

February 21, 2023
Job No. 439-020-23

The Romney Group
2265 East Murray Holladay Road
Holladay, Utah 84117

Attention: Mr. Anthon Stauffer

Re: Letter Report
Infiltration Tests
Grantsville Site
North of Highway 112 and West of Lamb Lane
Grantsville, Utah

1. INTRODUCTION

This letter report presents the results of our infiltration tests performed at the Grantsville Site, which is located North of Highway 112 and West of Lamb Lane in Grantsville, Utah. The infiltration testing was requested to aid in the design of a storm water detention system.

2. INVESTIGATIONS

2.1 FIELD PROGRAM

In order to define and evaluate the subsurface soil conditions in the area of the stormwater detention system, 2 test pits were excavated to depths of 15.0 feet below existing grade. Prior to backfilling the test pits, infiltration tests were performed at depths ranging from sixteen to seventeen feet below surrounding grade. The depths explored were extended by posthole digger excavation to a depth of 16 - 18 feet to facilitate the infiltration tests and explore below the base of the test pits.

2.2 SUBSURFACE SOIL

Test Pit TP-1 is the westernmost test pit on the property. Subsurface soils encountered at TP-1 consisted of 7 inches of major roots (topsoil) overlying silty clay with trace fine sands (CL) to the maximum explored depth of 18 feet below existing grade. A 1.5-foot-thick layer of silty sand with gravel was noted from approximately 8.0 - 9.5 feet below existing grade. Groundwater was not encountered to the maximum explored depth of 18 feet.

Test Pit TP-2 was located approximately 150 feet east of Test Pit TP-1. Subsurface soils encountered consisted of 6 inches of major roots (topsoil) overlying silty clay with trace fine sand (CL) to a depth of 15 feet. Below the silty clay soils were fine and coarse gravel with sand (GP) to the maximum explored depth of 17 feet. Groundwater was not encountered to the maximum explored depth of 17 feet.

2.3 INFILTRATION TESTS

Water infiltration tests were conducted in general accordance with the Utah Department of Environmental Quality's wastewater disposal system percolation test regulations. However, the test hole was not saturated for 24-hours nor allowed to fully swell. Ambient temperature water was added to a 6-inch diameter PVC pipe with 6-inches of head. The resulting water level drop and elapsed time was recorded at 15-minute intervals or less depending on the infiltration rate. The results of the infiltration tests are tabulated below:

Test Pit No.	Depth (feet)	USCS Soil Classification	Measured Infiltration Rate (min./in.)	Recommend Design Infiltration Rate (min./in.)
TP-1	15.5 - 16	CL	30	60
TP-2	16.5 -17	GP	To fast to be measured accurately	10

3. CONCLUSIONS AND RECOMMENDATIONS

The measured infiltration rates reflect current natural site conditions at the test locations. It is our experience that infiltration rate will decrease over the lifetime of the system due to siltation and the introduction of other materials. Accordingly, we recommend a reduced design infiltration rate of at least 10 minutes per inch be used in design for a system installed in the natural gravel soils encountered at depths of 15 to 17 feet in the test pit TP-2, and 60 minutes per inch be used for a system terminating in the natural silty clay soils.

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We appreciate the opportunity of providing this service for you. If you have any questions or require additional information, please do not hesitate to contact us.

Respectfully submitted,

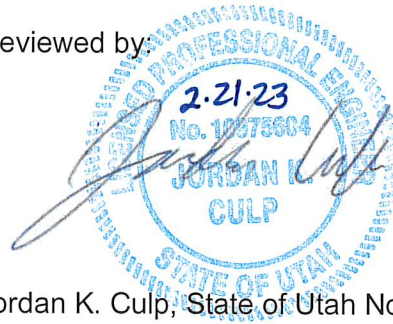
Gordon Geotechnical Engineering, Inc.

A handwritten signature in blue ink, appearing to read 'Dustin A. Gaines'.

Dustin A. Gaines, EIT
Staff Engineer

DAG/JKC:nc

Reviewed by:



Jordan K. Culp, State of Utah No. 10975604
Project Engineer