

ATTACHMENT 1

ATTACHMENT TO NOTICE OF CLAIM WATER RIGHT NO. 95-966

The transfer of the surface water rights from Spring Branch Creek to ground water rights as part of the over-all municipal ground water rights of the city of Rathdrum is an accomplished transfer pursuant to I.C. 42-1425.

Spring Branch Creek is tributary to Rathdrum Creek. Attached is a copy of a City of Rathdrum Contour and Flood Plan that reflects that Spring Creek flows into Rathdrum Creek. The USGS, in cooperation with Idaho Department of Water Resources and the Washington State Department of Ecology conducted a study of the Spokane Valley-Rathdrum Prairie Aquifer. As a result of that study a Scientific Investigations Report 2007-5041 relating to the Hydrologic Framework and Ground-Water Budget of the aquifer was prepared by Sue C. Kahle and James R. Bartolino and published. On page 16 of that report it states as follows: "Streams tributary to the aquifer include Lewellen, Sage, and Rathdrum Creeks in Idaho, and Chester and Saltese Creeks in Washington."

Although water hasn't been diverted directly from Spring Branch Creek by the city of Rathdrum over the past several years, that lack of diversion falls within the exceptions to forfeiture under Idaho Code 42-223(6) that states as follows:

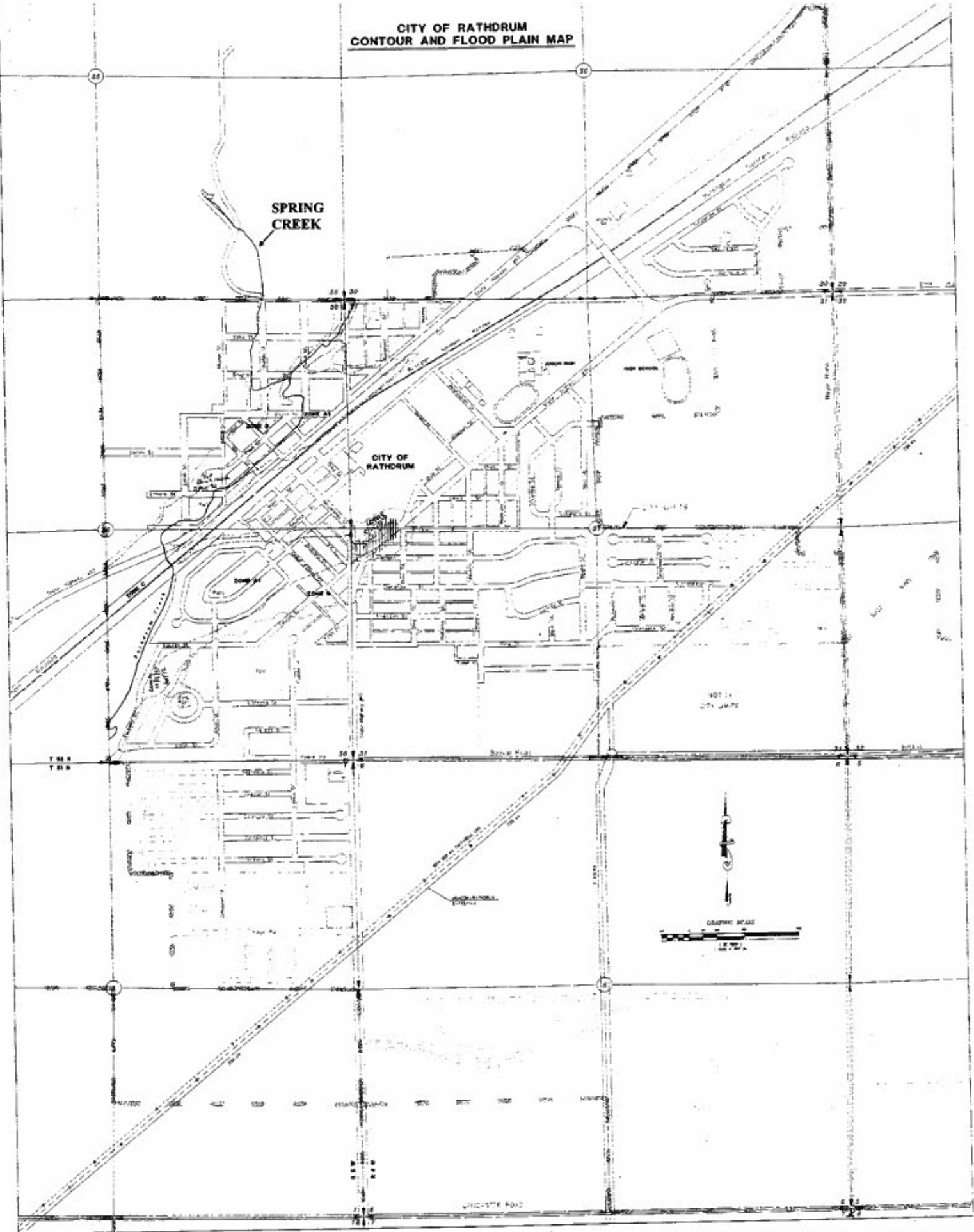
No portion of any water right shall be lost or forfeited for nonuse if the nonuse results from circumstances over which the water right owner has no control. Whether the water right owner has control over nonuse of water shall be determined on a case-by-case basis.

Rathdrum was unable to use the water directly from Spring Branch Creek for municipal purposes over the last several years due to DEQ regulations. The public drinking water regulations promulgated by the Idaho Department of Environmental Quality contained in IDAPA 58.01.08 and Code of Federal Regulations (CFR), Title 40, Parts 141 and 143 incorporated by reference by the state as part of the Idaho Rules for Public Drinking Water Systems place upon the city of Rathdrum requirements for the use of water from Spring Branch Creek as drinking water regulations that the City has been unable to meet due to circumstances that are out of the control of the City. The City's water system is not filtered. Pursuant to 40 CFR 141.71 the City would have had to treat the water and maintain a watershed control program. As part of that watershed control program the City would have had to demonstrate through ownership and/or written agreements with landowners that it can control all human activities that would have an adverse on the microbiology quality of the source water. The location of the watershed is outside of the Rathdrum city limits and the regulatory jurisdiction of the City. Although the City owns a portion of the land, the City doesn't have any regulatory authority over the other property owners within the watershed and has no ability to require those property owners to limit their activities that have an impact on the watershed.

In order to meet the demands on the City's water system, and to be able to properly treat the water for public consumption the water associated with this right has for several years been diverted as ground water instead of surface water.

In addition, the City surface rights from Spring Creek were included as part of the City's water rights as part of the City's planning horizon to meet the reasonably anticipated future needs of the municipal water provider and have effectively transferred to ground water rights for that purpose.

CITY OF RATHDRUM
CONTOUR AND FLOOD PLAIN MAP



ATTACHMENT 2

POINTS OF DIVERSION

The points of diversion consist of 4 separate wells.

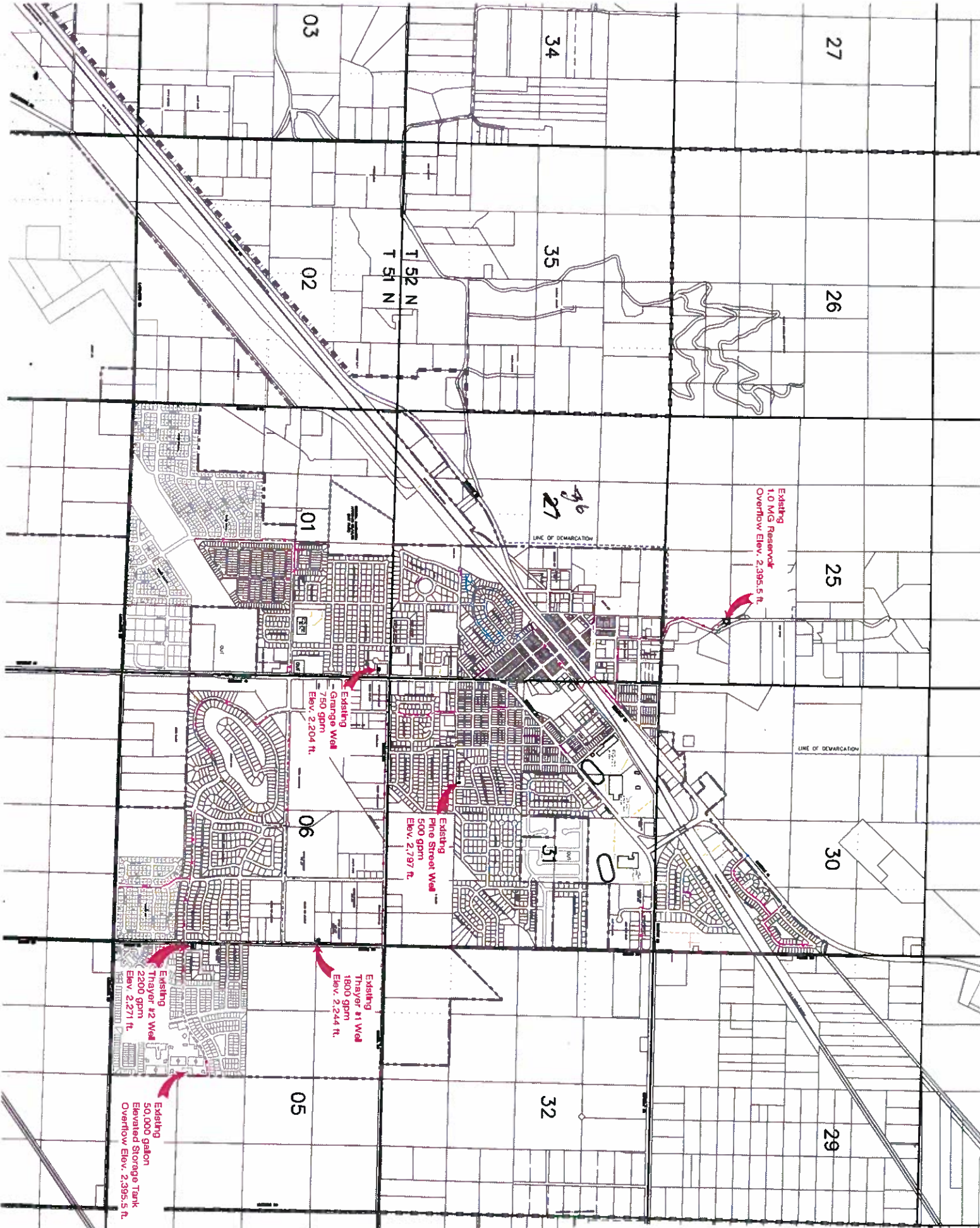
The wells are referred to as wells are referred to as Thayer #1, Thayer #2, Grange and Pine.

Thayer #1 is located on Tax Parcel # R0000006180

Thayer #2 is located on Tax Parcel #R1000001002B

Pine Well is located on Tax Parcel # R00000315275

Grange Well is located on a portion of the property shown on the Kootenai County Tax Assessors map as Tax Parcel #R00000010050



ATTACHMENT 3

DESCRIPTION OF EXISTING DIVERSION WORKS

The diversion works consists of 4 wells, an elevated storage tank, a reservoir and a piped diversion system.

The pumping capacity of the 4 wells is as follows:

Thayer #1 is 1800 gpm

Thayer #2 is 2200 gpm

Pine Street is 500 gpm

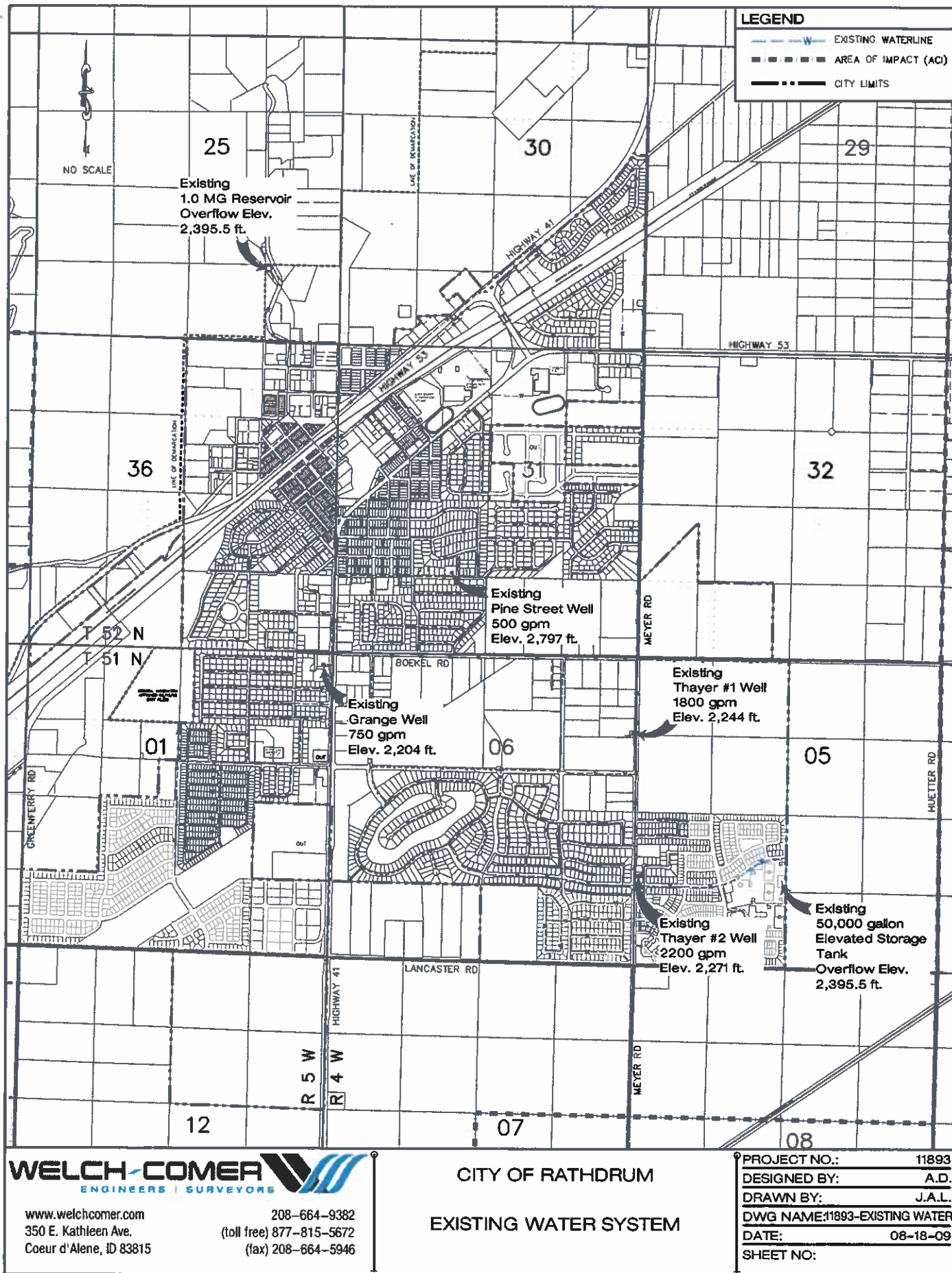
Grange is 750 gpm

The storage system consists of an elevated storage tank that has a total storage capacity of 50,000 gallons and a 1.0 MP reservoir.

The water is distributed to the users within the service area from the wells and storage system through an underground water main line distribution system.

PLACE OF USE
ATTACHMENT

Twn	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
52N	04W	30				M								M	M	M	M	M	
52N	04W	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
51N	04W	05									M	M	M	M					
51N	04W	06	M	M	M	M	M	M	M	M	M	M			M	M	M	M	
51N	05W	01	M	M	M	M									M	M			
52N	05W	36	M		M	M									M	M	M	M	
52N	04W	25																M	



ATTACHMENT 6

Water Rights Used at the Same Place and for the Same Purposes

95-4403

95-7047

95-7881

95-8508 (That portion of this water right conveyed to the City)

Hydraulic Properties

A description of the hydraulic properties of the SVRP aquifer is included here in a generalized fashion in order to provide the reader with an understanding of the highly transmissive nature of the aquifer. Several previous studies including Drost and Seitz (1978), Bolke and Vaccaro (1981), and CH2M HILL (1998) estimated aquifer characteristics based on aquifer tests and ground-water model simulations. Although hydraulic properties of the aquifer were variable, most results indicated that hydraulic conductivity (a measure of the ability of the aquifer material to transmit water) and transmissivity (the rate at which water is transmitted through a unit width of the aquifer under a unit hydraulic gradient, equal to the hydraulic conductivity multiplied by the aquifer thickness) values were on the upper end of values measured in the natural environment (Kahle and others, 2005). Drost and Seitz (1978) reported transmissivity values that ranged from less than 130,000 ft²/d in the western part of the aquifer to more than 13 million ft²/d near the Washington–Idaho State line. Bolke and Vaccaro (1981) estimated hydraulic conductivity values of 2,600–6,000 ft/d for most of the aquifer on the Washington side and about 860 ft/d in the Hillyard Trough. CH2M HILL (1998) reported hydraulic conductivity values ranging from about 100 to 6,200 ft/d, with most values greater than 1,000 ft/d.

Boundary Conditions

In most places, the SVRP aquifer is bounded laterally by metamorphic or igneous intrusive rocks. In places, such as near Spokane and Coeur d'Alene, the aquifer is laterally bounded by basalt and fine-grained interbeds. The bottom boundary of the aquifer generally is unknown except along the margins or in shallower parts of the aquifer where wells have penetrated the entire aquifer thickness and reached bedrock (metamorphic or igneous intrusive rocks) or basalt and fine-grained interbeds. The upper boundary of the saturated portion of the aquifer is represented by the regional water table as described by Berenbrock and others (1995) and Campbell (2005). In the northern Rathdrum Prairie, the water table can be as deep as 500 ft below land surface: near the Washington–Idaho State line the water table is about 150 ft below land surface. Reported ground-water divides approximately represent the aquifer boundary in the Hoodoo and Spirit Valleys and near Careywood, Idaho (Kahle and others, 2005). Upgradient areas of the aquifer also are bounded by tributary lakes, including Pend Oreille, Spirit, Twin, Hayden, Coeur d'Alene, Hauser, Newman, and Liberty. Streams tributary to the aquifer include Lewellen, Sage, and Rathdrum Creeks in Idaho, and Chester and Saltese Creeks in Washington. Streams tributary to the Spokane River in the aquifer extent include Hangman (Latah) Creek near Spokane, Washington, and the Little Spokane River north of Spokane. The aquifer's

lower discharge area is poorly defined, but is believed to be near Long Lake at the confluence of the Spokane and Little Spokane Rivers.

Base of Aquifer

A contour map of the approximate altitude of the base of the SVRP aquifer is shown in figure 9. The base of the aquifer is defined as where the aquifer lies on top of bedrock (granite or metamorphic rock), basalt, or fine-grained deposits that probably are the Latah Formation. Contours were manually drawn and lie within the 2005 revised extent of the aquifer (Kahle and others, 2005). Data used to construct the map include data for the 587 project wells. Of these wells, slightly more than 100 fully penetrate the base of the aquifer and generally are located along the aquifer's margin. For these wells, the altitude of the base of the aquifer was obtained by subtracting the depth to the base of the aquifer from the digital-elevation-model (DEM) derived land-surface altitude for the well. The inferred base of the aquifer drawn on the hydrogeologic sections also was used for contouring. Data from existing geophysical transects described in Kahle and others (2005) were used as a guide to estimate the base of the aquifer on the sections but not directly on the base-of-aquifer map. If well data appeared to contradict the geophysical transects, preference was given to the well data. Along the aquifer margin, subsurface contours were tied to DEM-derived land-surface contours, also in 200-ft intervals. The altitude of the base of the aquifer ranges from less than 1,800 ft near Lake Pend Oreille to less than 1,200 ft near the aquifer's outlet near Long Lake (fig. 9).

There is general agreement between the base of aquifer depicted on the map in this report and other more site specific maps (Graham and Buchanan, 1994; Boese and Buchanan, 1996; Golder Associates Inc., 2004; Baldwin and Owsley, 2005; Stevens, 2005). Similarly, there is general agreement between the map in this report and Buchanan's (2000) map, the first aquifer-wide map produced for the study area. Notable differences are related largely to the different aquifer boundaries used for the two maps. Buchanan used an aquifer boundary similar to the Sole Source boundary (shown in Kahle and others, 2005, fig. 5) that excludes the Middle and Chilco Channels, excludes the southern end of Hoodoo Valley, and connects the aquifer near Nine Mile Falls.

There also is general agreement between the map in this report and a basement-altitude map produced using gravity data to constrain depth to basement modeling (Oldow and Sprenke, 2006). The difference between the two maps is related largely to the different assumptions used in the construction of each map and the uncertainties inherent to each method. An important difference in these maps is that the map in this report is a base-of-aquifer map, whereas the map constructed by Oldow and Sprenke (2006) is a basement



Hydrogeologic Framework and Ground-Water Budget of the Spokane Valley-Rathdrum Prairie Aquifer, Spokane County, Washington, and Bonner and Kootenai Counties, Idaho

