



US Army Corps of Engineers



Sandbag Construction



Emergency Construction Sandbags

- Typical uses:
 - Where a low and relatively short barrier is required
 - Constricted areas where there is no room for earthfill levees
 - ex. back yards, buildings close to channel
 - Closures / temporary closures
 - ex. Roads, railroad tracks



Emergency Construction Sandbags

- Design section:
 - 1:3 cross section (1 foot high for 3 foot width)
 - 5 foot maximum height
 - 3 foot or less height preferred



US Army Corps of Engineers



Filling Sandbags

- Fill sacks approximately $\frac{1}{2}$ full
- Do not tie sacks

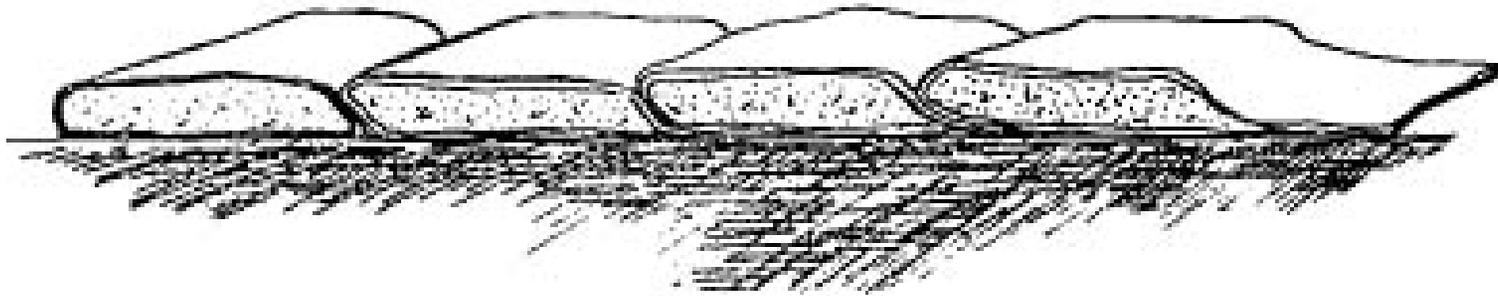


Placement of Sandbags

- Start upstream
- Where possible, strip sod / topsoil
- Where possible, excavate bonding trench 1 sack deep by 2 sacks wide
- Alternate direction of placement of bags with bottom layer parallel to flow
- Lap unfilled portion of sandbag under new sack



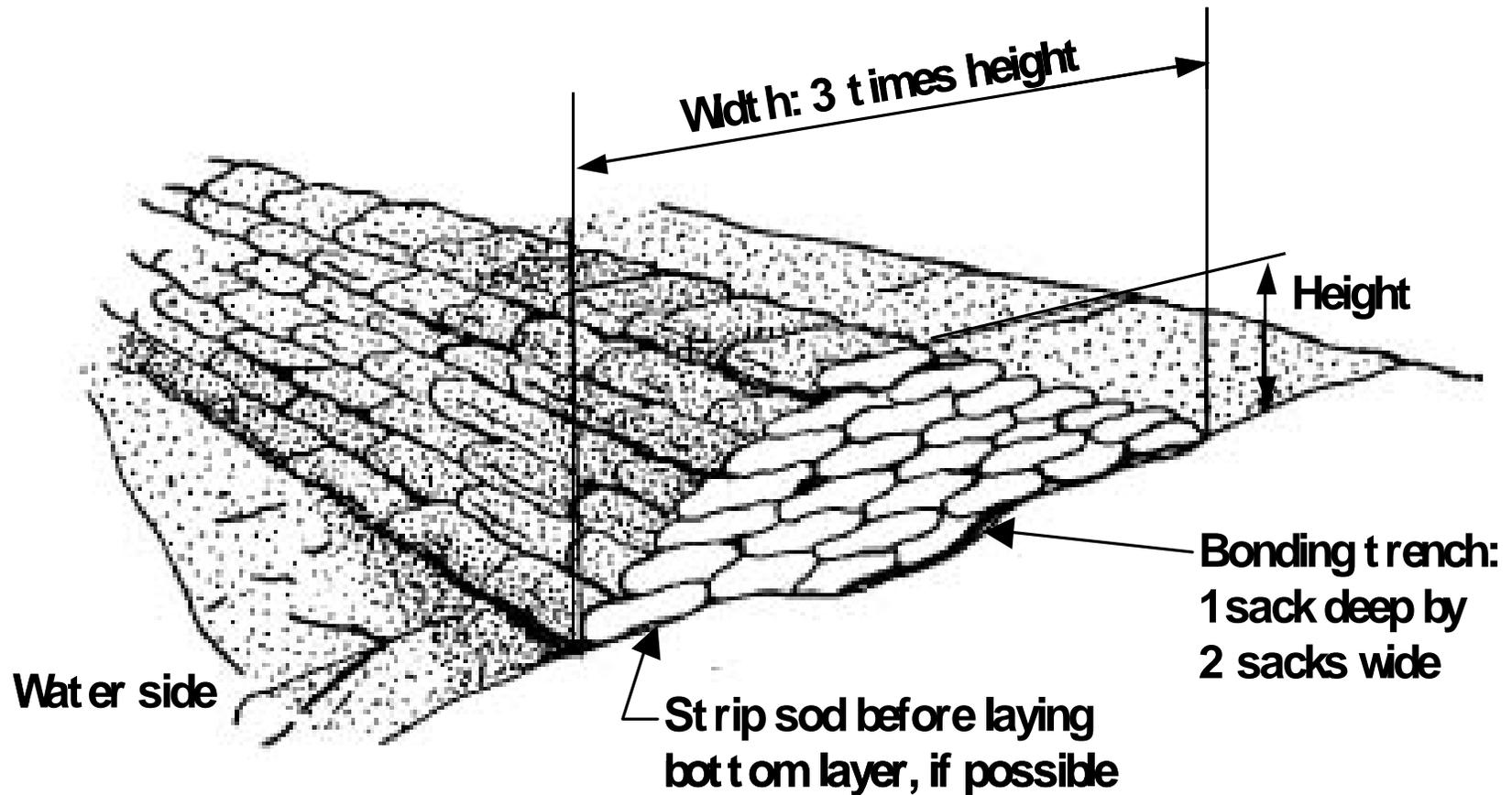
Placement of Sandbags (cont.)



Overlap unfilled portion of sack with filled portion of next sack

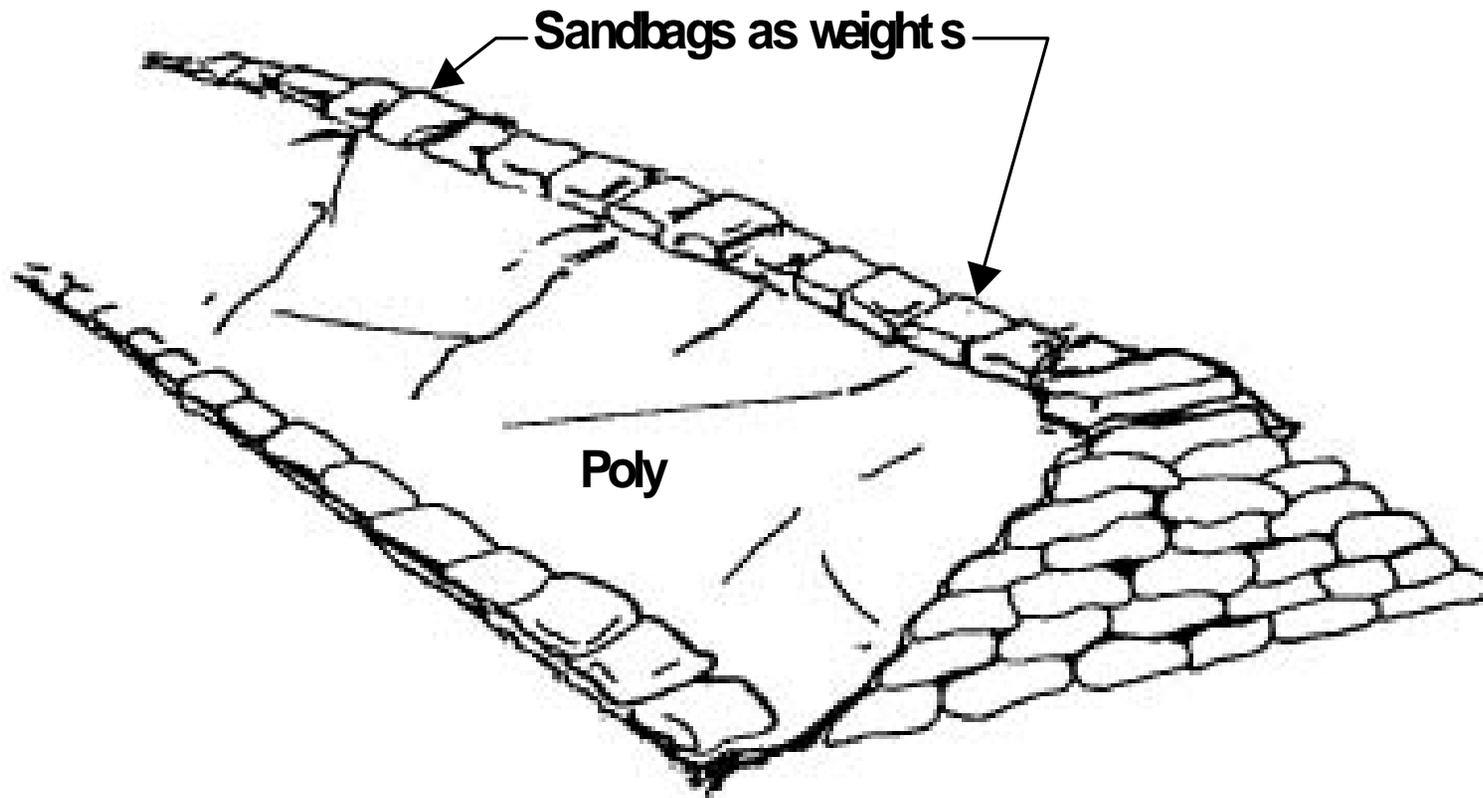


Placement of Sandbags (cont.)





Placement of Sandbags (cont.)



Place poly on wet side of sandbag closure to prevent / reduce seepage



Placement of Sandbags (cont.)

- Number of sandbags required per foot of closure vs. sandbag closure height

Height in Feet

1

2

3

4

5

Bags Required

5

10

21

36

55



US Army Corps of Engineers



Sandbag placement exercise



US Army Corps of Engineers



Sandbag ring levee with poly on inside face to prevent seepage



US Army Corps of Engineers



Sandbag ring levee to contain seepage



US Army Corps of Engineers



Sandbags placed at apartment building



US Army Corps of Engineers



Seepage/Erosion Protection: Polyethylene Sheeting and Sandbags

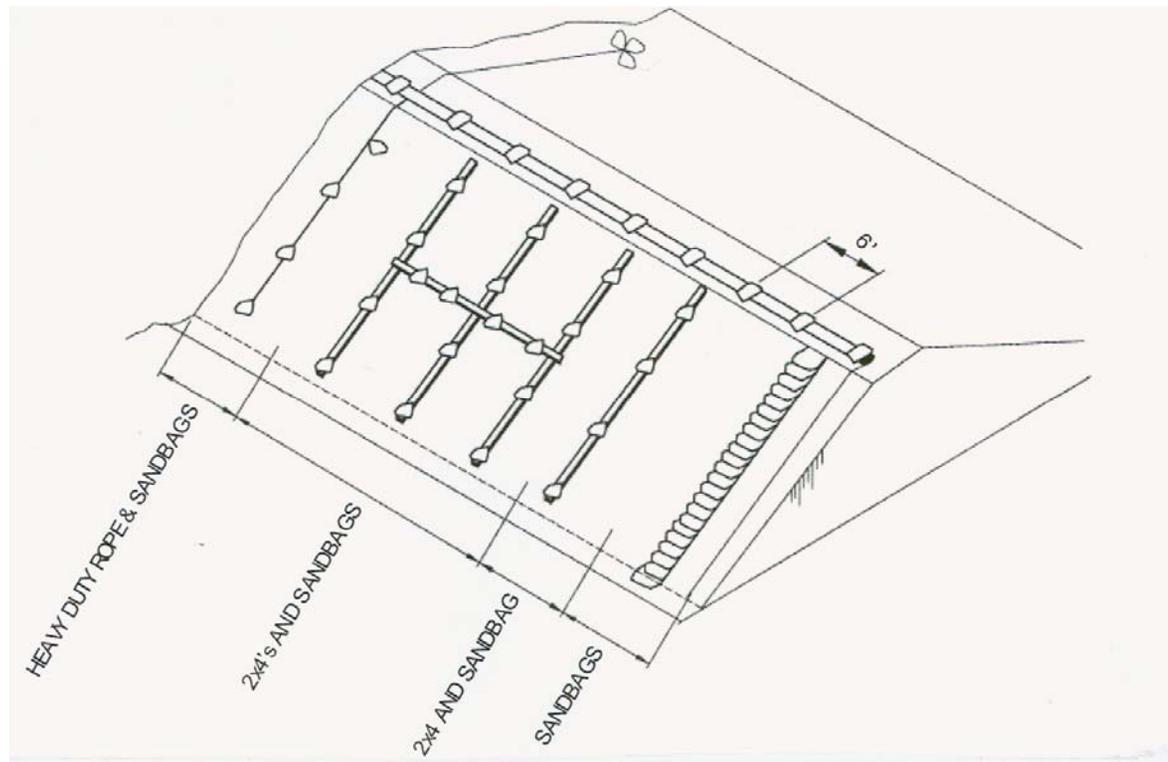


Seepage/Erosion Protection: Polyethylene Sheeting and Sandbags

- Polyethylene (poly) Sheeting - ~6 mil thick
- Sandbags used to anchor poly in place
- Placement is fairly quick
- Materials inexpensive
- Place materials in the dry or in the wet



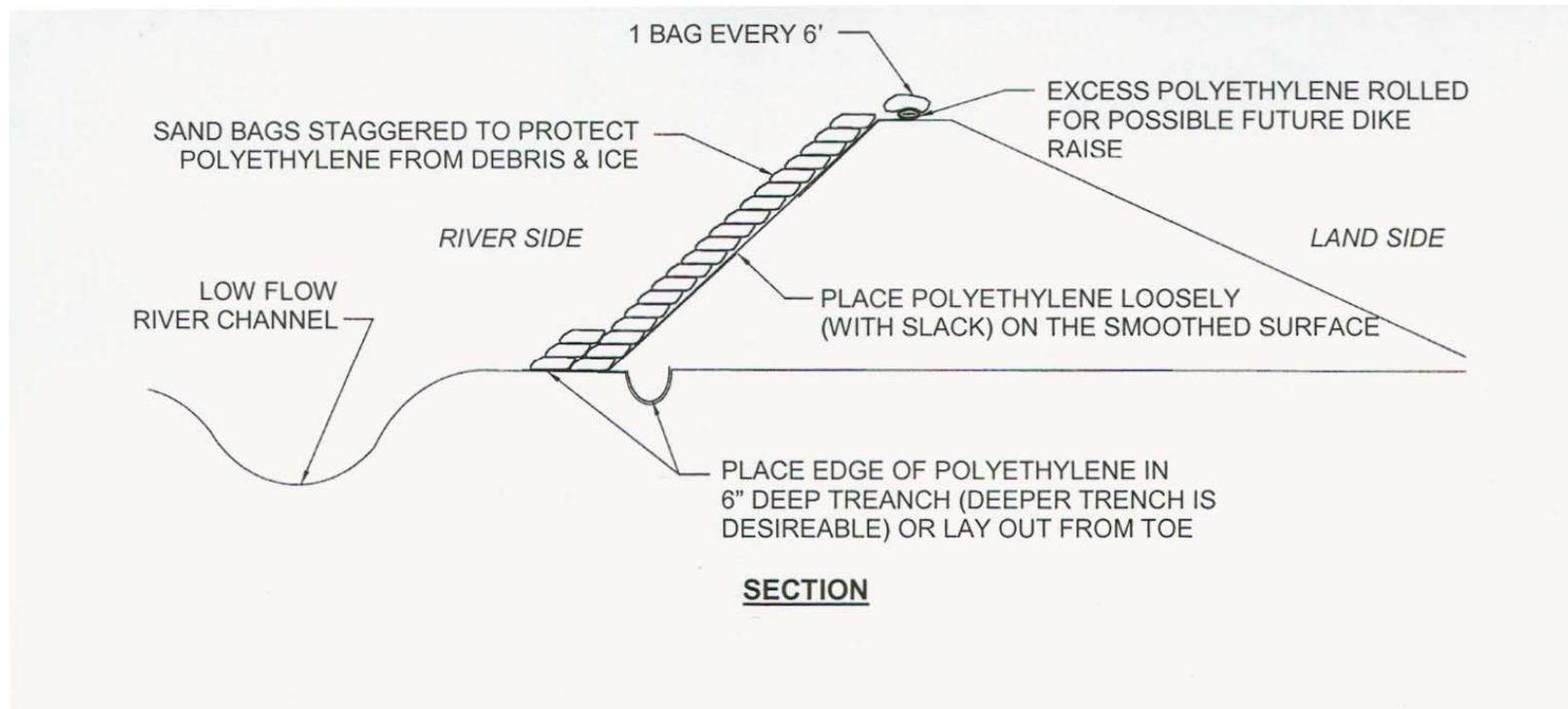
Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)



Placement of poly sheeting and sandbags in the dry



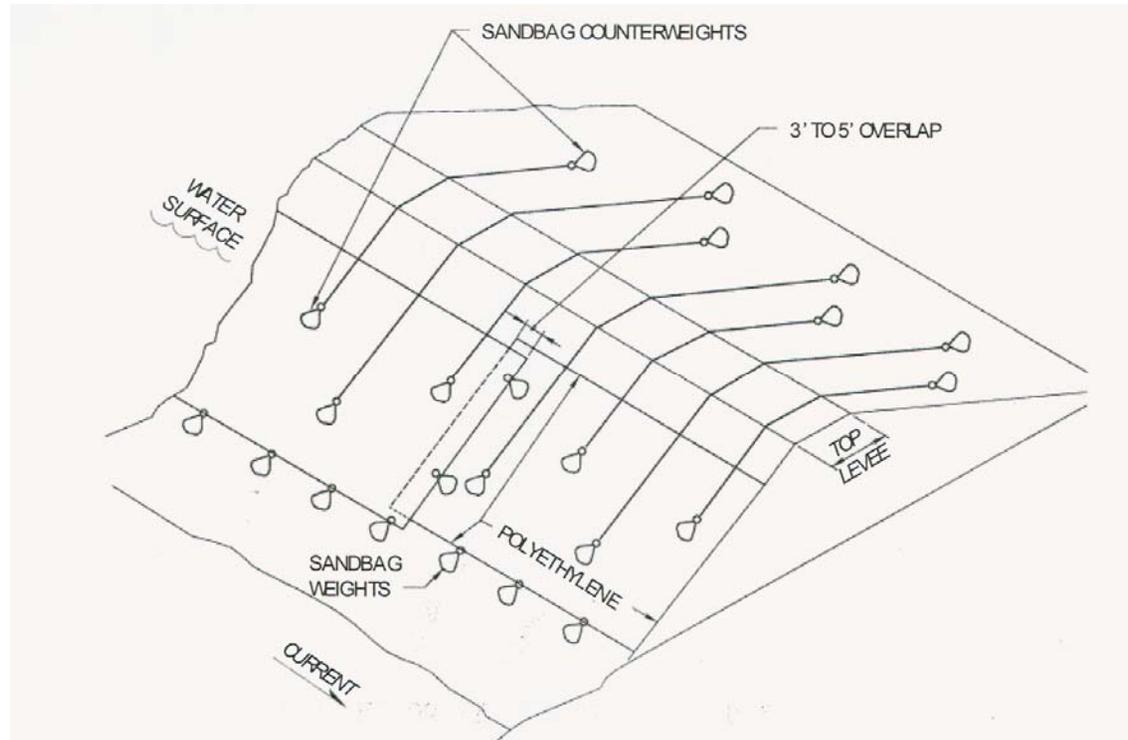
Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)



Placement of poly sheeting and sandbags in the dry



Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)



Placement of poly sheeting and sandbags in the wet



US Army Corps of Engineers



Placement of poly on riverward side of levee to prevent seepage / erosion. Poly weighted down with sandbags



US Army Corps of Engineers



Placement of poly on riverside of levee to prevent erosion / seepage