
MEMORANDUM

TO: DR. THEODORE CLEAVELAND, P.E.
FROM: ALASKA TANGLEWILDE
DATE: FEBRUARY 16, 2016
RE: ENGINEERING CALCULATIONS AND PUMPS

Purpose: Answer questions from ES-4

Discussion: The first question in the ES asks about the required unit conversions needed to make the Swamee-Jain Equation work. I first convert the inches into feet. Then I work the excel spread sheet found on the class server (<http://rtfmeps.com/university-courses/ce-3372/2-Homework/ES-5/ES-5-Solution/>).

Discharge in a Pressure Pipe (US Units)

INPUTS	VALUE	UNITS
Diameter	2	feet
Gravity	32.2	feet/second^2
Head Loss	26.154	feet
Length	10560	feet
Roughness	1.23E-05	feet
Viscosity	1.41E-05	feet^2/second
RESULT	VALUE	UNITS
Discharge	15.90389	feet^3/second

Concluding Remarks: From the online calculator, the result of the discharge for the pipe is 15.9 ft³/s. IT was found that this is a normal flow rate for the □ pipe is with in the acceptable range.

□

Alaska Tanglewilde

All values and work is shown on the attached solution.

□