



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

NOV 03 2015

Mr. Scott Blank
Camp Utaba
7005 North Fork Foad
Liberty, UT 84310

Dear Mr. Blank:

Subject: **Construction Permit – Camp Utaba LUWD System**
Liberty, Utah, Weber County

The Division of Water Quality has reviewed your permit application containing plans and specifications prepared by Mr. Richard Jex, P.E. of SGC Enterprises, Inc. for the construction of a new large underground wastewater disposal system (LUWDS) to treat and dispose wastewater from the Camp Utaba building complex. The plans and specifications, as submitted on October 19, 2015, basically comply with R317-5, *Large Underground Wastewater Disposal Systems, Utah Administrative Code*. A Construction Permit, as constituted by this letter, is issued subject to the following conditions:

1. Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.

The system will have a design capacity of 5,610 gallons per day based on the maximum daily flow from the camp facilities. The flow was calculated from a total of 102 campers generating 30 gpd each, one-five bedroom home at 750 gpd, one-two bedroom home at 300 gpd, a 12 room adult retreat facility at 125 gpd each, for a total of 5,610 gpd (R317-4, Table 3).

2. **The approved facilities must not be placed in service prior to the Division or designated representative:**
 - a. Inspecting and approving the water tightness test for all tanks.
 - b. Conducting representative inspection(s) of the components of the drainfield prior to backfilling.
 - c. Conducting a pump discharge squirt height test.
 - d. Completing a final inspection, and authorizing use of the facilities in

writing through the issuance of an Operating Permit.

Please make the necessary arrangements for these inspections by calling Michela Gladwell of the Weber Morgan Health Department at 801-399-7178 or John Kennington of the Division at 801-536-4380. The Engineer of Record or designated representative must be present during key construction events, to verify that construction and installation was performed as per design. Documentation of these inspection visits will be provided when the completion letter is submitted to the Division following final inspection.

3. This construction permit does not cover biosolids treatment, monitoring, record keeping, reporting and disposal/reuse.
4. The proposed subsurface disposal and sewer system shall be under the sponsorship of the facility Owner: Utah Association of Baptist Churches.
5. No additional connections of any type may be made to this sewer system without the review and approval of the Division.
6. Construction activities that disturb one acre or more are required to obtain coverage under the Utah Pollutant Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities. The permit requires the development of a storm water pollution prevention plan (SWPPP) to be implemented and updated from the commencement of any soil disturbing activities at the site until final stabilization of the project. For more information, or to obtain permit coverage on-line, please go to: <http://www.waterquality.utah.gov/UPDES/stormwater.htm>

The issuance of the permit does not relieve you, in any way, of your obligations to comply with other applicable regulatory requirements, or obtaining other necessary applicable permits from local or other agencies. You may contact Michela Gladwell (801-399-7180) at the Weber Morgan Health Department, for compliance with other local requirements.

The construction permit will expire one year after the date of this permit, unless substantial progress is made in construction the approved facilities, or the plans and specifications have been resubmitted and the construction permit is reissued.

The project consists of the construction of a new large underground wastewater treatment and disposal system that will augment existing wastewater facilities at the camp. The proposed system improvements are described below and design criteria for the new system are listed in Attachment No. 1.

1. The new onsite system will be integrated into the existing onsite system components to enable addition of infrastructure and system capacity. The existing system consists of:
 - A Lodge with an existing 1,000 gal septic tank. The effluent flows by gravity to the existing two septic tanks and lift station at the existing Bath House.
 - At the existing Bath House there are two 1,500 gal septic tanks followed by an existing 1,500 gal pump tank. The effluent from the pump tank is directed through an existing pressure line to an existing drainfield, at the south side of

the property, which will be kept in service. The existing drainfield will be used during the winter low-use season, and the new drainfield will be used during the summer high use season.

- On the southeast side of the property are located an existing caretaker home and shop. The home is served by an existing 750 gallon septic tank and 250 sq. ft. seepage pit. The home will eventually be removed. The shop has no sanitary facilities.

The new onsite system components will consist of the following:

- A new 1,750 gal septic tank and pump station will serve the new Caretaker residence. The effluent will be pumped to the existing Bath House pump tank through a 1-1/2 inch pressure line. This line will traverse the North Fork River through an insulated, 6" casing suspended from a bridge. The pipeline will also be insulated where burial is not below frost depth. It will also a cross minimum of 16 inches under an existing water line, where joints will be located a minimum of 10 feet on each side of the crossing.
 - A new 3 inch pressure line will be connected to the existing pressure line running between the Bath House pump station and existing drainfield at a location near the drainfield and running to the new drainfield dosing pump tank. This intersection will be valved such that either drainfield can be utilized.
 - A new 6,000 gallon pump tank will be installed to dose feed the new drainfield. The drainfield will have four zones consisting of 5-100 ft. laterals each, for a total of 20 pressure fed laterals. The transport line from the dosing tank to the four station ratcheting valve will be 2 inch diameter. The lateral lines feeding the full length of each lateral will be 1-1/2 inch diameter. The new drainfield will be equipped with Type I plastic chamber media.
2. Each of the three new pumped dosing stations will be controlled with a four-float system through time-dosed control, with a demand-dosed emergency level override.
 3. Pressure distribution will be through an Orenco automatic distribution valve (V6404A) with four outlet ports feeding 5 disposal trench laterals each, for a total of 20 laterals. The valve will be fitted with an insulated curb box allowing maintenance access from the surface.
 4. SCG Enterprises, Inc., had provided soil and percolation tests, thus satisfying R317-4 requirements. The disposal system was sized for the percolation rate recorded at 40 min/in, resulting in a potential design application rate of 0.55 gallons/ft²/day, calculated per R317-4-13, Table 5.
 5. The new septic/pump tanks will have risers over the inlet and outlet tees which extend to the surface of the finished grade to facilitate maintenance and servicing. Risers will be attached and made watertight, with screwed down or other lockable means for the lids. The risers will have a minimum diameter of 30 inches. Provisions will be taken to ensure the septic tank is protected from possible traffic loading. Provision may include a load

tolerant tank design, adequate burial depth or physical barriers to prohibit traffic from crossing over the tank.

6. According to the Administrative Rules for the Underground Injection Control (UIC) Program (UAC R317-7), the proposed onsite domestic wastewater disposal system, which has a design flow rate greater than 5,000 gallons per day, is classified as a Class V injection well. Owners and operators of all Class V injection wells are required to submit inventory information. Please submit a completed Utah UIC Inventory Information Form for UIC-Regulated Domestic Wastewater Disposal Systems, which is available online from the DWQ UIC homepage at the following link:
<http://www.waterquality.utah.gov/UIC/UICForms/UICForms.htm>

The Utah UIC Program Rules prohibit authorization of underground injections “which would allow movement of fluid containing any contaminant into underground sources of drinking water (USDW) if the presence of that contaminant may cause a violation of any primary drinking water regulation (40 C.F.R. Part 141 and Utah Primary Drinking Water Standards R309-200-5), or which may adversely affect the health of persons” or which “may cause a violation of any ground water quality rules that may be promulgated by the Utah Water Quality Board” (R317-7-5.3). If after reviewing the information submitted with the UIC Inventory Information Form, DWQ determines operation of the Class V injection well does not present a potential for contaminating a USDW as described above, the Class V well may be allowed to operate under authorization-by-rule status under the UIC Rules. If, however, it is determined that operation of the Class V injection well could potentially contaminate a USDW, additional conditions will be made on the operating permit for this system.

Two copies of the Operation & Maintenance manual, detailing servicing and maintenance of entire system (including drain field dispersal area) will be required to be submitted to the Division prior to final construction and approval to operate. The person identified for maintenance must be listed in this manual and must have a Level 3 Onsite Certification per R317-11.

Additionally, the engineer must provide ‘as-built’ plans of the installed system. The ‘as-built’ plans must have accurate GPS coordinates recorded for each major equipment component including: exit points of all building sewer lines from structures, all sewer line changes of direction, all septic tank access ports, distribution box/valve, cleanouts, lateral ends/turn-ups and control panel locations.

An operating permit will be issued for this system by the Division, upon completion of the engineer’s final report per R317-5-1.3., and will detail annual inspection and reporting requirements for this system.

We are retaining one set of the submitted plans for our file, with an imprint of our construction permit stamp and returning one set to you. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installation.

Please advise us of the beginning of construction. This will enable us to schedule periodic inspections. We request that a copy of record drawings be provided after the final inspection has

been conducted by the Division, and completed works have been placed into service. This will enable us to keep our information accurate.

If we can be of further assistance, please contact John Kennington of my staff at 801-536-4380.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Walter L. Baker', with a stylized flourish at the end.

Walter L. Baker, P.E.
Director

WLB:JRK:JKM:ag

Enclosure: Contract Documents (1 volume)

cc: Michela Gladwell, Weber Morgan Health Department (w/ enclosure)
Richard Jex, SCG Enterprises, Inc. (w/o enclosure)
Candace Cady, Utah DWQ (w/o enclosures)

Attachment No. 1

Design Criteria

Parameter	Quantity	Units	Notes
Estimated Daily WW Quantity	5,610	Gal/day	102 campers x 30 gpd + 2 homes @ 1,050 gpd + 12 rooms x 125 gpd = 5,610 gpd
Min Depth of new pipelines	45	in.	All pipelines will be run below frost depth
Design percolation rate	40	Min/in	Slowest perc rate observed
Design soil absorption rate	0.55	Gal/SF-Day	R317-13, Table 5
Minimum drainfield size	4,998	Sq. ft.	5610 gpd/0.55 gpd/sq-ft x 0.7 (chamber red) x 0.7 (no auto washer red.) = 4,998 sq. ft.
Min drainfield trench length	1,666	Ln. ft.	4,998 sq. ft./3sq. ft./ln. ft. = 1,666 ln. ft.
Actual drainfield trench length	2,000	Ln. ft.	Use 20-100 ft long lateral trenches
Installed drainfield size	6,000	Sq. ft.	2,000 ln ft x 3 sq. ft./ln. ft. = 6,000 sq. ft.
Septic Tank Capacity – Caretaker residence	1,750	Gal	1,500 gal (5 BR) + 250 gal for pump vault = 1,750 gal (R317-4-6.7 A.1.)
Septic Tank Capacity – Adult Retreat facility	2,500	Gal	1.5 x 1500 gpd + 250 gal for pump vault = 2,500 gal.
Min. Pump/Dosing Tank Capacity	5,610	Gal	1.0 x 5,610 gal = 5,610 gal,
Chosen Pump/Dosing Tank Capacity	6,000	Gal	Use 6,000 gal, Xerxes fiberglass
No. of Pressure Distribution Zones	5	Each	
Number of Dist. trench Laterals	20	Laterals	4 Zones x 5 laterals/zone
No./model of Effluent Pumps	2	Each	Orenco turbine lift pumps @ 3 new lift stns.
Length of Laterals	100	Ln. Ft.	2,000 ln. ft./10 laterals = 100 ln-ft / lateral
Drainfield Press Dist. Pipe Diameter	1.5	In.	PVC
Min.Width of Drainfield Trench	3	Ft.	R317-4-6.14 E.3g. (Min 24 inches)
Press Ln dia: Caretaker to Wash House lift station.	1.5	In.	
Press Ln dia: Exst press ln conn to new Drainfield Dosing stn.	3	In.	
Press Ln dia: New Drainfield Dosing station. to Drainfield	2	In.	
Press Ln dia: Adult Retreat lift station to new press distribution line	1.25	In.	