of county commissioners the authority to do so. *See supra* note 26 and accompanying text.

²⁸⁵ *See supra* note 195 and accompanying text.

condemnation proceedings allowed for a preferred use. The fair market value for an irrigation well, or whatever right is being condemned, may be significantly less than the cost associated with a plan of augmentation. In the end, multiple avenues exist to demonstrate an adequate water supply, and the local boards of county commissioners must decide, based on their constituents' needs, what is best to secure long-term well-being and further community growth.

2. *Recommendation for the Wyoming Boards of County Commissioners*

Teton County's mission statement is: "The mission of Teton County, Wyoming government is to support the well-being of its residents by providing responsive and efficient services; providing programs that contribute to public health, safety, and welfare; and supporting the community's goals as expressed in the Teton County Comprehensive Plan."²⁸⁶ Other boards of county commissioners should adopt a similar mission statement. Assuming other counties have adopted a mission statement similar to Teton County's, the local boards best serve their constituents under the mission statement by deferring to the DEQ or the State Engineer regarding water quality and quantity, even at the expense of frustrating lucrative development. Although a developer must disclose board approval despite a DEQ adverse recommendation to the purchaser, this safeguard is inadequate. Rather, the boards of county commissioners should defer to the expertise of either the DEQ or the State Engineer.²⁸⁷ However, even if the DEQ gives its approval with a "non-adverse" recommendation, a local board of county commissioners should exercise caution and consider denying the subdivision due to water quality and quantity concerns.²⁸⁸

Developers have profits in mind, while local governments should have citizen well-being in mind. Growth is necessary, but it must be done with care. In *Northfolk*, the board of county commissioners correctly followed the DEQ's recommendation and the public comment and opposition by making the developer change the water supply.²⁸⁹ In doing so, the board of county commissioners served their constituents' needs while still promoting development. However, this may not be an easy task with uncontrolled pumping of countless wells on a single aquifer, the high costs of delivering surface water with a senior priority date, or the distance from a reservoir. As long as the local board of county commissioners

²⁸⁶ Teton County Wyoming: Board of County Commissioners, <http://www.tetonwyo.org/bcc> (last visited May 3, 2013).

²⁸⁷ See WYO. STAT. ANN. § 18-5-308(c) (2013) (requiring the disclosure to be given by the developer when the DEQ issues an adverse recommendation, but the board of county commissioners ultimately approves the subdivision application).

²⁸⁸ See *Waste and Wastewater Program: Water Subdivision Program*, *supra* note 37, at 10.

²⁸⁹ See *Northfolk*, at ¶ 36–38, 228 P.3d at 851–52 (noting initially, the developer proposed individual, on-lot wells, then a centralized system, and finally, a surface water direct flow right). Although the use of surface water as a general source for subdivision development is discouraged, sometimes the process is more important than the result.

is not merely “rubber stamping” developers’ applications and are deferring to the expertise of the DEQ in determining the existence of an adequate water supply, the subdivision statute appears to have the extensive requirements necessary to assure an adequate water supply for decades to come.²⁹⁰

3. *Recommendation for the Wyoming Legislature*

Development outside municipal boundaries has two inherent, conflicting interests.²⁹¹ The first interest is the long-term well-being of each new community. The legislature could fulfill this interest by enacting a statute requiring all developers to create a centralized water system.²⁹² The statute would need to be incentive-laden for the developer, or the statute would curtail growth because the developer could be unable to make a profit. If the statute were passed, water would be reused, groundwater quality would be protected, and the chances of well interference would be reduced.²⁹³

The second interest is encouraging population growth. To encourage and accommodate growth, subdivisions must be built. But developers must have confidence that they will realize profit before they build developments. Requiring a developer to utilize a centralized system is likewise an issue, as this burden would deter development because centralized systems are more expensive than individual, on-lot wells.

Reconciling these two interests will be difficult. While the legislature has tried to cure the conflict by requiring developers to submit DEQ’s adverse recommendations to property purchasers, such a requirement has little practical value.²⁹⁴ New property purchasers do not recognize the long-term consequences of adverse recommendations. The legislature needs to require annexation or connection to the municipal water line when dense development exists.²⁹⁵ If the subdivision was densely populated, then it would be essential to use a centralized system.

Also, the legislature should adopt a statute allowing for a plan of augmentation if the underlying aquifer is an alluvial aquifer, instead of requiring the State Engineer to use his corrective control powers. A plan of augmentation protects the

²⁹⁰ See generally *N.L.R.B. v. Brown*, 380 U.S. 278, 298 (1965) (discussing those who are in a reviewing capacity should not simply stand aside and rubber stamp documents if the decision would be “inconsistent with a statutory mandate or that frustrate the congressional policy underlying a statute”).

²⁹¹ See *supra* notes 268–85 and accompanying text.

²⁹² See *supra* notes 277–78 and accompanying text.

²⁹³ See *supra* notes 220–24 and accompanying text.

²⁹⁴ See *supra* note 43 and accompanying text.

²⁹⁵ What constitutes dense development for purposes of the proposed statute is beyond this comment.

rights of current surface water right holders, so their rights are not condemned and their agricultural lifestyle may be preserved. Meanwhile, a plan of augmentation promotes growth and puts the greatest amount of water to beneficial use. These are just a few of the proactive approaches available. Although the legislature has developed comprehensive subdivision statutes, the water supply issue endures, so the legislature must continuously seek creative solutions.

IV. CONCLUSION

A sustainable, clean water supply remains a fundamental limitation to exurban growth.²⁹⁶ A problem arises because water availability is unpredictable from year-to-year and place-to-place.²⁹⁷ Surface water and groundwater are the two primary sources with each having potential benefits and detriments depending on the subdivision and water supply location.²⁹⁸ A developer will likely have to balance the economic interests in deciding which approach, a centralized water system or individual, on-lot wells, to present in getting a permit to develop a subdivision.²⁹⁹ Significant limitations such as financial capacity and housing density hinder the use of a centralized system, even though it allows more control in allocating the water.³⁰⁰ No right answer exists as to which source of water to use, as this is a community-based needs approach. What works best in one area may not be suitable for another.³⁰¹

Wyoming's subdivision statute is fairly comprehensive on its face, but could be insufficient if misapplied by, for example, failing to strictly adhere to its requirements.³⁰² The legislature should create statutes requiring developers to implement centralized water and sewer systems, as well as a statute laying out procedures for a developer to demonstrate an adequate water supply through the use of a plan of augmentation or restrictive covenants.³⁰³ Local boards of county commissioners have been vested with broad discretion in approving subdivisions. A proactive measure local boards of county commissioners and the DEQ should take is to carefully review the water supply before allowing a subdivision to be created.³⁰⁴ Local and state governments need to continue to be proactive and flexible to be able to adapt to continued growth.³⁰⁵

²⁹⁶ Hulme et al., *supra* note 3, at 23.

²⁹⁷ See *supra* note 12 and accompanying text.

²⁹⁸ See *supra* notes 75–223 and accompanying text.

²⁹⁹ See *supra* notes 48, 193–223 and accompanying text.

³⁰⁰ See *supra* notes 213–23 and accompanying text.

³⁰¹ See *supra* note 187 and accompanying text.

³⁰² See WYO. STAT. ANN. § 18-5-306 (2013).

³⁰³ See *supra* notes 224–67, 291–95 and accompanying text.

³⁰⁴ See *supra* notes 286–90 and accompanying text.

³⁰⁵ See *supra* notes 286–95 and accompanying text.