Example No. 1

Use the exhibit provided to answer the following question.

EXISTING GROUND 25.0

FLOW LINE 19.0

FLOW LINE 18.0

FLOW LINE 15.0

STA
1 + 00

STA
2 + 00

STA
3 + 15

PROFILE

EXISTING GROUND

H

2
1

2
1

FLOW LINE

5'-0"
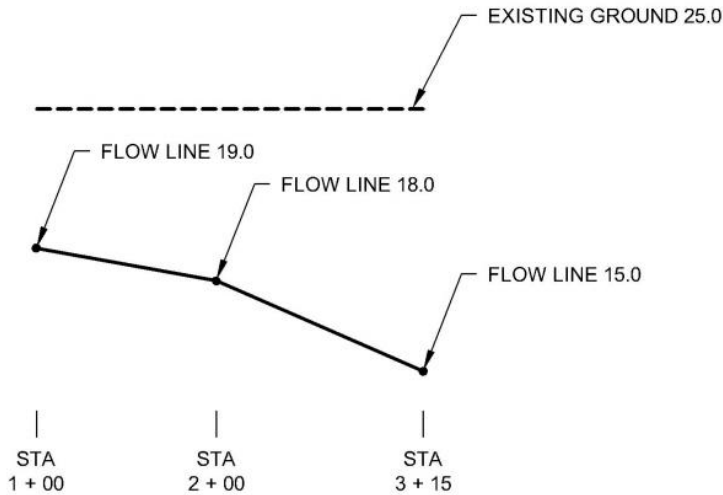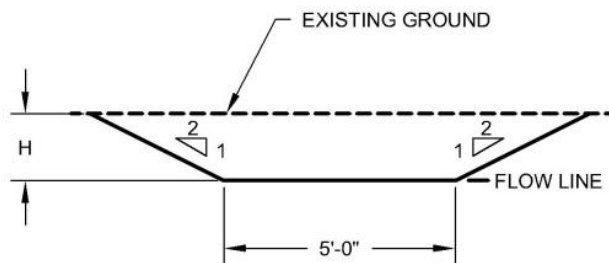
TYPICAL CROSS SECTION

A farmer is excavating a ditch to drain an existing field. Using the given profile and typical cross section, calculate the quantity of excavated material.

A.   1,145 cy
B.   1,242 cy
C.   1,251 cy
D.   1,287 cy

Example No. 2

A portion of a USGS map with a scale of 1" = 2,000' is to be enlarged by a factor of 5 (a 500% enlargement).   What is the scale ratio of the new map?

A.   1:400
B.   1:4,800
C.   1:10,000
D.   1:120,000

Example No. 3

A portion of a roadway is being staked as a circular curve from Point X (BC) to Point Y (EC). If the straight distance from Point X to Point Y is 460 ft and the central angle of the survey is 45°, what is the length of the curve?

A.   460 ft
B.   472 ft
C.   544 ft
D.   601 ft