

Department of Environmental Quality

Amanda Smith Executive Director

DIVISION OF DRINKING WATER Kenneth H. Bousfield, P.E.

March 11, 2015

Val Surrage Taylor-West Weber WID 2815 W 3300 S West Haven, UT 84401-9791

Dear Mr. Surrage:

Subject: **Feasibility**, Drinking Water Service from Taylor-West Weber WID for the Winslow Farr Jr. Farm Subdivision, System #29019, File#9877

The Division of Drinking Water (the Division) received your request concerning the capacity of the Taylor-West Weber WID (District) to provide drinking water service to the Winslow Farr Jr. Farm Subdivision in the District. Per the Division's database, the District presently has 1860 residential connections, 7 commercial connections, and 12 agricultural connections. The Winslow Farr Jr. Farm Subdivision will add 74 new residential connections, in addition to the 9 new residential connections with the Blue Acres Subdivision Phase 4. The number of connections that may be served is based on (1) source water capacity, (2) storage capacity, and (3) available water rights. The Drinking Water Rule, *R-109-510* Minimum Sizing Requirements, requires a water system to be able to provide 800 gallons per day per equivalent residential connection (ERC) from its sources to meet peak day indoor demand, to be able to provide 400 gallons per ERC of storage for indoor use, and to be able to provide average yearly indoor demand which is 0.45 acre-feet per ERC based on water rights. Additional source capacity, storage, and water rights are required if the system provides water for outdoor use. The water system component with the least capacity determines the allowable number of connections.

SOURCE CAPACITY

The District has the following approved drinking water sources and approved safe yields:

Source Number	Source Name	Safe Yield gpm
WS001	Big Well	900
WS002	Small Well	500
WS003	Weber Basin WCD	2000
	Consecutive Connection	
	Total	3400

In addition, the District provides outside irrigation water for some of their connections. The attached capacity calculation worksheet estimates the required source capacity is 1095.0 gpm for indoor used and 1419.7 gpm for outdoor use. Based on source capacity, the District has 885 gpm excess source capacity which is adequate to serve the Winslow Farr Jr. Farm Subdivision.

STORAGE CAPACITY

The District has the following approved storage tanks in service:

Storage Tank Number	Source Name	Volume gallons
ST001	Million Gallon Tank	1,000,000
ST002	2 Million Gallon Tank	2,000,000
ST003	250 K Gallon Tank	250,000
	Total	3,250,000

The attached capacity calculation worksheet estimates the required storage capacity is 1,929,408 gallons. This is based on a reserve of 120,000 gallons of water storage for fire suppression, and the balance of the storage being used for indoor and outdoor use storage. Based on storage capacity, the District has over 1.3 million gallons of excess storage capacity which is adequate to serve the Winslow Farr Jr. Farm Subdivision.

WATER RIGHTS

The District has the following water rights for their sources:

Water Right Number	Amount (acre-feet)
35-1613	788.45
35-11723	930.77
Weber Basin WCD	465.3
Total	2184.52

The attached capacity calculation worksheet estimates the required water rights of 1,557.35 acrefeet for indoor and outdoor use. Based on water rights, the District has over 627 acre-feet of excess water rights which are adequate to serve the Winslow Farr Jr. Farm Subdivision.

SUMMARY

There is no limiting component at present, which would prevent the District from providing adequate drinking water service to the Winslow Farr Jr. Farm Subdivision.

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The District has submitted a project notification form and was granted a plan review waiver by the Division, which allows the construction of this subdivision to proceed once approval is granted by Weber County.

If you have any questions regarding this letter, you can contact me either by phone at (801) 536-0054 or e-mail bhart@utah.gov.

Sincerely,

Bob Hart, P.E.

Environmental Engineer III

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Enclosure - Taylor-West Weber WID Capacity Calculation - March 11, 2015

cc: Louis Cooper, Env. Director, Weber-Morgan Health Department, lcooper@co.weber.ut.us Sean Wilkinson, Weber County Planner, swilkinson@co.weber.ut.us Jared Andersen, P.E., Weber County Engineer, jandersen@co.weber.ut.us Ying-Ying Macauley, Division of Drinking Water, ymaculey@utah.gov Jesse Johnson, P.E., Division of Drinking Water, jajohnson@utah.gov Bob Hart, P.E., Division of Drinking Water, bhart@utah.gov Mark Babbitt, P.E., Great Basin Engineering Inc., MarkB@greatbasineng.com Val Surrage, Taylor-West Weber Water, taylorwestweberwater@msn.com

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Division of Drinking Water Water System Capacity Calculation Sheet (revised June 23, 2011) System Name: Taylor-West Weber WID March 11, 2015 System Number: 29019 1. Indoor Water Use Convert "Number of other connections" (Cell E9) to ERCs here. (ERCs of other connection = peak day demand of other connections / 800 gal per day) Number of residential connections Example: water use of 2 Number of other connections - - -19 ERCs of other connections 19.0 actory is equivalent to 30 homes.) Enter number of non-residential connections Total Equivalent Residential Connections (ERCs) (e.g., 2 factory connections). MINIMUM REQUIREMENTS FOR INDOOR WATER USE Source Storage Water Rights Per ERC Per ERC Total Per ERC Total (gallons/ERC) (gpd/ERC) (ac-ft/yr) (gpm) (gallons) (ac-ft/yr) 800 1,095.0 400 788,400 0.45 886.95 2. Outdoor Water Use Enter estimated irrigated acre Is the drinking water used for outdoor irrigation? No ✓ Yes Residential ERCs using drinking water for irrigation 470 Percentage of Residential ERCs using DW for irrigation 24% Average irrigated acreage per residential connection 0.75 Total irrigated acreage of other connections. 6.00 Based on information from Water Enter total irrigated acres of Irrigation zone 4 System Manager during 2013 Sanitary other connections here Survev Select Irrigated Zone # from the list (see "Irrigation Demands & Map" tab on the bottom of the screen). MINIMUM REQUIREMENTS FOR OUTDOOR WATER USE Source Water Rights Storage Per ERC Per ERC Per ERC Total Total Total (gpd/ERC) (gallons/ERC) (gallons) (ac-ft/yr) (ac-ft/yr) (gpm) 4,277 1,419.7 2,136 1,021,008 1.40 670.40 3. Fire Flow Requirement Enter fire flow in gpm. Does the water system provide fire protection? ✓ Yes Nο Maximum fire suppression **demand** for *water system* or *pressure zone* (gpm) 1,000 Maximum fire suppression duration for water system or pressure zone (hours) ---->>> Required Fire Suppression Storage (gallons) 120,000 Neber Fire District has adopted Appendix B of the Fire Enter duration in hours. ode which requires a minimum of 1000 gpm for two Total Water System Requirements (= indoor use + outdoor use + fire flow demand) MINIMUM REQUIREMENTS FOR WATER SYSTEM Source Storage Water Rights Per ERC Per ERC Per ERC Total Total Total (gpd/ERC) (gpm) (gallons/ERC) (gallons) (ac-ft/yr) (ac-ft/yr) 5,077 2,514.7 2,536 1,929,408 1.85 1,557.35 Does this system have adequate source capacity per R309-510-7? IPS points may be assessed for lacking adequate source capacity to meet peak day and/or average yearly flow requirements. Linked to Cell 199 below. gpm **Existing Sources:** 3,400.0 Linked to Cell C51 above

Difference:

Required Source Capacity:

% of Reg'd Capacity:

Negative number means (1) additional source capacity is

needed, and (2) IPS points should be assessed

gpm

gpm

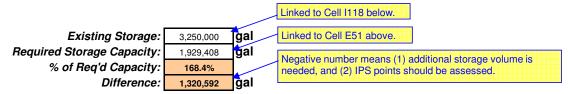
2,514.7

135.2%

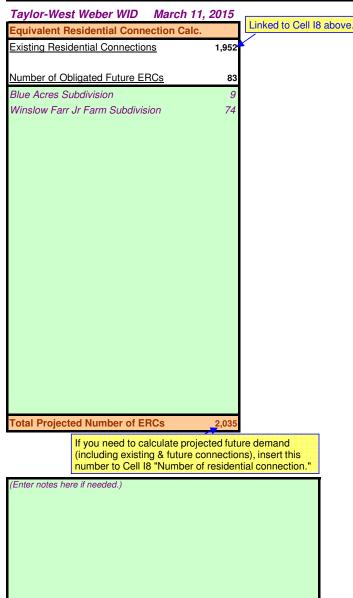
885

Does this system have adequate storage capacity per R309-510-8?

IPS points may be assessed for lacking adequate storage capacity.



Non-Community Water Systems, ERCs for Indoor Water Use (*See R309-510, Tables 510-1, 2, and 4, for other facility type calc.)							
	MINIMUM REQUIREMENTS FOR INDOOR USE						
	Source		Storage				
Facility Type	GPD/person*	Calculated GPD/site or pad	GPD/person	Gallon/site or pad	ERC/site or pad	# of Sites or pads	ERCs
Modern Recreation Camp	60	240	30	120	0.30	8	2.4
Semi-Developed Camp w/ flush toilets	20	80	10	40	0.10	25	2.5
Semi-Developed Camp w/o flush toilets	5	20	2.5	10	0.03	20	0.5
RV Park	N/A	100	N/A	50	0.13	15	1.9
*Number of people per camp site	per camp site 4 If applicable, enter number of people per camp site here.						
	Source (GPD/vehicle)	Storage (Gal./vehicle)	ERC/1000 vehicles served	# of Vehicles served	ERCs		
Roadway Rest Stop w/ flushometer valves	7	3.5	8.75	800	7.00		



Source	(in gallons _l	per minute)
WS001	Big Well	900
WS002	Small Well	500
WS003	Weber Basin WCD CC	2000
Total Sour	ce Capacity	3400
Max. ERC	allowed (for indoor use only)	6120

Storage		(in gallons)
ST001	Million Gallon Tank	1,000,000
ST002	2 Million Gallon Tank	2,000,000
ST003	250 K Gallon Tank	250,000
Total Storag	e Capacity	3,250,000

Diaphragm or air pressure tanks shall not be considered effective storage volume for community systems or NTNC with significant demand.