

Andrews Survey & Engineering, Inc.

Land Surveying • Civil Engineering • Site Planning

October 17, 2016

Grafton Conservation Commission
30 Providence Road
Grafton, MA 01519

**Re: Saturated Hydraulic Conductivity
Hilltop Self-Storage – 100 Milford Road, Grafton, MA
ASE Project No. 2014-316**

RECEIVED

OCT 17 2016

**PLANNING BOARD
GRAFTON, MA**

Dear Commission Members:

Pursuant to the condition #SP-10 within the Superseding Order of Conditions issued by the Massachusetts Department of Environmental Protection (MassDEP) for the above referenced project (MassDEP File #164-0892), Andrews Survey & Engineering, Inc. (ASE) performed saturated hydraulic conductivity testing within the stormwater infiltration basin on October 14, 2016.

The saturated hydraulic conductivity testing was performed in accordance with ASTM D3385 using a double ring infiltrometer manufactured by Turf-Tec International. The testing was performed in three (3) locations within the basin and, following a saturation period, readings were taken at 5 minute intervals for 15 minutes. The average of the three readings was used as the calculated infiltration rate.

A summary of the average infiltration rates is as follows, see the enclosed monitoring records for the results.

- Test #1 = 2.39 inches/hour
- Test #2 = 2.33 inches/hour
- Test #3 = 2.57 inches/hour

We hope this serves your needs at this time. Should you have any questions or require additional information, please contact this office.

Very truly yours,

ANDREWS SURVEY & ENGINEERING, INC.



Stephen J. O'Connell, SE#2715
Vice President

C: Hilltop Self-Storage of Grafton, LLC

F:\Acad\2014 Projects\2014-316\documents\As-Built\Hydraulic Conductivity Test Result\Cover Letter_Hydraulic Conductivity_10-17-16.doc

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MONITORING RECORD

PLACE: Hilltop Self Storage, 100 Milford Road, Grafton, MA

DATE: October 14, 2016

TIME: 2:40pm

LOCATION: Test #1 – Inf. basin, 60' from gabion @ center of basin (basin surface)

INFILTRATION RATE
ACTUAL

INFILTRATION RATE
CALCULATED

5 MINUTES : (.187) INCHES X 12 = (2.24) INCHES PER HOUR

10 MINUTES : (.406) INCHES X 6 = (2.44) INCHES PER HOUR

15 MINUTES : (.625) INCHES X 4 = (2.50) INCHES PER HOUR

30 MINUTES : () INCHES X 2 = () INCHES PER HOUR

Average infiltration rate @ Test #1 = 2.39 in/hr

*The Saturated Hydraulic Conductivity test was performed by using a double ring infiltrometer manufactured by Turf-Tec International

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MONITORING RECORD

PLACE: Hilltop Self Storage, 100 Milford Road, Grafton, MA

DATE: October 14, 2016

TIME: 3:30pm

LOCATION: Test #2 – Inf. basin, 26' from gabion 3' off side slope (basin surface)

INFILTRATION RATE
ACTUAL

INFILTRATION RATE
CALCULATED

5 MINUTES : (.187) INCHES X 12 = (2.24) INCHES PER HOUR

10 MINUTES : (.375) INCHES X 6 = (2.25) INCHES PER HOUR

15 MINUTES : (.625) INCHES X 4 = (2.50) INCHES PER HOUR

30 MINUTES : () INCHES X 2 = () INCHES PER HOUR

Average infiltration rate @ Test #1 = 2.33 in/hr

*The Saturated Hydraulic Conductivity test was performed by using a double ring infiltrometer manufactured by Turf-Tec International

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MONITORING RECORD

PLACE: Hilltop Self Storage, 100 Milford Road, Grafton, MA

DATE: October 14, 2016

TIME: 4:05pm

LOCATION: Test #3 – Inf. basin, 20' from gabion 3' off side slope (8" below surface)

INFILTRATION RATE
ACTUAL

INFILTRATION RATE
CALCULATED

5 MINUTES : (.218) INCHES X 12 = (2.61) INCHES PER HOUR

10 MINUTES : (.437) INCHES X 6 = (2.62) INCHES PER HOUR

15 MINUTES : (.625) INCHES X 4 = (2.50) INCHES PER HOUR

30 MINUTES : () INCHES X 2 = () INCHES PER HOUR

Average infiltration rate @ Test #1 = 2.57 in/hr

*The Saturated Hydraulic Conductivity test was performed by using a double ring infiltrometer manufactured by Turf-Tec International