

**Utah Division of Water Quality  
ADDENDUM  
Statement of Basis  
Wasteload Analysis**

**Date:** August 22, 2011

**Facility:** Holliday Water Company  
Holladay, UT  
UPDES No. UT025429

**Receiving water:** Spring Creek (2B, 3A, 4)

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

Outfall 001: Spring Creek

The design flow for the discharge is 2.5 MGD (3.85 cfs), per the previous permit.

Receiving Water

The receiving water for outfall 001 is Spring Creek, which is tributary to Big Cottonwood Creek and the Jordan River. The designated uses for Spring Creek are the same as those for Big Cottonwood Creek below the Big Cottonwood Creek Water Treatment Plant: 2B, 3A, and 4. Note that under the previous permit, Spring Creek was considered 1C as well. The interpretation for this wasteload is that Spring Creek above the Holliday Water Company intake is 1C and that 1C does not apply below the intake because there are no known domestic water users.

The receiving water does not have an approved TMDL for any parameters. Big Cottonwood Creek downstream of the confluence with Spring Creek is listed as impaired for temperature (2010 Utah Integrated Report). The Jordan River downstream of the confluence with Big Cottonwood Creek is listed as impaired for E. coli, dissolved oxygen and total dissolved solids.

Spring Creek is entirely dewatered by the Holliday Water Company for water supply purposes. The critical flow for the wasteload analysis was considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). The 7Q10 flow for dewatered streams is considered to be zero.

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Mixing Zone

The allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

Dilution Factor

Since no flow is in the receiving water during critical conditions, no dilution factor was applied.

Parameters of Concern

The potential parameters of concern for the discharge/receiving water identified were total suspended solids (TSS), pH, and total residual chlorine, as determined in consultation with the UPDES Permit Writer.

Effluent Limits

Effluent limits for this discharge are water quality standards for the receiving water. The applicable water quality standards for the parameters of concern are listed below.

Table 1: Water quality based effluent limits

Parameter	Effluent Limit	
	Acute	Chronic
Total Residual Chlorine	0.019 mg/L	0.011 mg/L
pH	6.0 – 9.5	6.0 – 9.5

Turbidity: The increase of turbidity of the effluent being discharged to Spring Creek shall not exceed 10 NTU's.

For parameters without a WQBEL, permit limits should be set according to rules found in R317-1-3 and categorical UPDES discharge requirements.

WLA Document: *holliday\_water\_wla\_2011.doc*

Analysis Document: *None*

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