

Appendix 6D-5

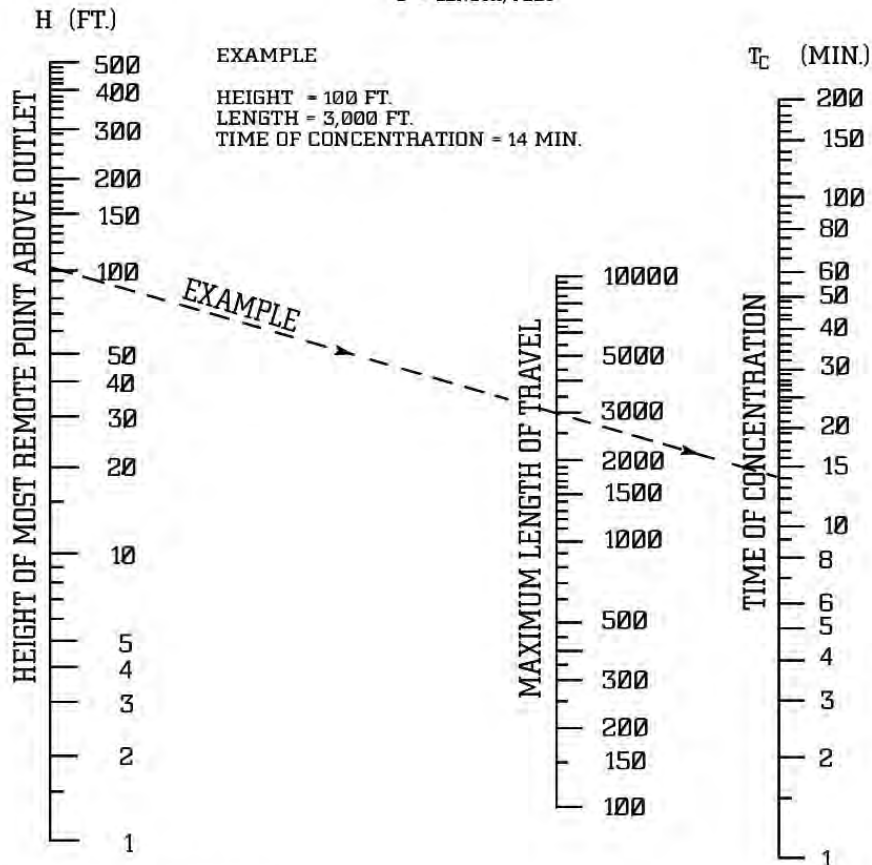
Time of Concentration for Small Drainage Basins - Kirpich

$$T_c = 0.00948 H^{-0.38} L^{1.13}$$

T_c - FLOW TIME, MINUTES

H - HEIGHT, FEET

L - LENGTH, FEET



EXAMPLE

HEIGHT = 100 FT.
 LENGTH = 3,000 FT.
 TIME OF CONCENTRATION = 14 MIN.

Based on study by P.Z. Kirpich,
 Civil Engineering, Vol. 10 No. 6, June 1940, p. 362

TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

* NOTE:
 USE NOMOGRAPH FOR NATURAL
 BASINS WITH WELL-DEFINED CHANNELS
 AND FOR MOWED GRASS ROADSIDE
 CHANNELS.

Comments:

VDOT derived an equation from and added it to this nomograph. This was done without the author's permission in the interest of providing the user with an optional mathematical solution. The Department warrants neither the accuracy nor the validity of this equation and cautions the user that it be used at their own risk.

****The Kirpich Chart should only be used for channel time in Virginia.**