



State of Utah

GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

Department of  
Environmental Quality

Alan Matheson  
Executive Director

DIVISION OF DRINKING WATER  
Marie E. Owens, P.E.  
Director

March 28, 2017

Connie Judkins  
West Warren-Warren Improvement District  
5783 West 950 North  
Ogden, Utah 84404

Subject: **Feasibility Evaluation**, Drinking Water Service to Vaquero Village Subdivision from West Warren-Warren Improvement District; Water System #29094, File # 10648

Dear Ms. Connie Judkins,

**This is not Plan Approval.**

The Division of Drinking Water (the Division) received your request concerning the capacity of the West Warren-Warren Improvement District (District) to provide drinking water service to the Vaquero Village Subdivision on November 28, 2016. This feasibility evaluation is solely based on the information we received from the District and the existing records available in the Division's database. The Division's estimate is based on the following information:

- The present number of equivalent residential connections (ERC's) the District is obligated to serve — The District indicated in the attached Project Notification Form (PNF), which we received on November 28, 2016, that the District currently is obligated to serve 341 ERC's, and that the proposed Vaquero Village Subdivision will add 13 residential connections (13 ERC's). Our estimate is based on 354 ERC's (i.e. 341 plus 13 ERC's)
- Fire flow required by local fire code officials.

This evaluation is courtesy technical assistance, and is not meant to be a detailed or accurate engineering analysis. The Division does not track or verify the number of obligated connections or the status of the obligated connections. It is the responsibility of the District and Weber County to verify all information for planning purposes.

Per Utah Administrative Rule *R309-510* Minimum Sizing Requirements, the number of connections served by a public District is affected by:

1. Source water capacity;
2. Storage capacity; and
3. Available water rights.

Among these three components, the one with the least capacity determines the allowable number of connections for the District. The Division of Drinking Water's feasibility evaluation addresses only the first two components (i.e., source and storage capacities).

195 North 1950 West • Salt Lake City, UT  
Mailing Address: P.O. Box 144830 • Salt Lake City, UT 84114-4830  
Telephone (801) 536-4200 • Fax (801)-536-4211 • T.D.D. (801) 903-3978

[www.deq.utah.gov](http://www.deq.utah.gov)

Printed on 100% recycled paper

The Division of Water Rights is the authority for water rights related regulations. Please consult with Division of Water Rights directly for verification and interpretation regarding water rights.

The requirements related to indoor water use for these components are:

- A District must be able to provide **800 gallons per day (gpd) per (ERC) from its water source(s)**;
- A District must be able to provide **400 gallons per ERC of storage**;
- A District must have **0.45 acre-feet per ERC of water rights**.

Furthermore:

- If a District provides water for irrigation use, additional source capacity, storage capacity and water rights are required.
- If a District provides water for fire suppression, additional storage capacity is required.

### **Source Capacity**

Based on the Division records and the information provided by the District, the District has the following approved drinking water sources and safe yields:

<b>Source Number</b>	<b>Water Source Name</b>	<b>Safe Yield (gpm)</b>
WS001	WBWCD Wholesale Contract	310
	<b>Total</b>	<b>310</b>

The Division estimates the District's water source capacity to be 310 gpm. The attached capacity calculation work sheet estimates the minimum source capacity required for the District is 196.7 gallons per minute (gpm). This estimate includes indoor water use only; the District indicated during their last Sanitary Survey they do not have any outdoor irrigation use.

It appears that the District has 133.3 gpm excess source capacity, and **has adequate source capacity to serve the Vaquero Village Subdivision**.

### **Storage Capacity**

Based on the Division records and the information provided by the District, the District has the following approved storage tanks in service:

<b>Storage Tank Number</b>	<b>Source Name</b>	<b>Volume Gallons</b>
ST001	WBWCD Reservoir Storage Contract	500,000
	<b>Total</b>	<b>500,000</b>

The Division estimates the District's water storage capacity to be 500,000 gallons.

Connie Judkins  
Page 3 of 3  
March 28, 2017

The District indicated during their last Sanitary Survey that the District does not have outdoor irrigation use. Therefore, this estimate includes indoor water use only. The attached capacity calculation work sheet estimates the minimum storage capacity required for this District is 261,600 gallons.

It appears that the District has 238,400 gallons excess storage capacity, and **has adequate storage capacity to serve the Vaquero Village Subdivision.**

### Summary

Based on information made available to the Division, it appears that at the present time District has sufficient source and storage capacities to provide drinking water service to the proposed Vaquero Village Subdivision.

The District submitted a Project Notification Form for the subject project on November 28, 2016 and was granted a Plan Approval by the Division, which allows the construction of this subdivision to proceed once approval is granted by Weber County. An Operating Permit must be obtained from the Director before the Vaquero Village Subdivision water lines may be put in service.

If you have any questions regarding this letter, you can contact Camron Harry at (801) 536-0087 or, Ying-Ying Macauley, Engineering Section Manager, of this office, at (801) 536-4188.

Sincerely,



Marie E. Owens, P.E.  
Director

Enclosure — 1. West Warren-Warren Improvement District Capacity Calculation – December 13, 2016  
2. Project Notification Form Received on November 28, 2016

CH/ym/mdb/ssh

cc: Louis Cooper, Environmental Health Director, Weber-Morgan Health Dept,  
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  
Connie Judkins, West Warren-Warren Improvement District, westwarrenwtr@gmail.com  
Randy Giordano, West Warren-Warren Improvement District, Annamarie.giodano@gmail.com  
Camron Harry, Division of Drinking Water, caharry@utah.gov  
Ross Hansen, Regional Engineer, Division of Water Rights, rosshansen@utah.gov

# Division of Drinking Water – Water System Capacity Calculation Sheet (Last Update 2/12/2016)

**\*Enter the green cells only\***

System Name West Warren-Warren ID System Number 29094

## 1.1 Indoor Water Use

Convert "Number of other connections" (Cell E9) to ERCs here. [ERCs of other connections = peak day demand of other connections in gal per day / 800 gpd]

Number of residential connections -----  
 Number of other connections --- 0 ERCs of other connections 341.0 (Example: water use of 2 equals to water use of 55)  
 Total Equivalent Residential Connections (ERCs) 354.0

Enter number of non-residential connections, e.g., 2 industrial connections.

MINIMUM REQUIREMENTS FOR INDOOR WATER USE			
Source		Storage	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
800	196.7	400	141,600

## 1.2 Outdoor Water Use

Is the drinking water used for outdoor irrigation?  Yes  No  
 Residential ERCs using drinking water for irrigation ----- >> 0  
 Percentage of Residential ERCs using DW for irrigation ----- >> : 0%  
 Average irrigated acreage **per residential connection** ----- >> 0.00  
 Total irrigated acreage of **other connections** (park, school, etc.) ----- >> 0.00  
 Irrigation zone 4

Enter estimated irrigated acre

(Enter notes here regarding whether and what % of irrigation water is supplied by PWS.)

Enter total irrigated acres of other connections here.

Select Irrigated Zone # from the pick list. See "Irrigation Demands & Map" tab on the bottom of the screen.

MINIMUM REQUIREMENTS FOR IRRIGATION USE			
Source		Storage	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
0	0.0	0	0

## 1.3 Fire Flow Water Use

Does the water system provide fire protection?  Yes  No  
 Maximum fire flow demand (in gpm) for water system or pressure zone 1,000  
 Maximum fire suppression duration (in hours) for water system or pressure zone 2  
 Required Fire Suppression Storage (in gallons) ----- >> 120,000

Enter fire flow in gpm.

Enter duration in hours.

(\*Verify req'd fire flow and duration with local fire code officials.\* Enter notes here, e.g. fire official contact info or comments.)

## 2. Summary of Water System Capacity Requirements

MINIMUM CAPACITY REQUIREMENTS FOR WATER SYSTEM			
Source (indoor + outdoor)		Storage (indoor + outdoor + fire)	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
800	196.7	400	261,600

### 2.1 Does this system have adequate source capacity (per R309-510-7)?

*This source capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.*

<b>Required Source Capacity</b>	196.7	<b>gpm</b>	Autolink to 2 "Total Source" cell above.
<b>Existing Source Capacity</b>	310.0	<b>gpm</b>	Autolink to 4.2 "Total Existing Source Capacity" cell below.
<b>Source Capacity Deficit</b>	None	<b>gpm</b>	Source deficit indicates that: (1) additional source capacity is needed, and (2) source deficiency should be assessed.
<b>Existing % of Total Req'd</b>	157.6%		Less than 100% indicates: (1) additional source capacity is needed, and (2) source deficiency should be assessed.
<b>Differenc</b>	113.3		

**2.2 Does this system have adequate storage capacity (per R309-510-8)?**

This storage capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.

<b>Total Required Storage</b>	261,600	gal	Autolink to 2 "Total Storage" cell above.
<b>Existing Storage Capacity</b>	500,000	gal	Autolink to 4.3 "Total Existing Storage Capacity" cell below.
<b>Storage Capacity Deficit</b>	None	gal	Storage deficit indicates that: (1) additional storage volume is needed, and (2) storage deficiency should be assessed.
Required Fire Storage	120,000	gal	
<b>Is storage deficiency solely due to fire storage?</b>	Not Applicable		If NO, answer one of question set 2.01 to 2.05 in ESS. If YES, answer one of question set 2.06 to 2.10 in ESS.
<b>Existing % of Total Req'd</b>	191.1%		Less than 100% indicates: (1) additional storage capacity is needed, and (2) storage deficiency should be assessed.
<b>Difference</b>	238,400		

**3. Transient PWS Indoor Water Use – ERC Calculation** (See R309-510, Tables 510-1, 2, & 4 for other facility types.)

Facility Type	MINIMUM REQUIREMENTS FOR INDOOR USE				ERC/site or pad	Total # of sites/pads
	Source		Storage			
	GPD/person*	GPD/site or pad	Gallons/person	Gallon/site or pad		
Modern Recreation Camp	60	0	30	0	0.00	
Semi-Developed Camp w/ flush toilets	20	0	10	0	0.00	
Semi-Developed Camp w/o flush toilets	5	0	2.5	0	0.00	
RV Park	N/A	100	N/A	50	0.13	
Number of people per camp site						If applicable, enter number of people per camp site here.
	Source (GPD/vehicle)	Storage (Gal./vehicle)	ERC/1000 vehicles served	Vehicles served/day	ERCs	If applicable, use number in cell I8 cell I9 on Page 1
Roadway Rest Stop w/ flushometer valves	7	3.5	8.8		0.0	

**4. Data Input for Calculating ERCs, Source and Storage**

**West Warren-Warren ID**

**4.1 Projected ERCs Calculation (optional)**

Total Projected ERCs	354
Existing Residential Connections	341
Obligated Future ERCs (enter below)	13
Vaquero Village Sub	13

Use this number in Cell I8 ("Number of residential connections") on Page 1 to calculate PROJECTED demand & req'ts (including both existing & future connections).

Diaphragm or air pressure tanks shall NOT be considered effective storage volume for (1) community systems, or (2) NTNC with significant demand UNLESS an exception has been granted.

**4.2 Summary - Existing Sources** (enter in green cells below)

Total Existing Source Capacity (in gpm)		310
WS001	WBWCD Wholesale Contr.	310
Maximum ERCs (assuming indoor use only)		558

**4.3 Summary - Existing Storage Tanks** (enter below)

Total Existing Storage Cap. (in gallons)		500,000
ST001	WBWCD Storage Contract	500,000



# PROJECT NOTIFICATION FORM (PNF)

File No: 10648  
Date Rec'd: 11/28/2016

Please provide the following information for all Drinking Water Projects by existing PWS's  
Use with Plan Submittal [R309-500-6(1)] or when requesting Waiving of Plan Submittal [R309-500-6(3)]

If this is a new PWS, please complete the Supplemental PNF available on our website: [drinkingwater.utah.gov/blank\\_forms.htm](http://drinkingwater.utah.gov/blank_forms.htm)

Upon completion, Submit by Email, fax or mail to:

State of Utah - Dept of Environmental Quality - Division of Drinking Water  
200 Box 14439 - Salt Lake City, Utah - 84114-4239 (801) 536-4200 Fax: (801) 536-4211

1 Name of PWS [owner of system as recorded with DDW]  
 System Name: West Warren - Warren ID  
 System Number: 29094  
 Address: 5783 W 950 N  
 City, State, Zip: Ogden, UT 84404  
 Present No. of ERC's system is obligated to serve: 341  
 Present No. of ERC's physically connected to system: 341  
 Population Served: 1030  
 No. of ERC's this project will add to system: 13

6 Description of Project [in sufficient detail for DDW to identify]  
Vaquero Village Subdivision - 13 lots

2 Addressee for Official Correspondence [Mayor, Public Works Director, etc...]  
 Name: Randy Giordano  
 Title: Operator  
 Address: 7852 W. 900 S.  
 City, State, Zip: West Warren, Ut. 84404  
 Phone No: 801-731-1300  
 E-Mail Address: annamarie.giordano@gmail.com

7 Anticipated Construction Schedule:  
 Advertise for Bids: \_\_\_\_\_  
 Bid Opening: \_\_\_\_\_  
 Begin Construction: \_\_\_\_\_  
 Complete Construction: \_\_\_\_\_

3 PE designated as Direct Responsible Engineer for Entire System (if applicable) N/A  
 Company Name: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City, State, Zip: \_\_\_\_\_  
 Phone No: \_\_\_\_\_  
 E-Mail Address: \_\_\_\_\_

8 Is this PNF for plan review waiver 3a? [see R309 500-6(3a) to verify] Yes No  
 If Yes, you must have a previously approved Master Plan and Construction Standards.    
 Is this PNF for plan review waiver 3b? [see R309 500-6(3b) to verify] Yes No  
 If Yes, you must have a designated PE responsible for the system and previously approved Construction Standards.    
 Does this project meet any of the criteria to be exempt from the hydraulic modeling rule requirements? [see R309 511-4(1)(a)(i) through (iv) to verify] Yes No  
   
 If Yes, specify rule reference here:  
 [For example: R309-511-4(1)(a)(ii)]

4 PE responsible for design of this Project [if not same as item 3]  
 Name: Nate Reeve / Reeve & Associates  
 Address: 5160 South 1500 West  
 City, State, Zip: Riverdale, Utah 84405  
 Phone No: 801-621-3100 Fax No: 801-621-2666  
 E-Mail Address: \_\_\_\_\_

9 Fire Suppression Authority [if system has fire hydrants]  
 Name: David Austin - WEBER Fire  
 Address: 2023 W. 1300 N  
 City, State, Zip: Farr West, Ut. 84404  
 Phone No: 801-782-3580 Fax No: \_\_\_\_\_  
 E-Mail Address: daustin@weberfd.com  
 Req'd flow (gpm): \_\_\_\_\_ Duration (hrs): \_\_\_\_\_

5 Name of Construction Inspector(s) and frequency of inspection  
 Name: Randy Giordano  
 Full Time: \_\_\_\_\_ Part Time: X

10 Funded by State or Federal Agency?  
 Drinking Water Board (SRF or FSRF) Loan #: \_\_\_\_\_  
 Community Impact Board  
 None  
 Other (Specify) \_\_\_\_\_