



State of Utah

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Department of
Environmental Quality

Amanda Smith
Executive Director

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

January 16, 2014

Rob Thomas
General Manager
Wolf Creek Water and Sewer Improvement District
P.O. Box 658
Eden, UT 84310

Dear Mr. Thomas:

Subject: **Feasibility Evaluation**, Drinking Water Service from Wolf Creek Water and Sewer Improvement District for Future Subdivisions, System #29013, File #9562

This is not plan approval.

On January 14, 2014, the Division of Drinking Water (the Division) received your letter concerning the capacity of the Wolf Creek Water and Sewer Improvement District (WCWSID) to provide drinking water service to future developments in the District. Per the information provided in your letter, WCWSID presently is committed to provide drinking water to 1,378 connections, 957 of which are currently active. The committed number of connections is based on approved plats and existing connections. Developers are interested in getting additional new plats approved by Weber County and building additional units. WCWSID provides secondary water for outside use, such as irrigation, so drinking water is for indoor use only. 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 Rules, R309-510 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 demand, to be able to provide 400 gallons per ERC of storage, and to be able to provide average yearly demand which is 0.45 acre-feet per ERC based on water rights. The water system component with the least capacity determines the allowable number of connections. WCWSID provided the required data and requested a reduction to the Peak Day Demand Source Requirement, which the Drinking Water Rules allow under R309-510-5, titled Reduction of Requirements. The Division issued a letter on August 27, 2012, which reduces the peak day demand source requirement from 800 gallon to 391 gallons per day per ERC for WCWSID.

SOURCE CAPACITY

WCWSID has the following approved drinking water sources and approved safe yields:

| Source Number | Source Name | Safe Yield (gallons per minute, gpm) |
|---------------|------------------------------|--------------------------------------|
| WS001 | Wolf Creek Spring | 30 |
| WS002 | Warm Spring Well | 400 |
| WS004 | Eden Hills Well | 48 |
| | Total Source Capacity | 478 |

Based on the total source capacity of 478 gpm, WCWSID has the capability to serve 1,760 ERCs. With the present commitment to serve 1,378 ERCs, it is estimated that there is source capacity to serve an additional 382 ERCs, for indoor water use only, with additional new development.

Several years ago, WCWSID was approved to drill the Highlands Well (WS003) and a test well was drilled. However, due to business conditions, a final production well was never drilled. WCWSID anticipates drilling this production well in the future when additional source capacity is needed.

STORAGE CAPACITY

WCWSID has the following approved storage tanks in service:

| Storage Tank Number | Source Name | Volume (gallons) |
|---------------------|-------------------------------|------------------|
| ST001 | Snowflake Tank | 55,000 |
| ST002 | Wolf Creek Tank | 250,000 |
| ST003 | Highlands Tank | 400,000 |
| ST004 | Eden Hills Tank | 50,000 |
| | Total Storage Capacity | 755,000 |

Based on the total storage capacity of 755,000 gallons, WCWSID has the capability to serve 1,587 ERCs. 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 storage. With the present commitment to serve 1,378 ERCs, it is estimated that there is storage capacity to serve an additional 209 ERCs, for indoor water use only, with additional new development.

Your letter indicates WCWSID plans on building a new tank, at the Wolf Creek Tank elevation, with 500,000 gallons of storage volume when additional storage capacity is needed.

WATER RIGHTS

WCWSID has the following water rights for their sources:

| Water Right Number | Amount (acre-feet) |
|-----------------------------------|--------------------|
| E2031 | 689 |
| E5074 | 26 |
| Total Water Rights in Hand | 715 |

Based on the total water rights in hand of 715 acre-feet, WCWSID has the capability to serve 1,589 ERCs. With the present commitment to serve 1,378 ERCs, it is estimated that there is water rights capacity to serve an additional 211 ERCs, for indoor water use only, with additional new development.

WCWSID leases these water rights from the Weber Basin Water Conservancy District and additional water rights are available for lease if needed.

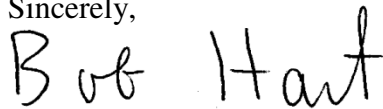
SUMMARY

Among the source capacity, storage capacity, and water rights we evaluated in this letter, the storage capacity is the limiting factor. With storage being the limiting component at present, **we estimate that WCWSID has the capacity to serve 209 additional ERCs at this time.** This analysis is based on any new ERCs using drinking water from WCWSID for indoor use only, since WCWSID has secondary water for outdoor uses such as irrigation.

Please be aware that this feasibility letter is not a plan approval and does not allow you to start construction. You will need to **submit a project notification form and all final plans and specifications as well as meet requirements related to hydraulic modeling as found in the Utah Administrative Rules R309-511** in order to obtain a plan approval from the Division of Drinking Water prior to commencing construction of future developments. You indicated that WCWSID is in the process of hiring an engineering firm to do a master plan for the system and a hydraulic model. You will need to submit the master plan and the hydraulic model report to the Division when they are completed.

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

Enclosure — WCWSID Spreadsheet

cc: Louis Cooper, Env. Director, Weber-Morgan Health Department, lcooper@co.weber.ut.us
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WOLF CREEK WATER SEWER IMPROVEMENT DISTRICT

January 2014

| Residential Projects | Committed Connections (Recorded) | Active Connections | Standby Connections | Total Units for Project | Completed Units | Non Primary Homes * | Average Unit SF in Development | Total Unit SF in Development | Type of Connection | Peak Source Demand for Daily Indoor Use** | Peak Source Demand by Development |
|--|----------------------------------|--------------------|---------------------|-------------------------|-----------------|---------------------|--------------------------------|------------------------------|--------------------|---|-----------------------------------|
| Completed Projects | | | | | | | | | | | |
| Cascades | 48 | 48 | 0 | 48 | 48 | 45 | 1,770 | 84,960 | Rec Home Dev | 400 | 19200 |
| Eden Hills | 26 | 24 | 2 | 26 | 21 | 0 | 2,179 | 45,759 | Residential | 800 | 16800 |
| Elkhorn | 91 | 37 | 54 | 91 | 36 | 5 | 2,684 | 96,624 | Residential | 800 | 28800 |
| Fairway Oaks | 37 | 26 | 11 | 37 | 25 | 1 | 1,928 | 48,200 | Residential | 800 | 20000 |
| Hidden Oaks | 8 | 3 | 5 | 8 | 3 | 1 | 2,635 | 7,905 | Residential | 800 | 2400 |
| Highlands | 140 | 17 | 123 | 140 | 9 | 4 | 3,095 | 27,855 | Residential | 800 | 7200 |
| Moose Hollow | 168 | 156 | 0 | 168 | 156 | 162 | 903 | 140,868 | Rec Home Dev | 400 | 62400 |
| Other (Jordan) | 1 | 1 | 0 | 1 | 1 | 0 | 1,666 | 1,666 | Residential | 800 | 800 |
| Patio Springs | 110 | 89 | 21 | 110 | 88 | 1 | 1,967 | 173,096 | Residential | 800 | 70400 |
| Raspberry Hills | 4 | 4 | 0 | 4 | 3 | 0 | 1,738 | 5,214 | Residential | 800 | 2400 |
| Snowflake | 26 | 13 | 13 | 26 | 13 | 1 | 2,729 | 35,477 | Residential | 800 | 10400 |
| The Villages | 62 | 10 | 52 | 62 | 10 | 6 | 1,464 | 14,640 | Residential | 800 | 8000 |
| WC Village | 30 | 30 | 0 | 30 | 30 | 30 | 934 | 28,020 | Resort | 150 | 4500 |
| Wolf Creek | 32 | 25 | 7 | 32 | 24 | 0 | 2,085 | 50,040 | Residential | 800 | 19200 |
| Wolf Creek Ranch | 3 | 3 | 3 | 3 | 3 | 0 | 1,712 | 5,136 | Residential | 800 | 2400 |
| Wolf Lodge | 144 | 144 | 0 | 144 | 144 | 119 | 714 | 102,816 | Rec Home Dev | 400 | 57600 |
| Wolf Ridge | 41 | 27 | 14 | 41 | 26 | 2 | 2,603 | 67,678 | Residential | 800 | 20800 |
| Wolf Star | 38 | 38 | 0 | 38 | 38 | 15 | 1,599 | 60,762 | Rec Home Dev | 400 | 15200 |
| WorldMark | 64 | 64 | 0 | 64 | 64 | 64 | 1,229 | 78,656 | Resort | 150 | 9600 |
| Projects In Progress By Phase | | | | | | | | | | | |
| Eagle Ridge Totals | 64 | 17 | 47 | 198 | 17 | 15 | 2,284 | 38,828 | Residential | 800 | 13600 |
| Eagle Ridge Phase 1 | 17 | | | | | | | | | | |
| Eagle Ridge Phase 2 | 7 | | | | | | | | | | |
| Eagle Ridge Phase 3 | 14 | | | | | | | | | | |
| Eagle Ridge Phase 4 | 10 | | | | | | | | | | |
| Eagle Ridge Phase 5 | 16 | | | | | | | | | | |
| Eagles Landing Totals | 10 | 10 | 10 | 106 | 0 | 0 | - | - | Residential | 800 | 0 |
| Eagles Landing Phase 1 | 10 | | | | | | | | | | |
| Fairways Totals | 59 | 44 | 15 | 115 | 39 | 32 | 2,203 | 85,917 | Rec Home Dev | 400 | 15600 |
| Fairways Phase 1 | 17 | | | | | | | | | | |
| Fairways Phase 2 | 24 | | | | | | | | | | |
| Fairways Phase 3 | 18 | | | | | | | | | | |
| Powder Canyon Totals | 20 | 0 | 20 | 60 | 0 | 0 | - | - | Rec Home Dev | 400 | 0 |
| Powder Canyon Phase 1 | 20 | | | | | | | | | | |
| The Retreat | | | | | | | | | | | |
| The Retreat Phase | 18 | 0 | 18 | 45 | 0 | 0 | - | - | Rec Home Dev | 400 | 0 |
| Trappers Ridge Totals | 139 | 114 | 15 | 149 | 108 | 88 | 2,031 | 219,348 | Rec Home Dev | 400 | 43200 |
| Trappers Ridge Phase 1 | 13 | | | | | | | | | | |
| Trappers Ridge Phase 2 | 13 | | | | | | | | | | |
| Trappers Ridge Phase 3 | 19 | | | | | | | | | | |
| Trappers Ridge Phase 4 | 23 | | | | | | | | | | |
| Trappers Ridge Phase 5 | 41 | | | | | | | | | | |
| Trappers Ridge Phase 6 | 20 | | | | | | | | | | |
| Trappers Ridge Phase 7 | 10 | | | | | | | | | | |
| Trappers Ridge Phase 8 | 0 | | | | | | | | | | |
| Current District Residential Totals | 1,365 | 944 | 412 | 1,746 | 906 | 591 | | 1,419,465 | | | 450,500 |
| Average Unit Size SF* | | | | | | | | 1,567 | | Daily Peak Demand | 497 |

*Individual Residential SF and Primary Home Tax info obtained from Weber County Records

**Table 510-1 Source Demand for Indoor Use, R309-510, Division of Drinking Water

WOLF CREEK WATER SEWER IMPROVEMENT DISTRICT

January 2014

| Commercial Projects | Committed Connections | Active Connections |
|----------------------------------|-----------------------|--------------------|
| Cart storage | 0 | 0 |
| Cascades Clubhouse | 1 | 1 |
| Eagle Ridge West Entry | 1 | 1 |
| Family Activity Center | 0 | 0 |
| Fairways Clubhouse | 1 | 1 |
| Maintenance | 1 | 1 |
| | | |
| Moose Hollow Clubhouse/Office | 1 | 1 |
| Pineview Lodge | 1 | 1 |
| Powder Canyon Clubhouse | 0 | 0 |
| Properties Office | 1 | 1 |
| R&O Eagles Ridge Sales Office | 1 | 1 |
| Trappers Ridge Clubhouse | 1 | 1 |
| Trentwest Recreation Center | 1 | 1 |
| | | |
| WC Clubhouse | 1 | 1 |
| WC Welcome Center | 1 | 1 |
| WorldMark Sales Office | 1 | 1 |
| Current Commercial Totals | 13 | 13 |
| Service Area Totals | 1,378 | 957 |

| Available Connections Based on 391 GPD and Existing Connections* | |
|--|------------|
| Safe Yield | 478 |
| Minutes in a day | 1440 |
| System GPD | 391 |
| Committed Residential | 1,365 |
| Committed Commercial | 13 |
| Available Connections | 382 |

*The 391 GPD requirement was established by a letter from the Division of Drinking Water dated August 27, 2012.

| Culinary Source in Gallons per Minute | | |
|---------------------------------------|-------------|----------------------------|
| Source | Full Yield* | Safe Yield (2/3 of Full)** |
| Wolf Creek Spring | 50 | 30 |
| WC Well | 522 | 400 |
| Eden Hills Well | 72 | 48 |
| Current Total Source | 644 | 478 |
| Highlands Well (Future) | 200 | 200 |
| Total Future Source | 844 | 678 |

*Figure determined by Gardner Engineering in January 2002
 **Figure use by Utah DEQ (Division of Drinking Water) in February 2008

| Storage Tanks in Gallons | |
|------------------------------|------------------|
| Highlands | 400,000 |
| Wolf Creek | 250,000 |
| Snowflake | 55,000 |
| Eden Hills | 50,000 |
| Total Current Storage | 755,000 |
| Wolf Creek #2 (Future) | 500,000 |
| Total Future Storage | 1,255,000 |