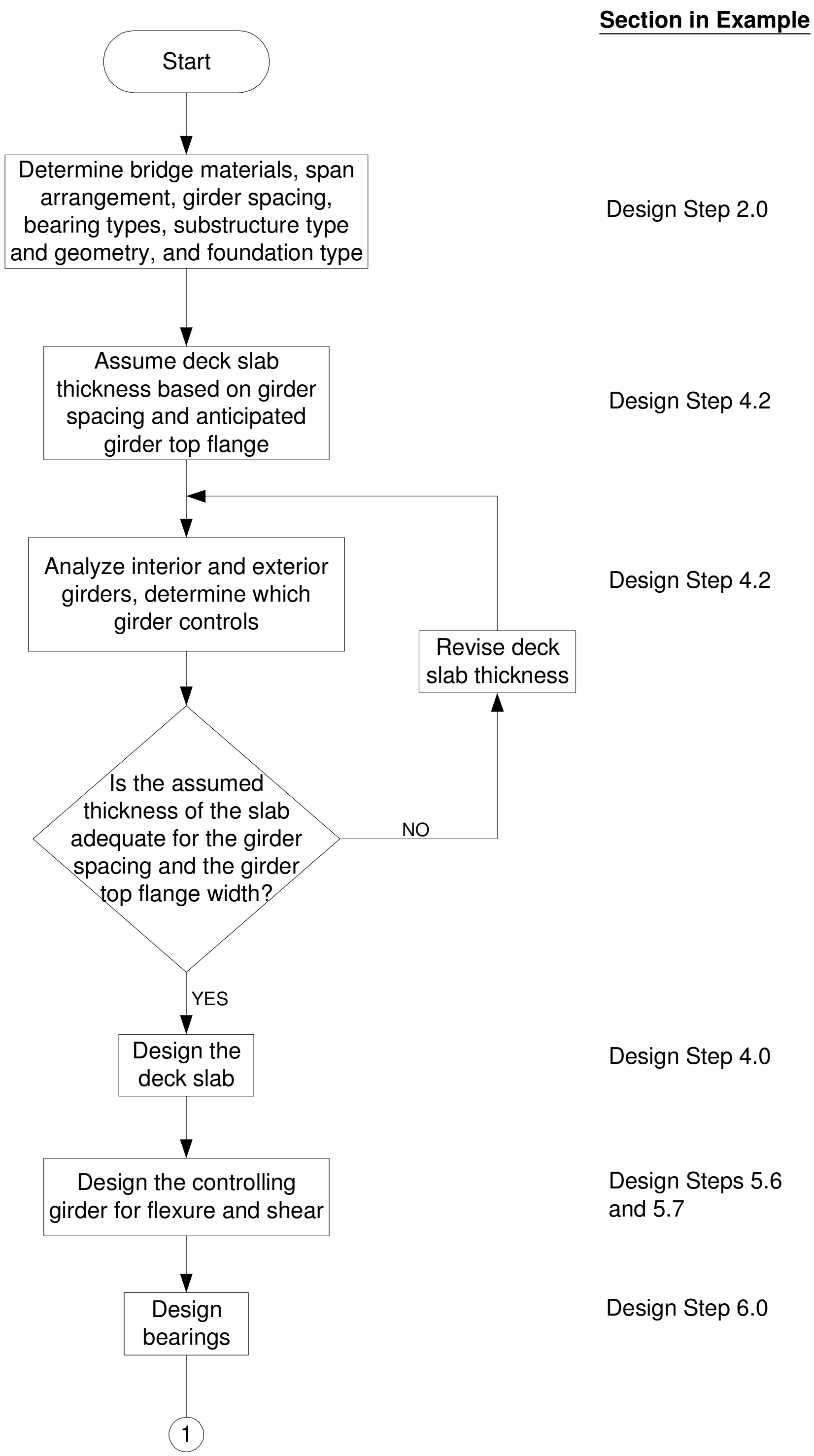
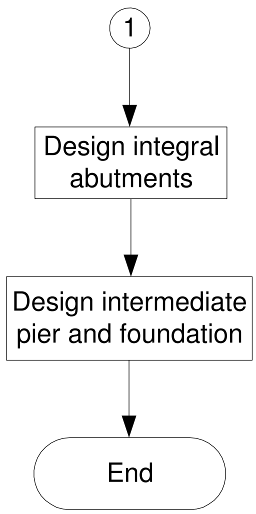
3. FLOWCHARTS

Main Design Steps



Main Design Steps (cont.)

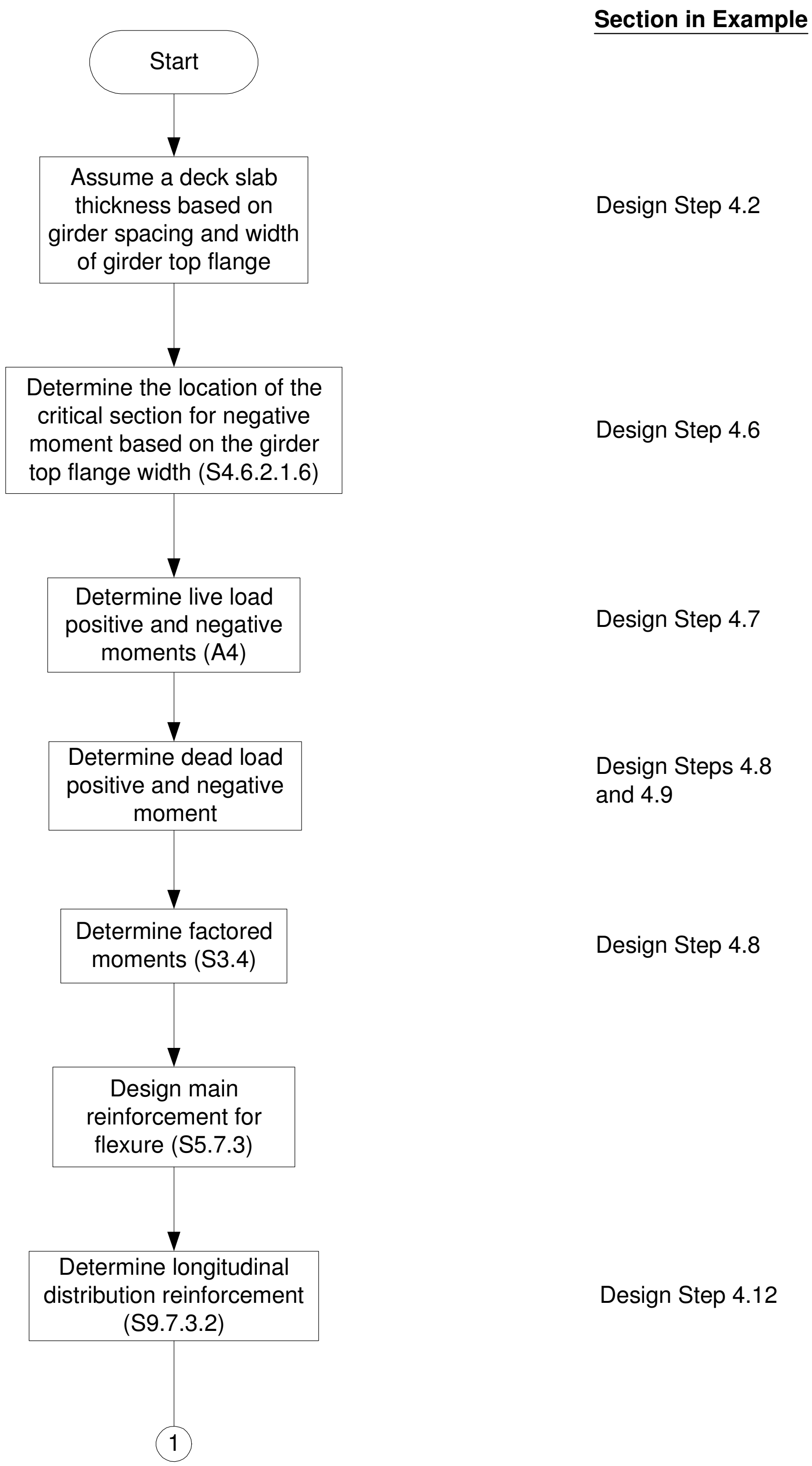


Section in Example

Design Step 7.1

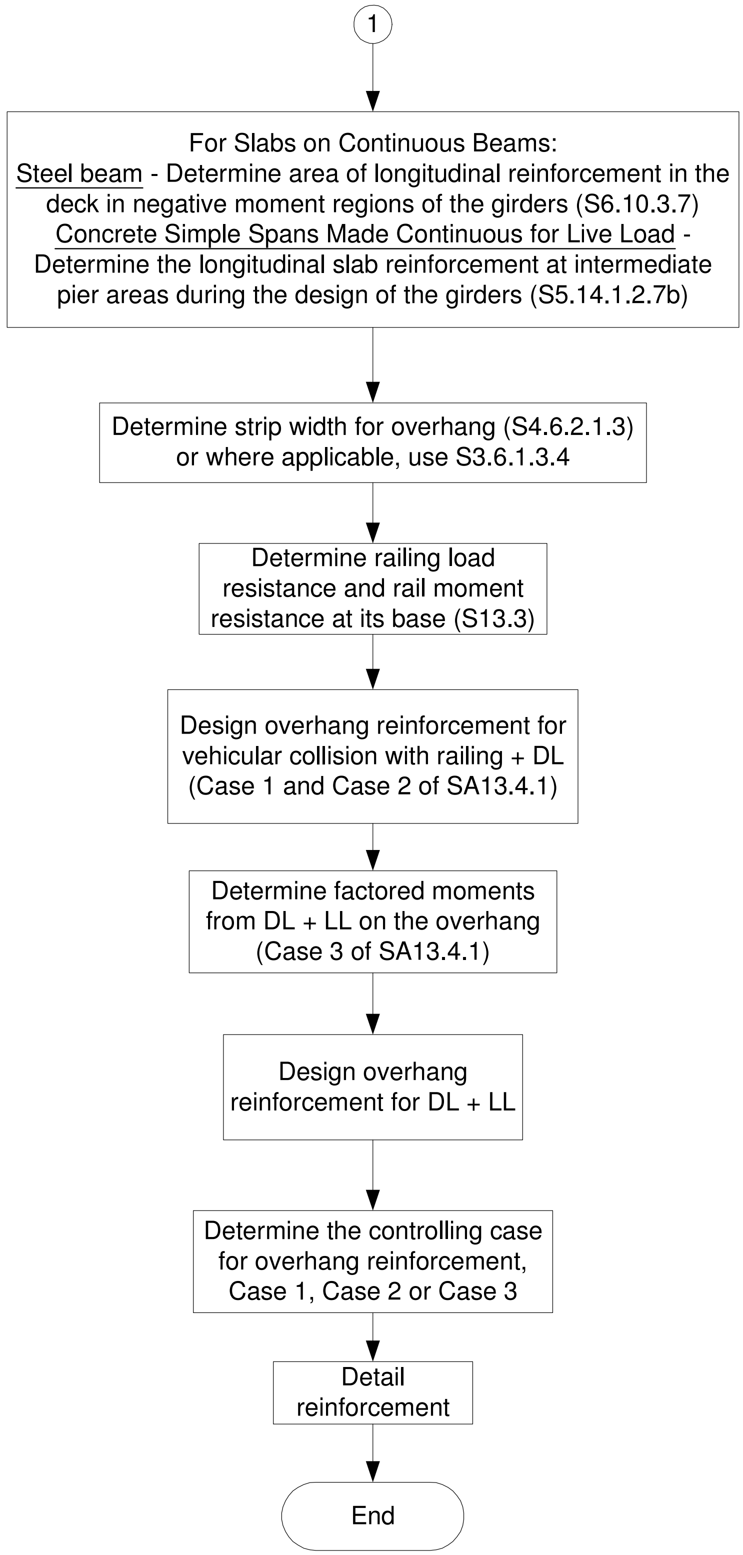
Design Step 7.2

Deck Slab Design



Deck Slab Design (cont.)

Section in Example

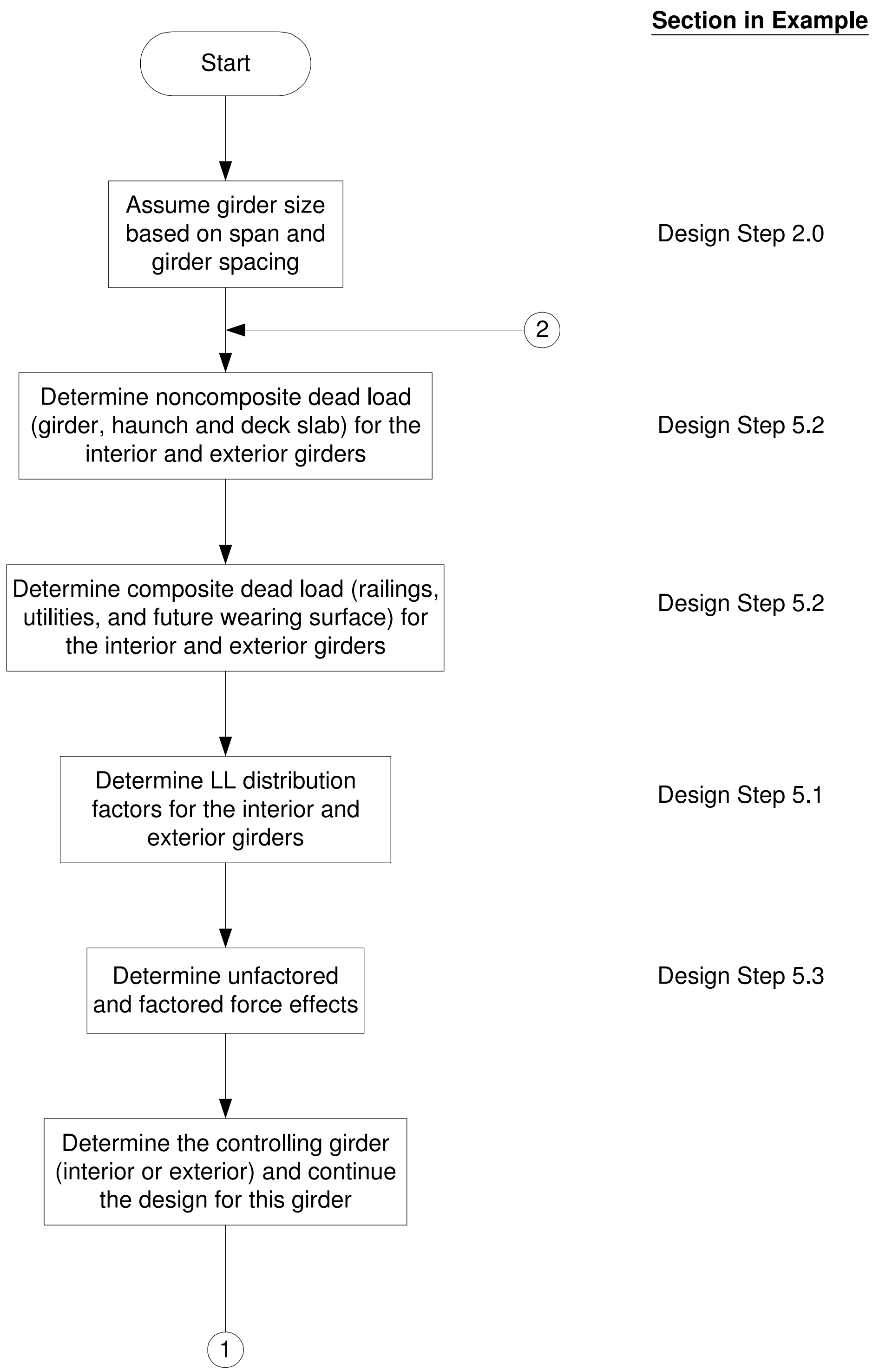


Design Step 4.10

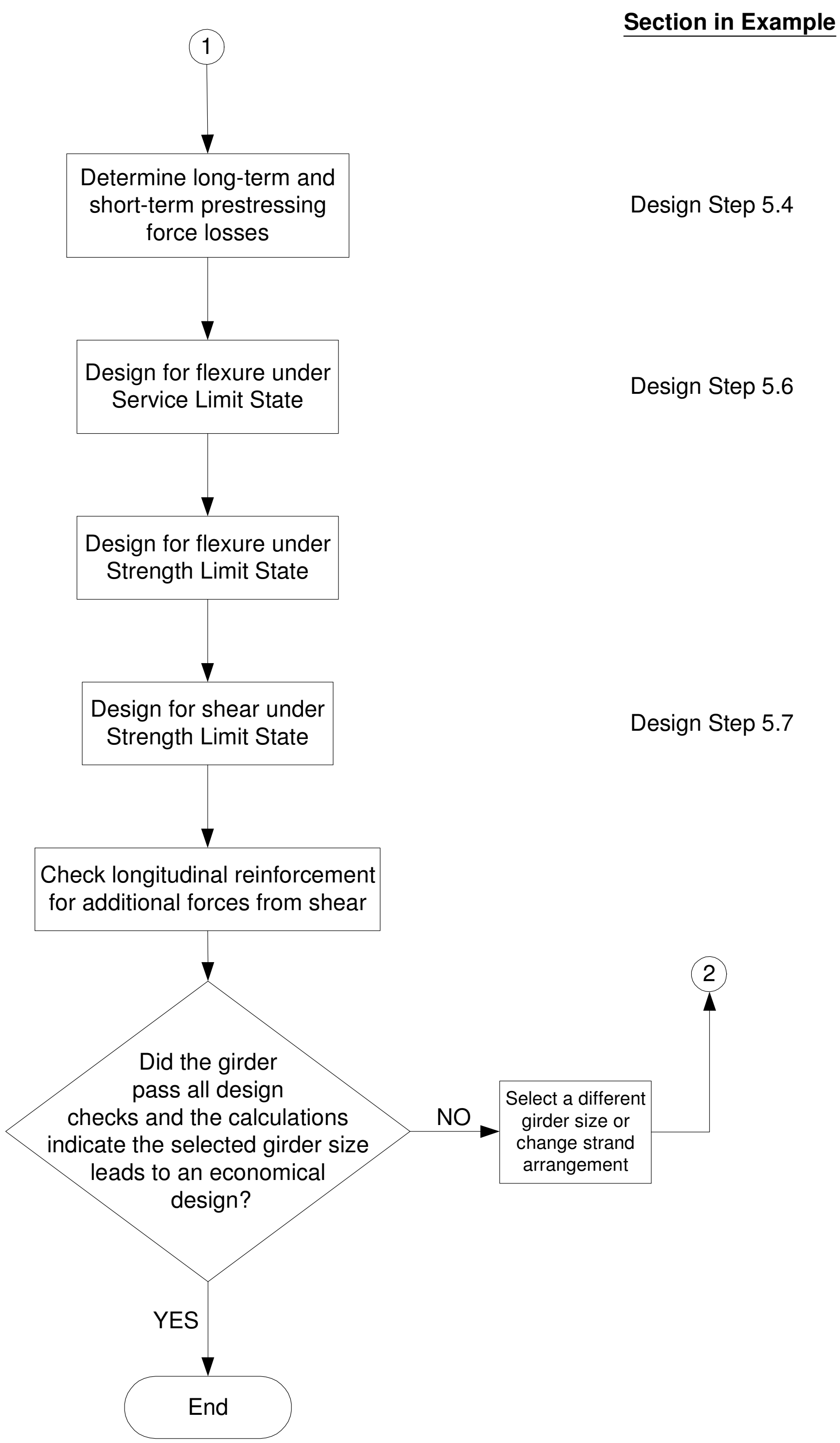
Design Step 4.11

General Superstructure Design

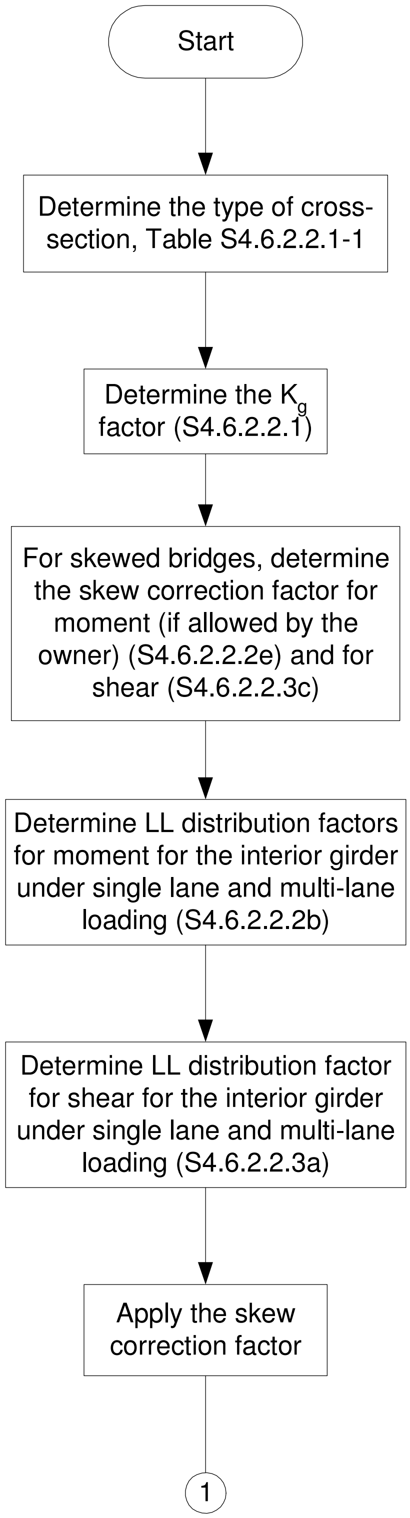
(Notice that only major steps are presented in this flowchart. More detailed flowcharts of the design steps follow this flowchart)



General Superstructure Design (cont.)



Live Load Distribution Factor Calculations



Section in Example

Design Step 5.1

Design Step 5.1.3

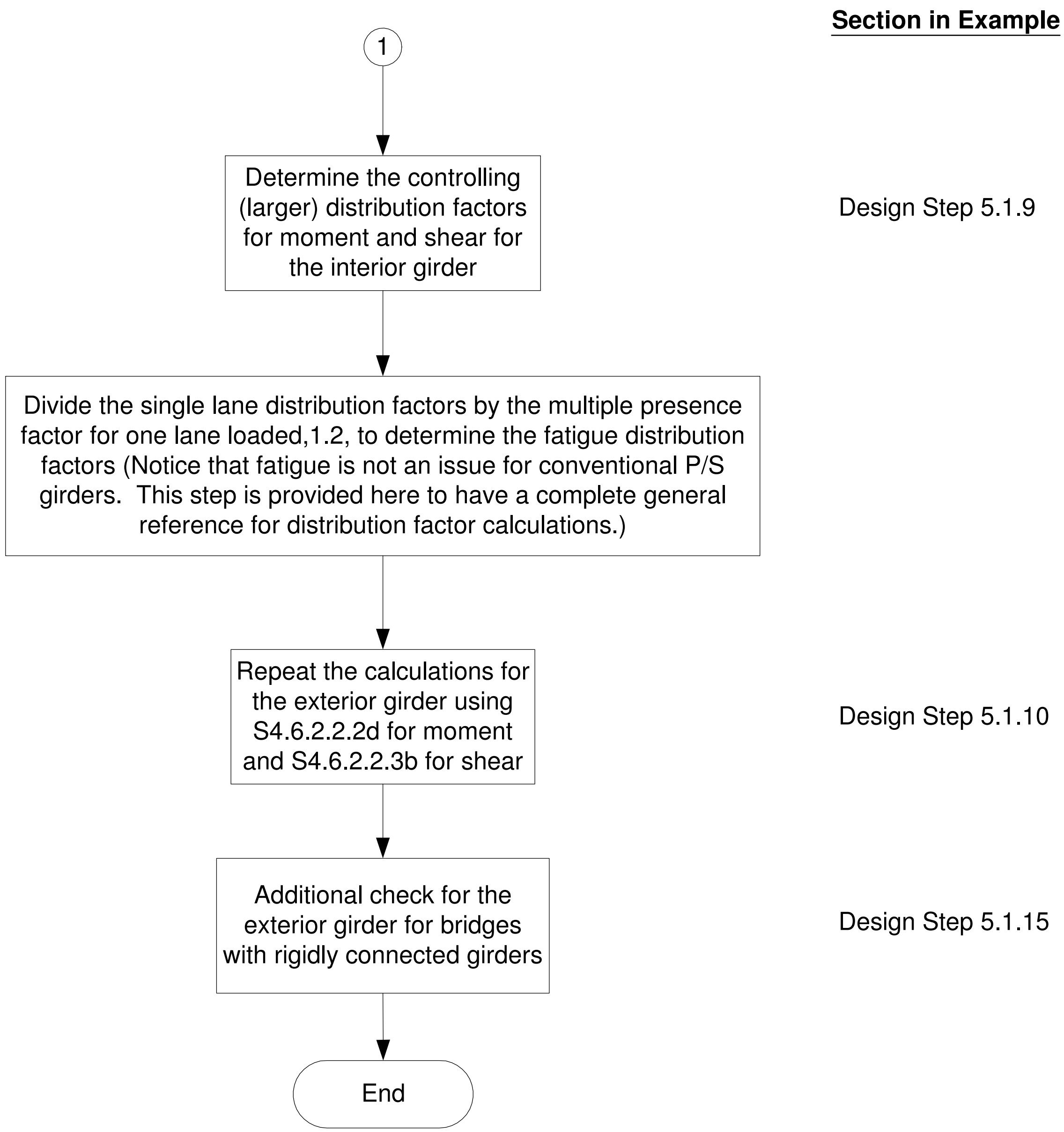
Design Step 5.1.6

Design Step 5.1.5

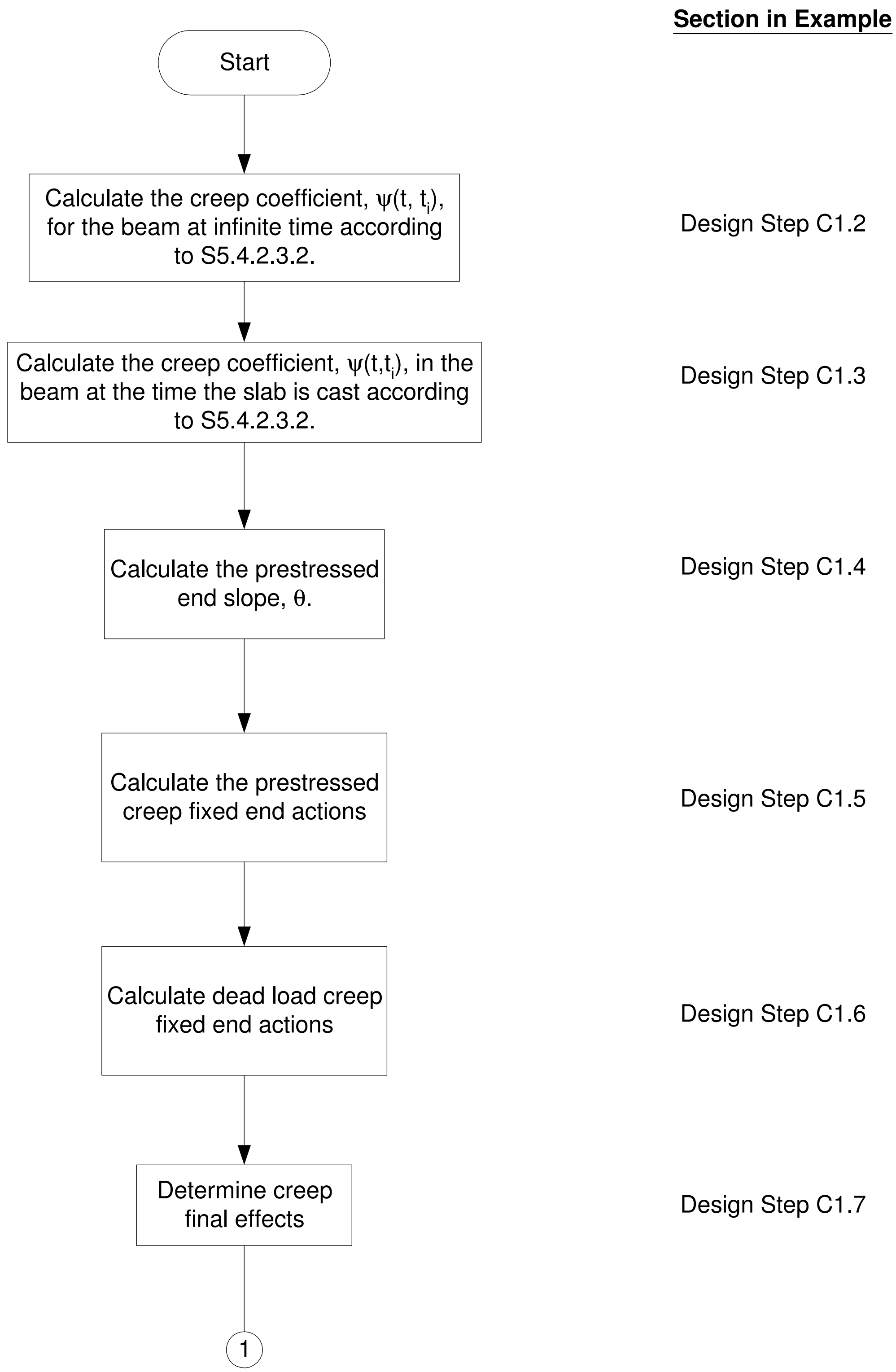
Design Step 5.1.7

Design Step 5.1.8

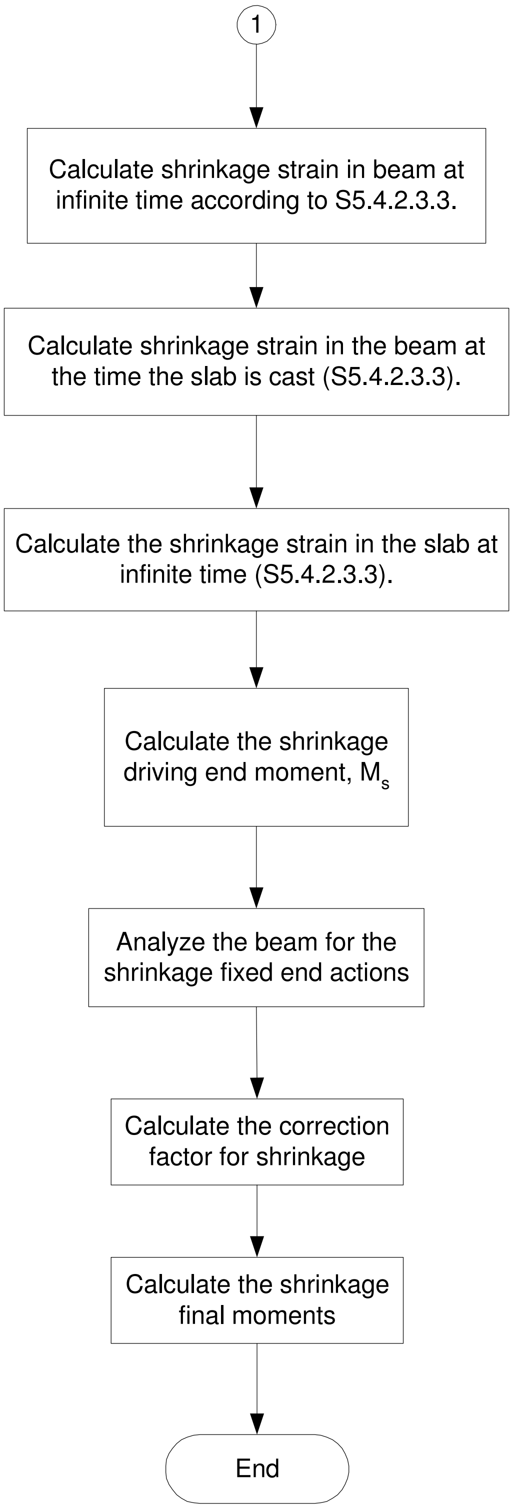
Live Load Distribution Factor Calculations (cont.)



Creep and Shrinkage Calculations



Creep and Shrinkage Calculations (cont.)



Section in Example

Design Step C2.1

Design Step C2.2

Design Step C2.3

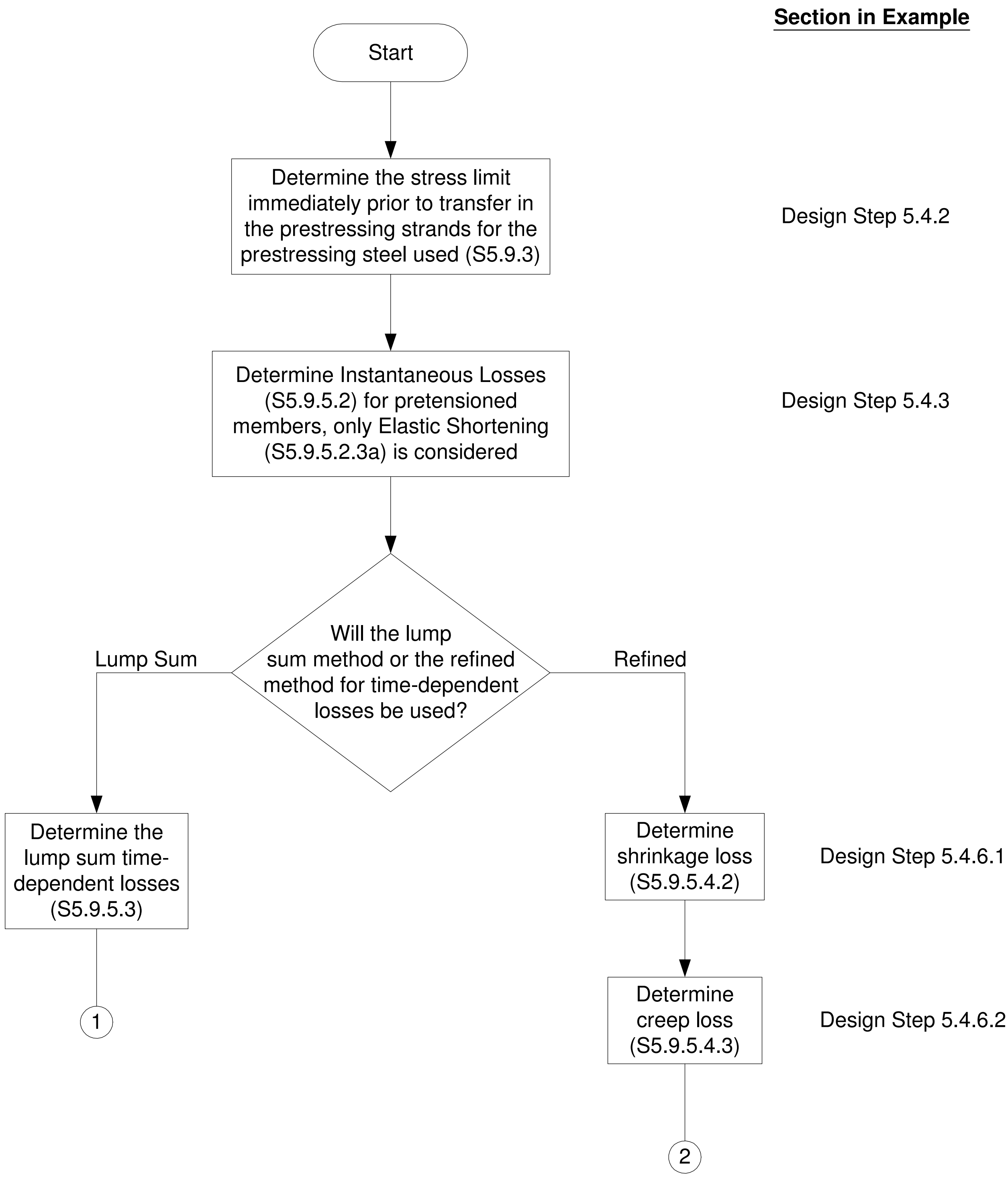
Design Step C2.5

Design Step C2.6

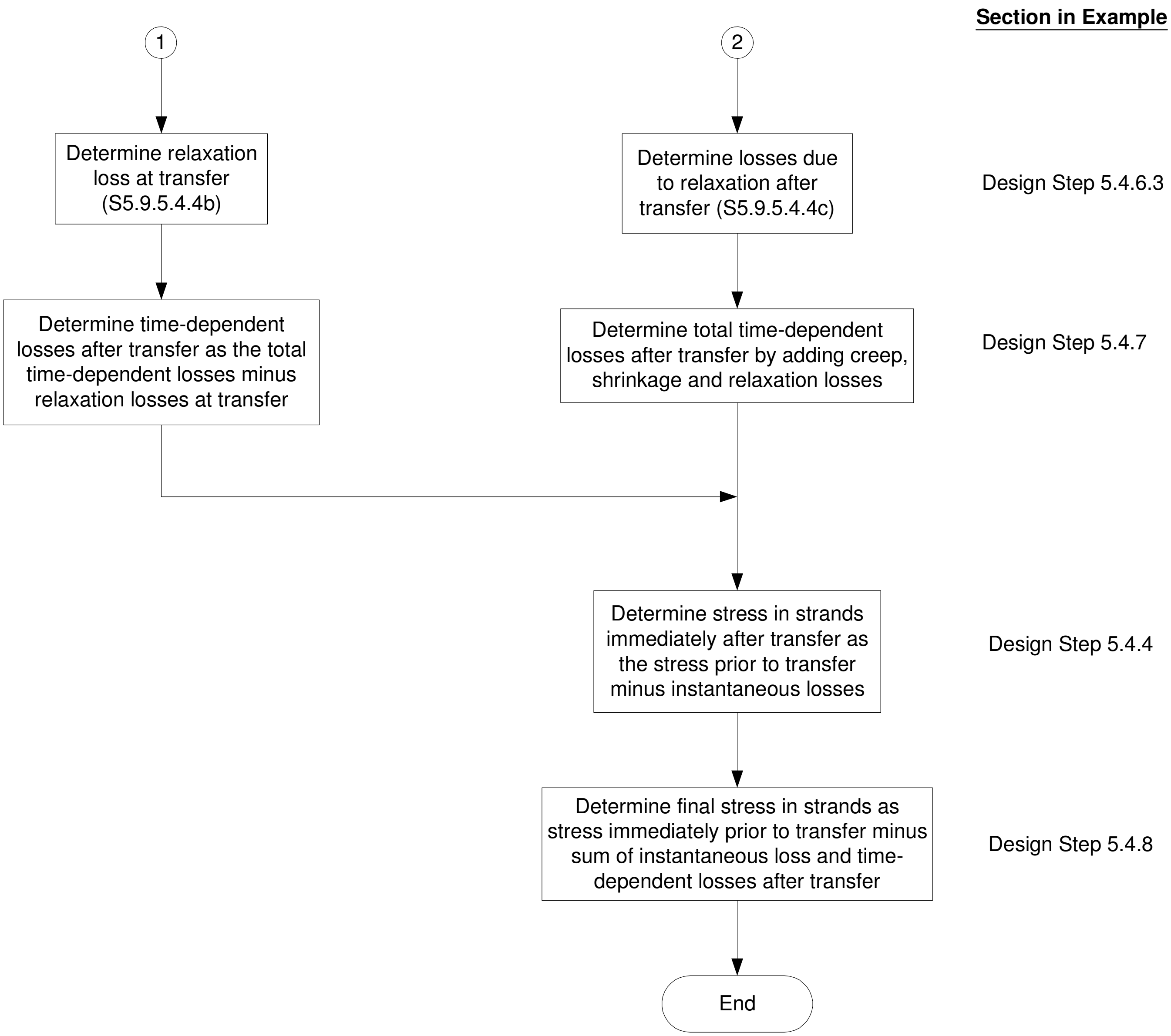
Design Step C2.7

Design Step C2.8

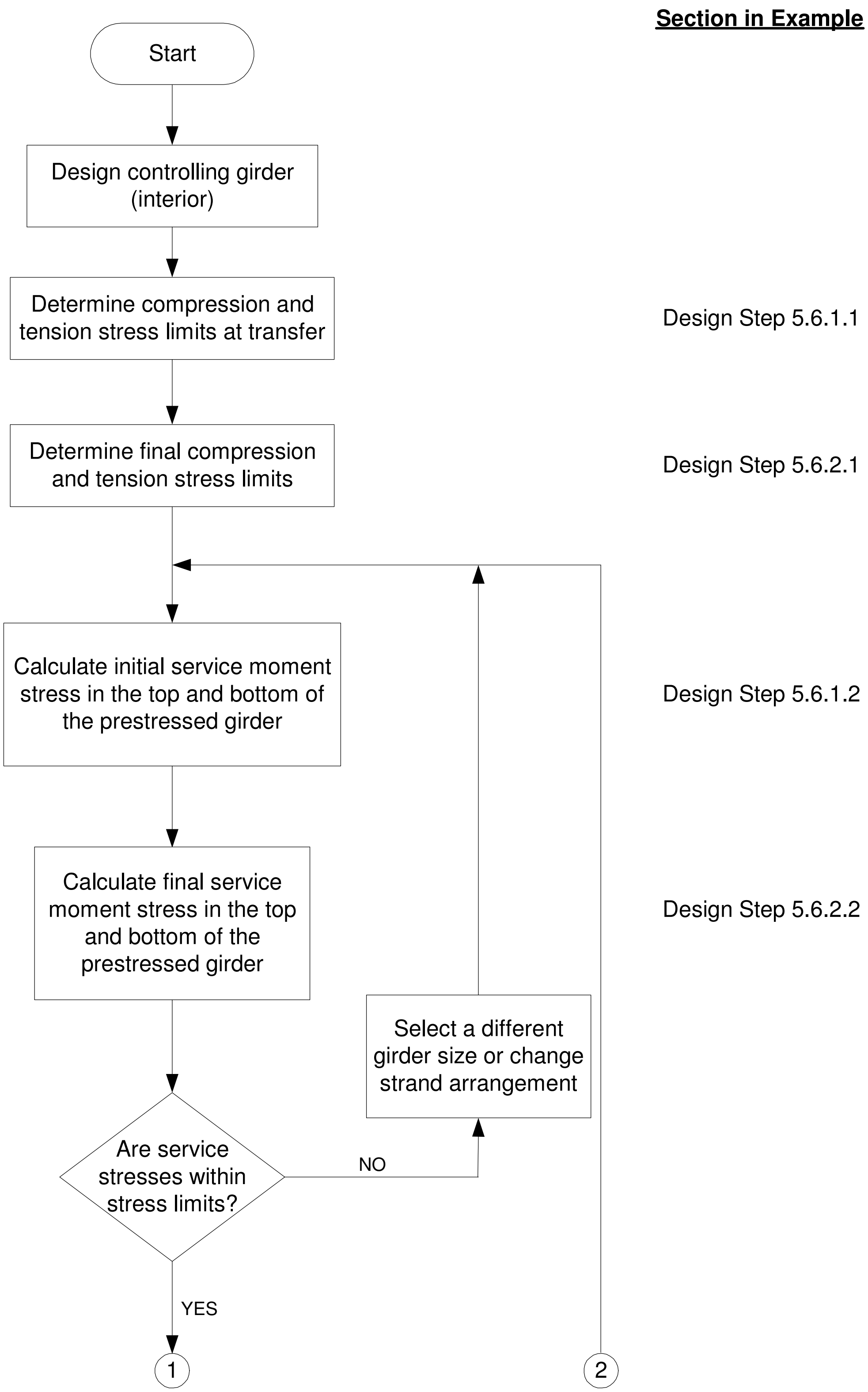
Prestressing Losses Calculations



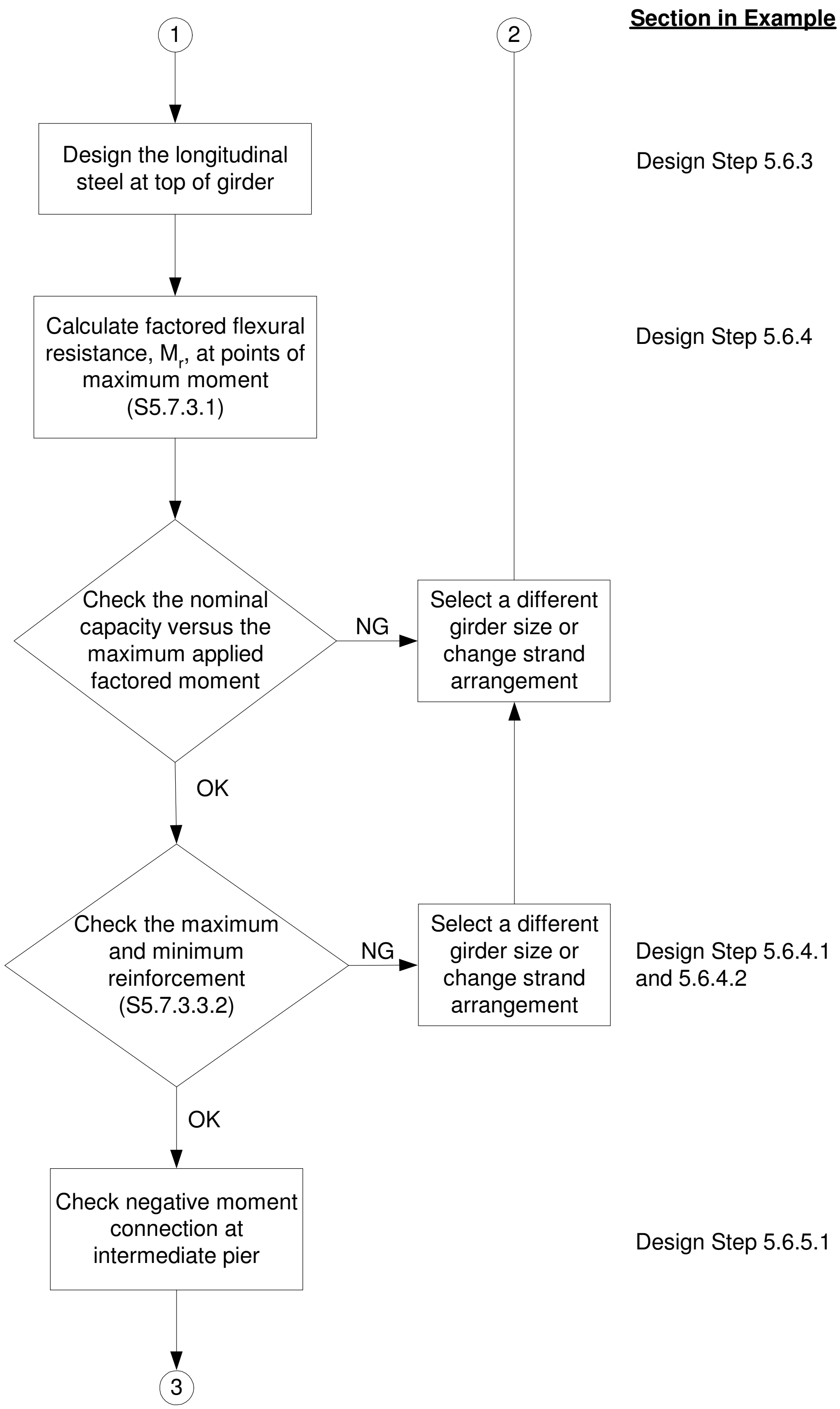
Prestressing Losses Calculations (cont.)



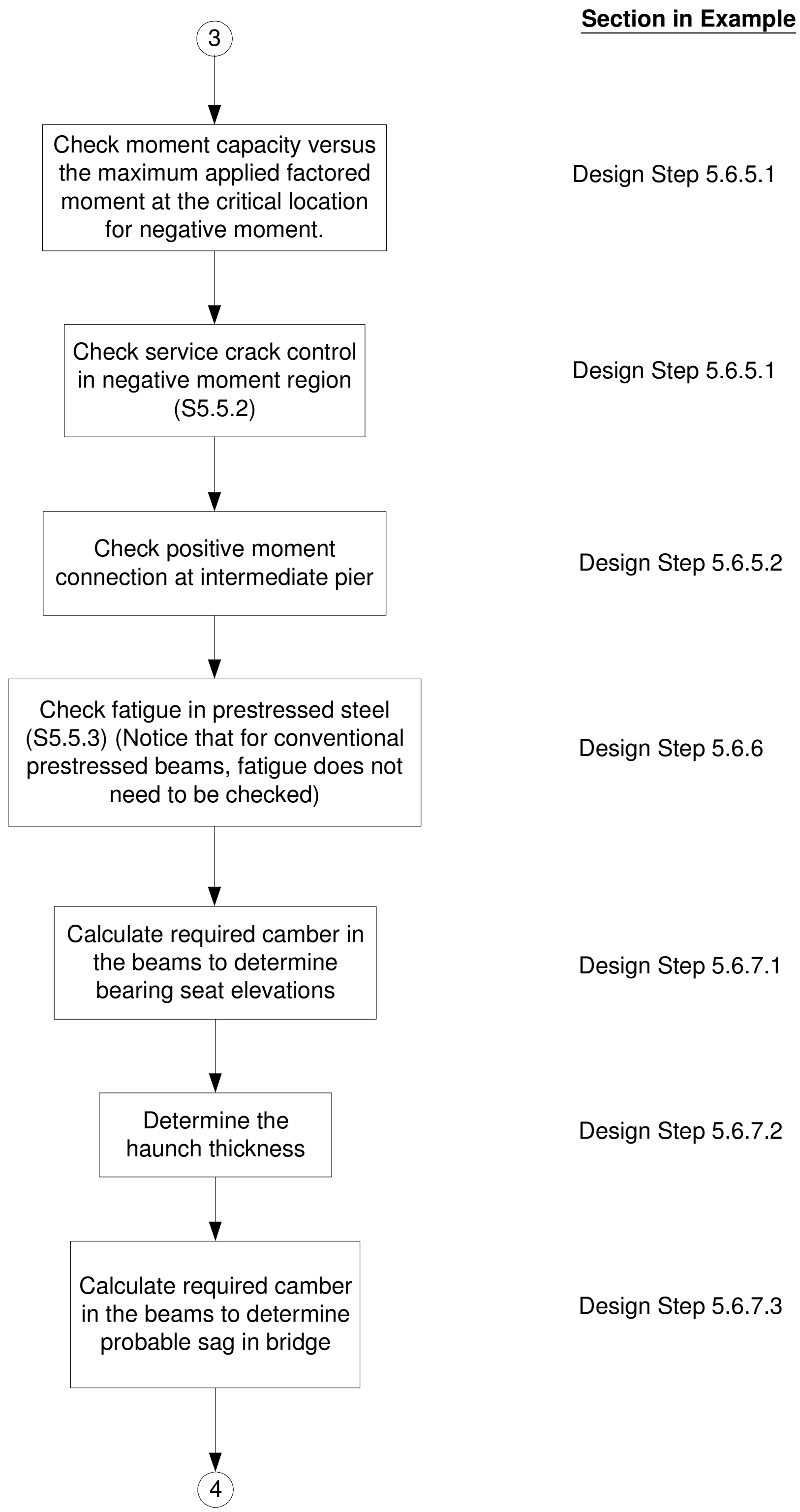
Flexural Design



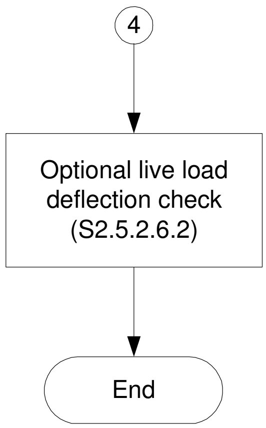
Flexural Design (cont.)



Flexural Design (cont.)



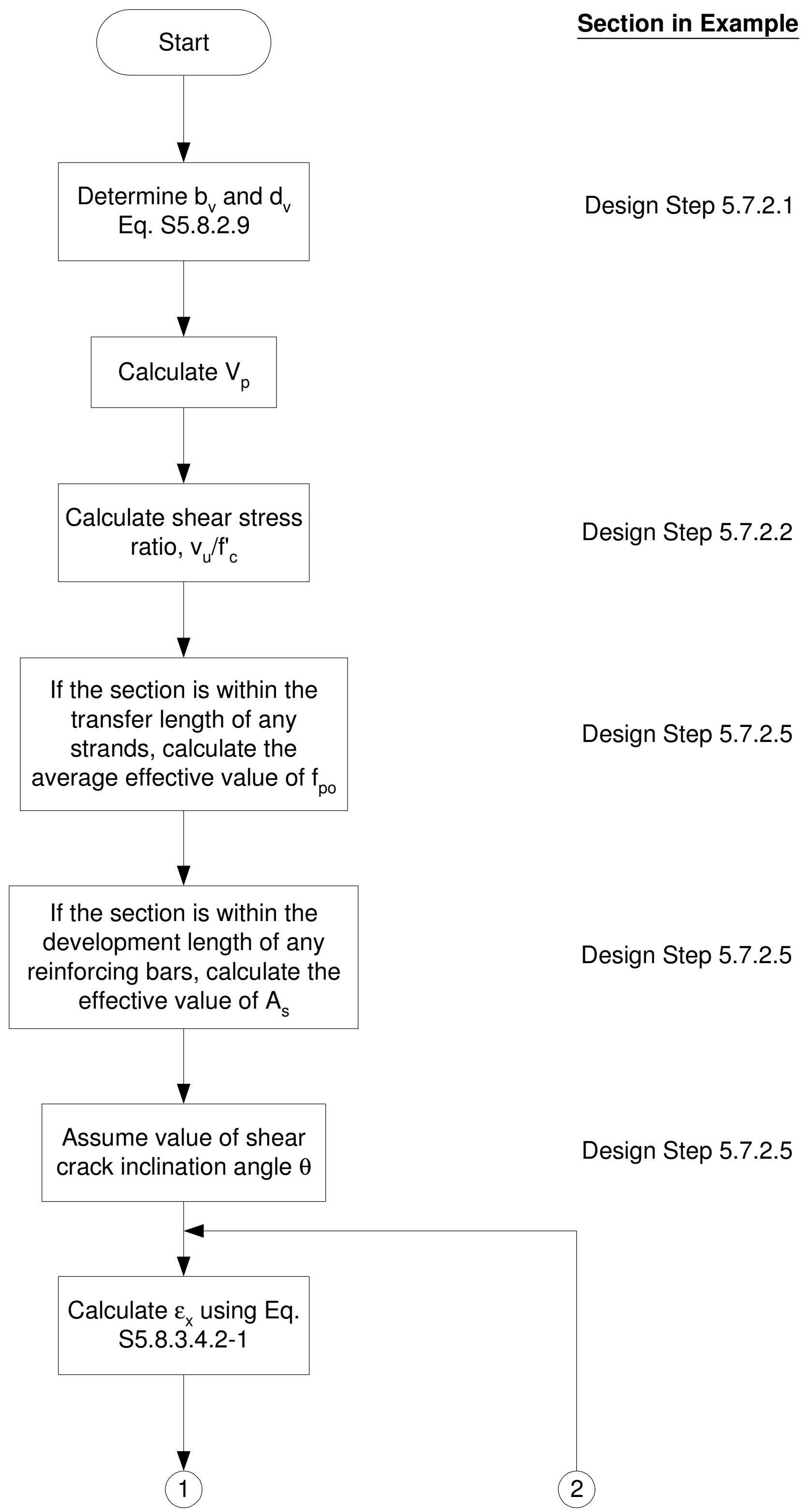
Flexural Design (cont.)



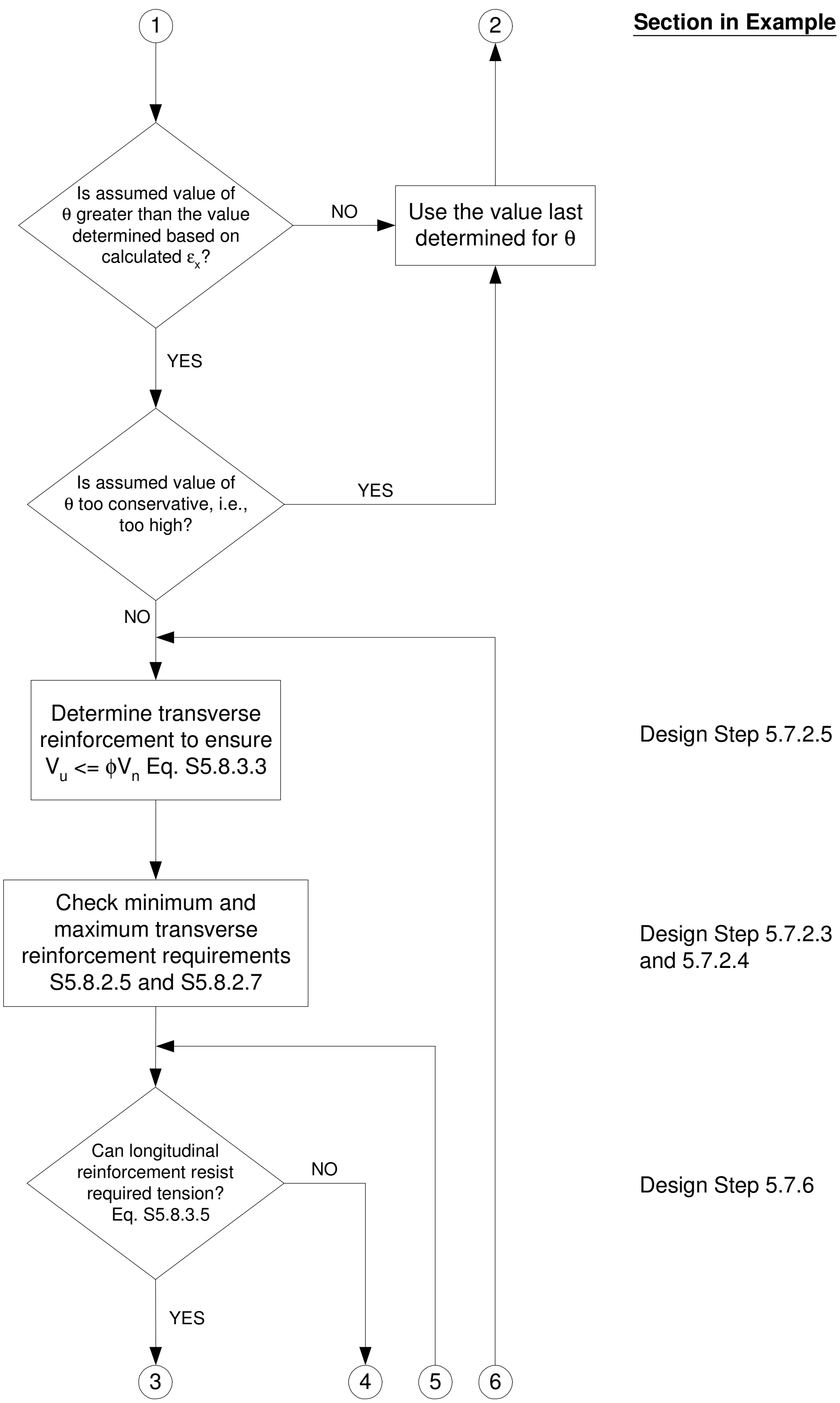
Section in Example

Design Step 5.6.8

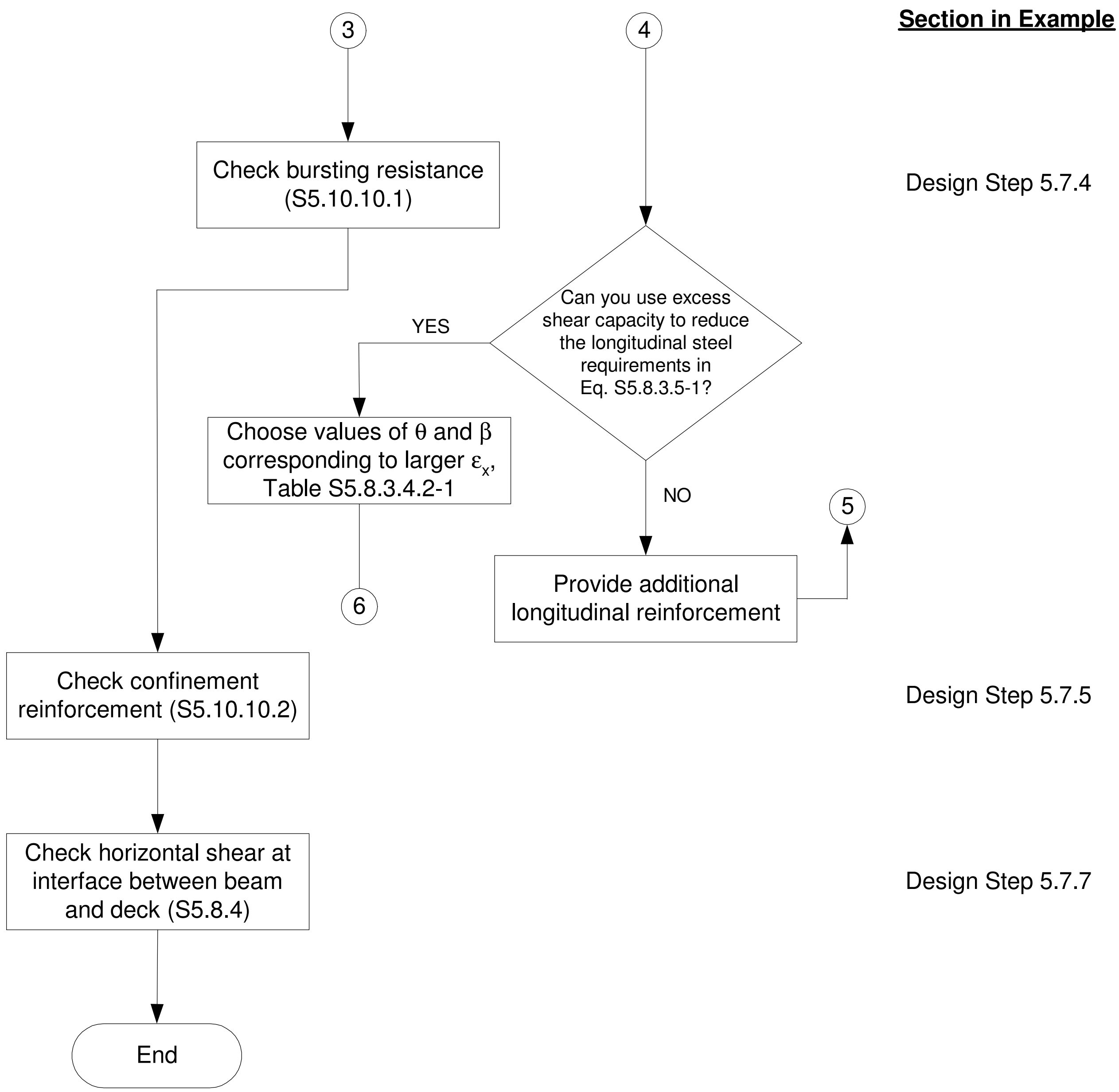
Shear Design – Alternative 1, Assumed Angle θ



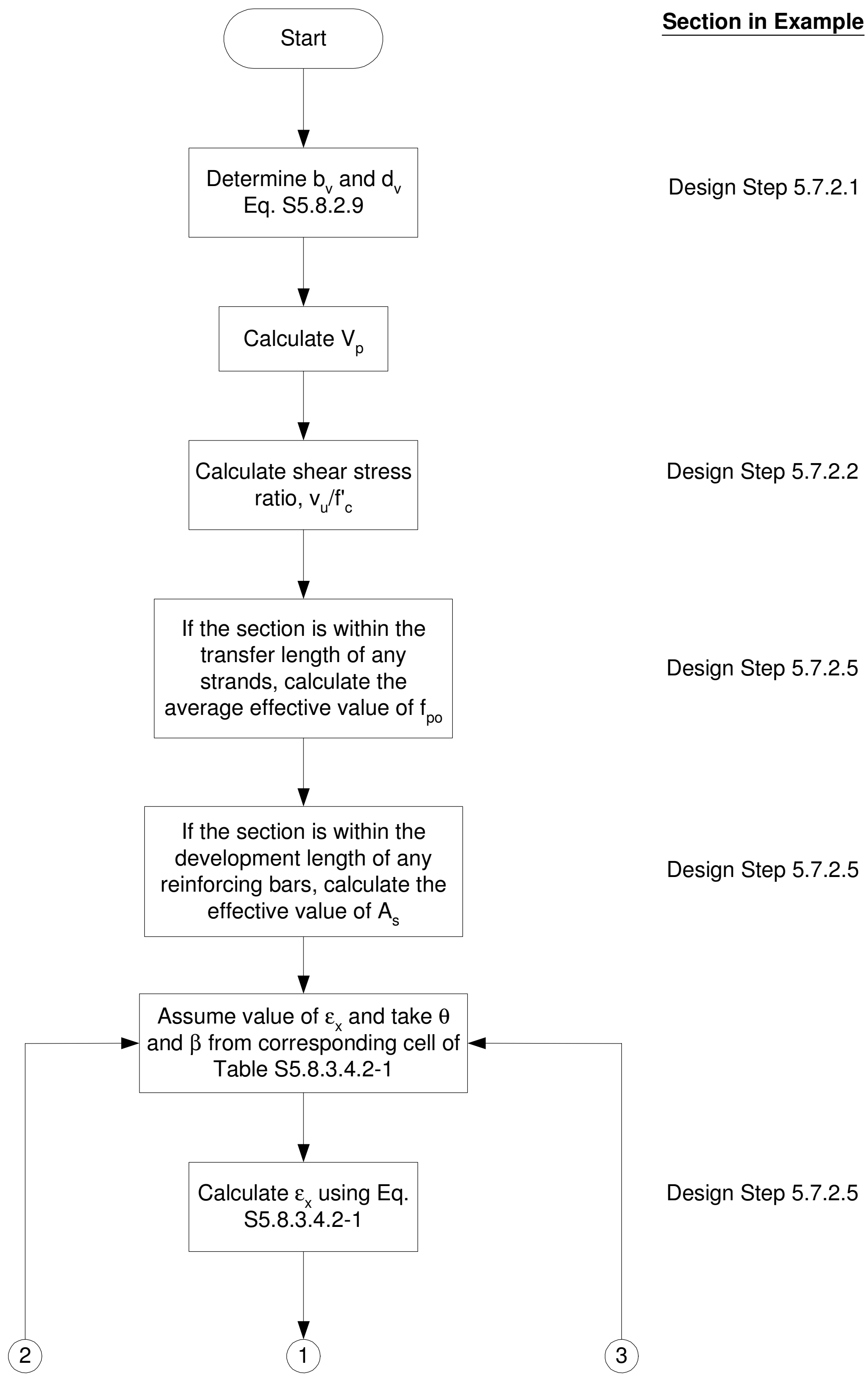
Shear Design – Alternative 1, Assumed Angle θ (cont.)



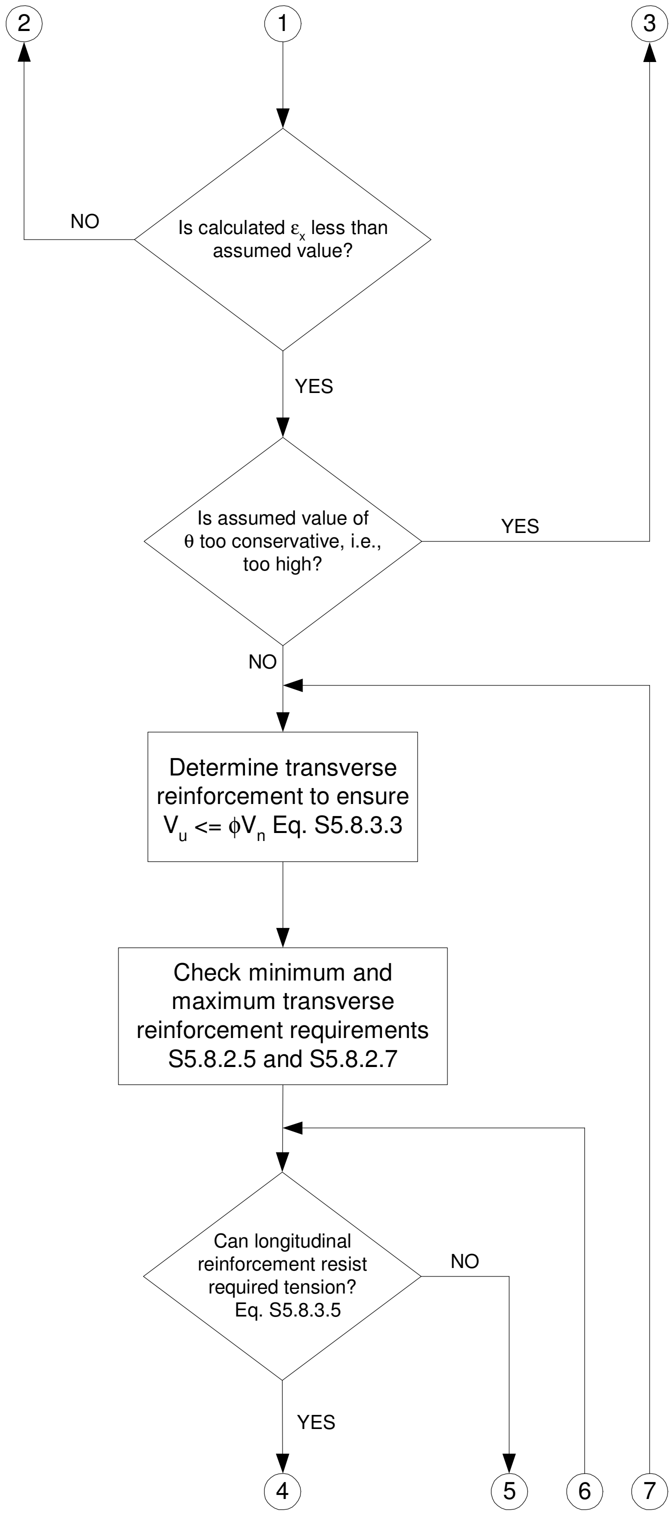
Shear Design – Alternative 1, Assumed Angle θ (cont.)



Shear Design – Alternative 2, Assumed Strain ε_x



Shear Design – Alternative 2, Assumed Strain ε_x (cont.)



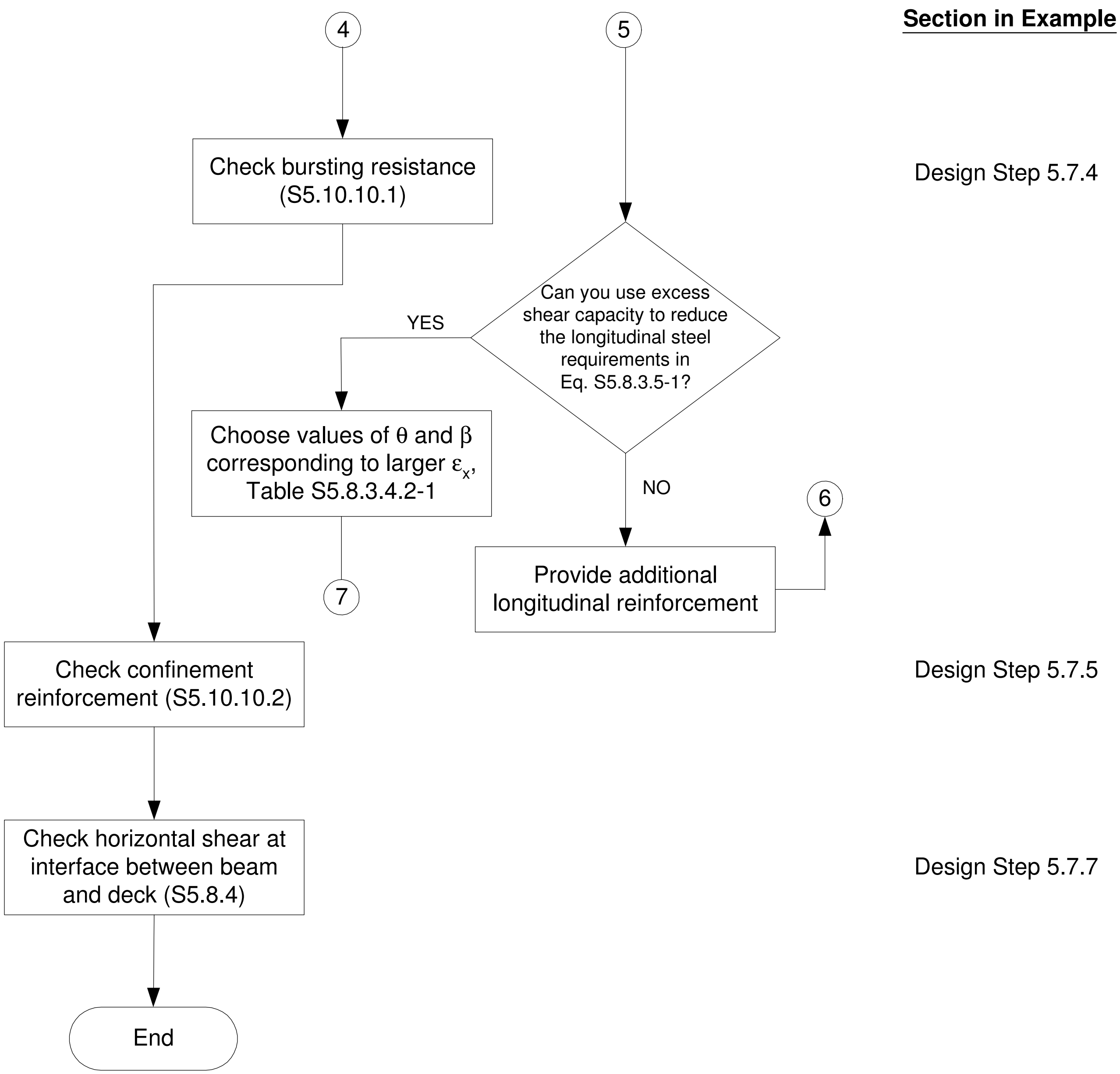
Section in Example

Design Step 5.7.2.5

Design Step 5.7.2.3 and 5.7.2.4

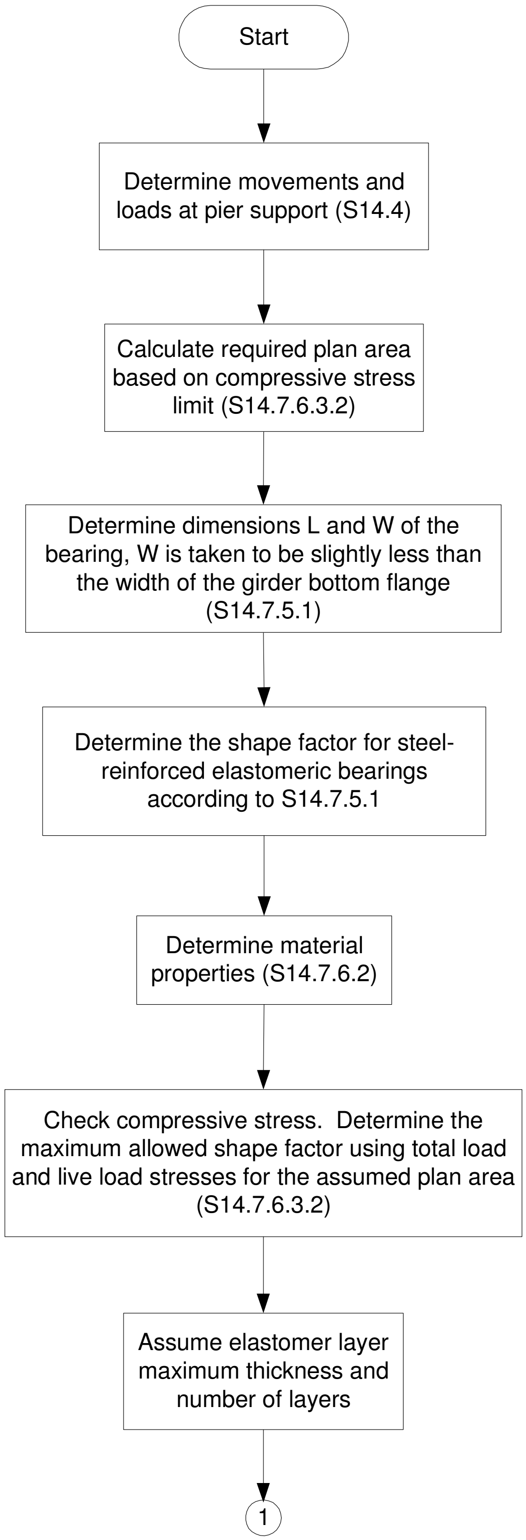
Design Step 5.7.6

Shear Design – Alternative 2, Assumed Strain ε_x (cont.)

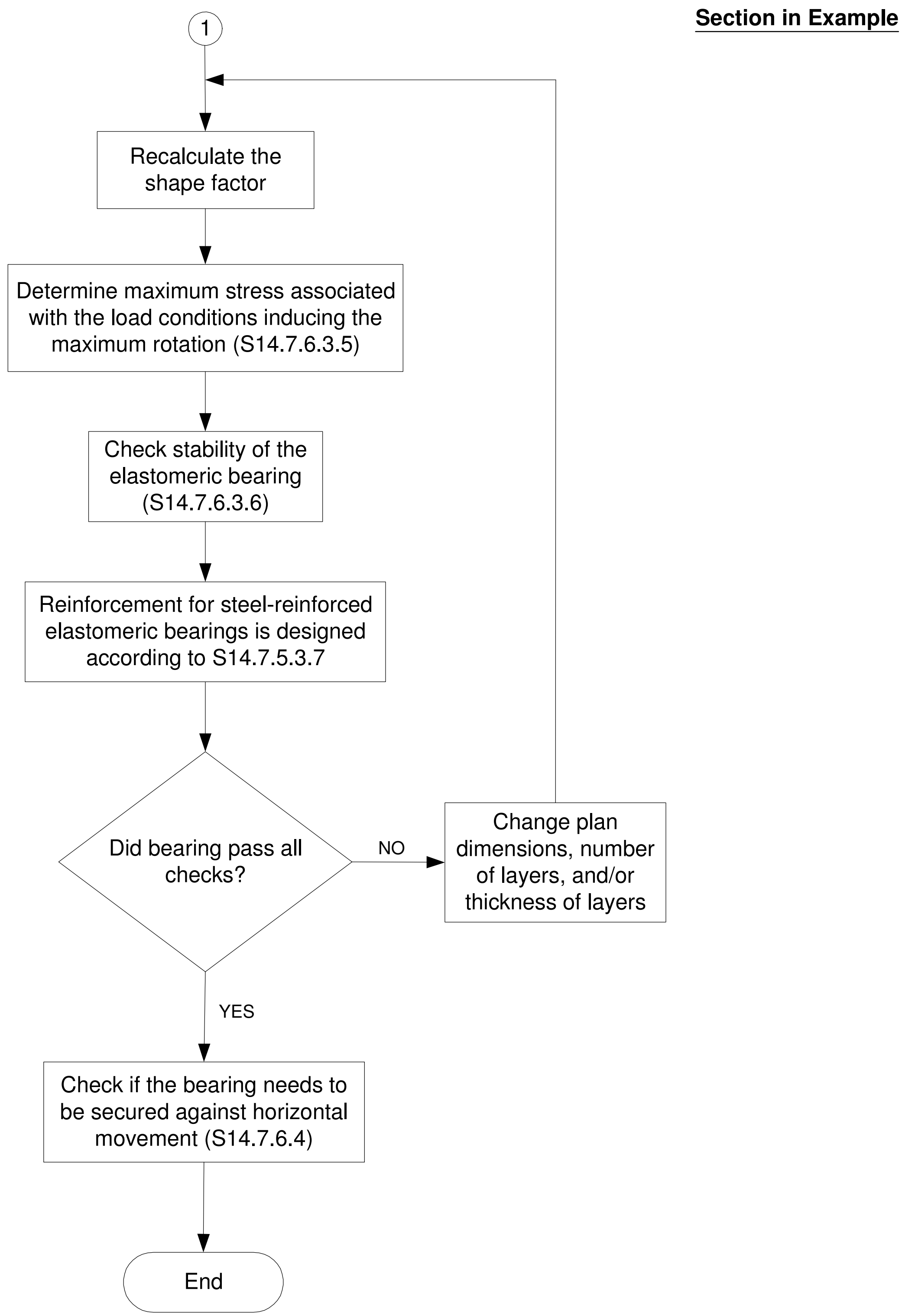


Steel-Reinforced Elastomeric Bearing Design – Method A (Reference Only)

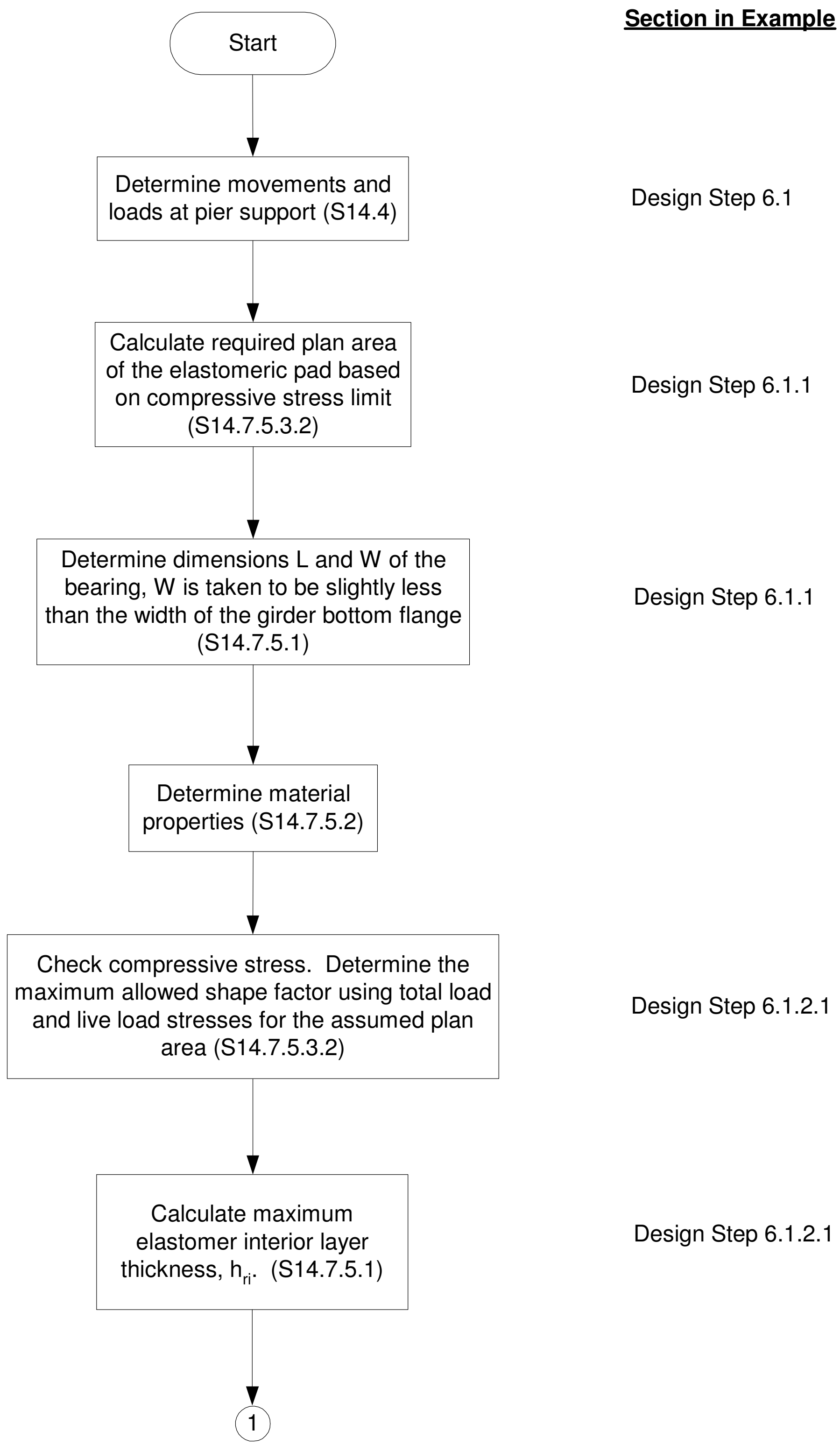
Section in Example



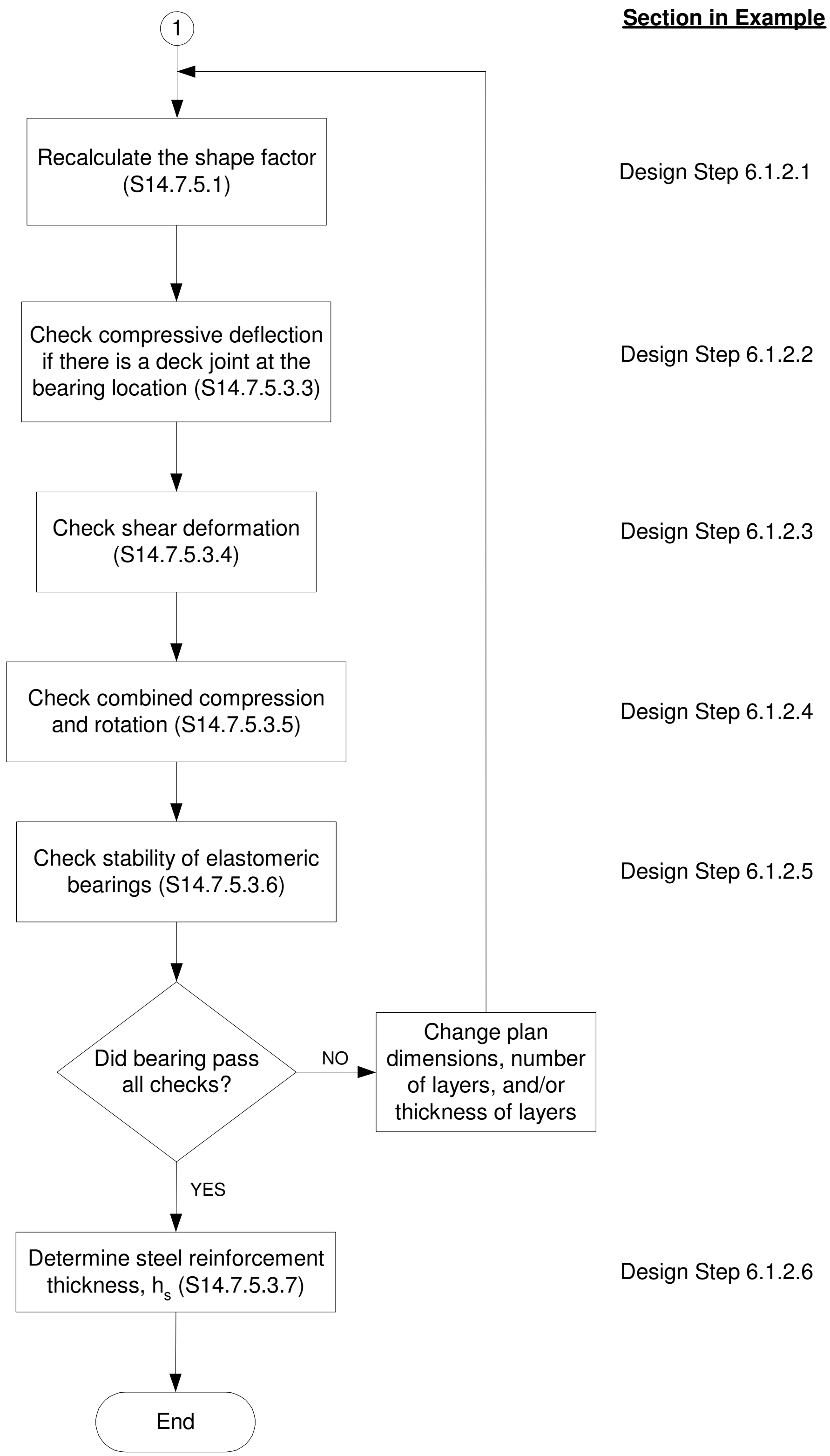
Steel-Reinforced Elastomeric Bearing Design – Method A (Reference Only) (cont.)



Steel-Reinforced Elastomeric Bearing Design – Method B

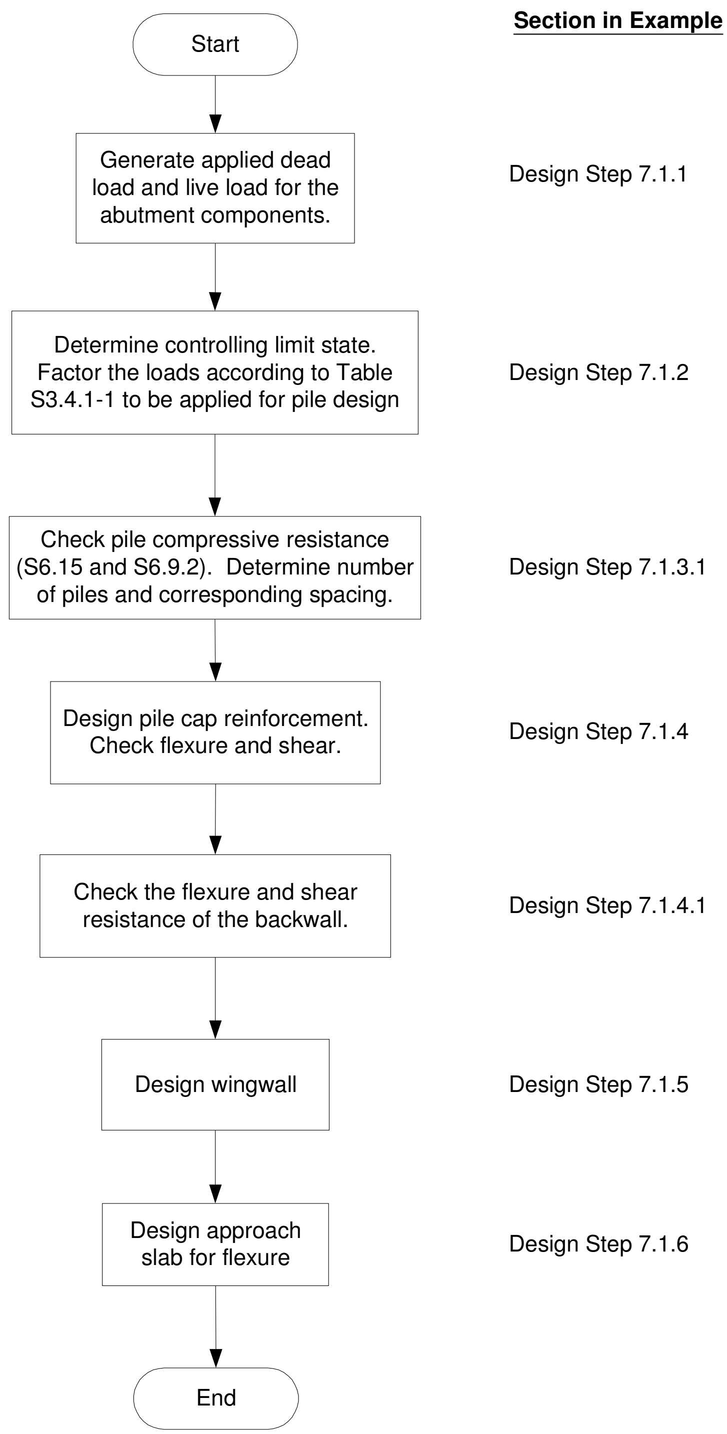


Steel-Reinforced Elastomeric Bearing Design – Method B (cont.)

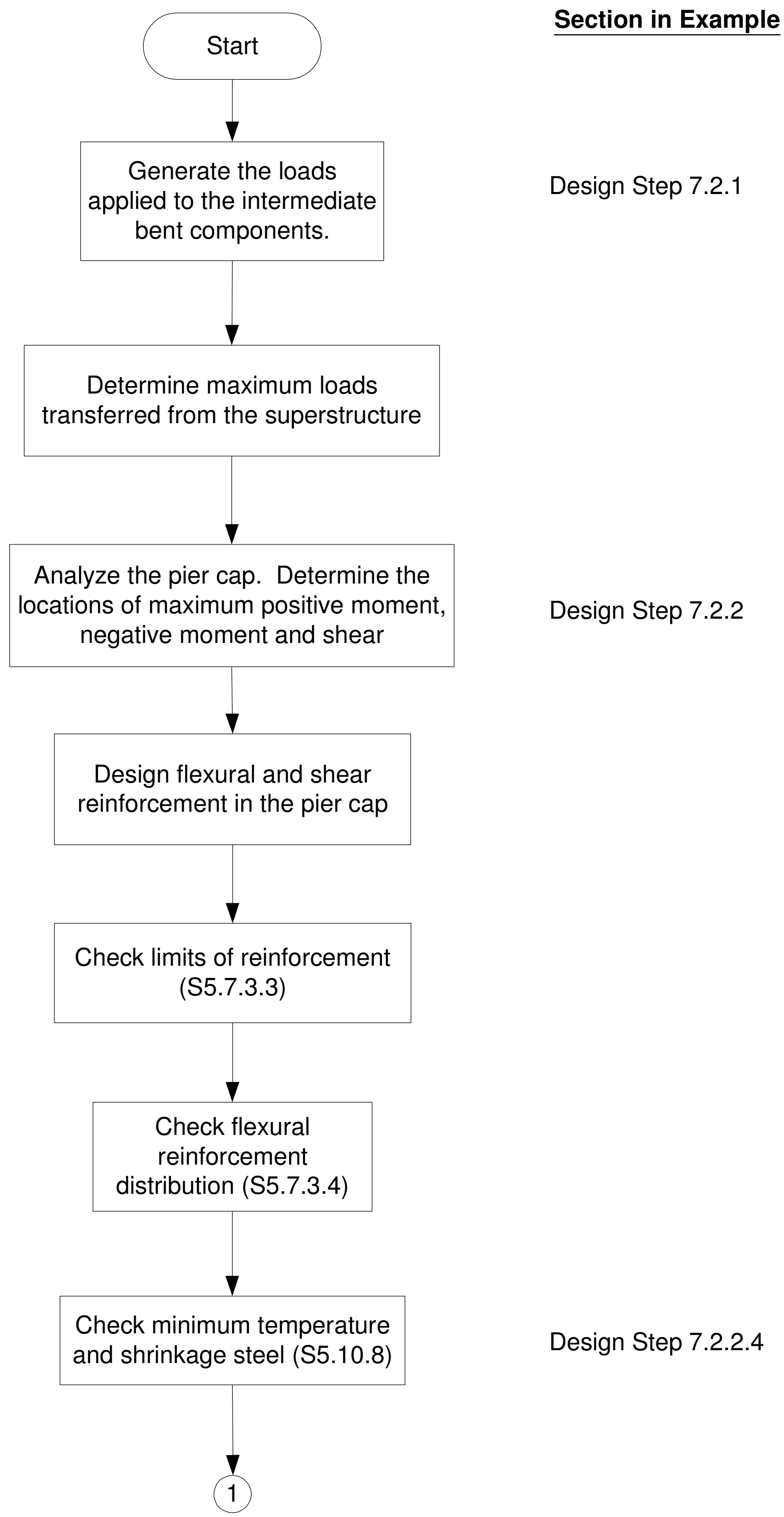


SUBSTRUCTURE

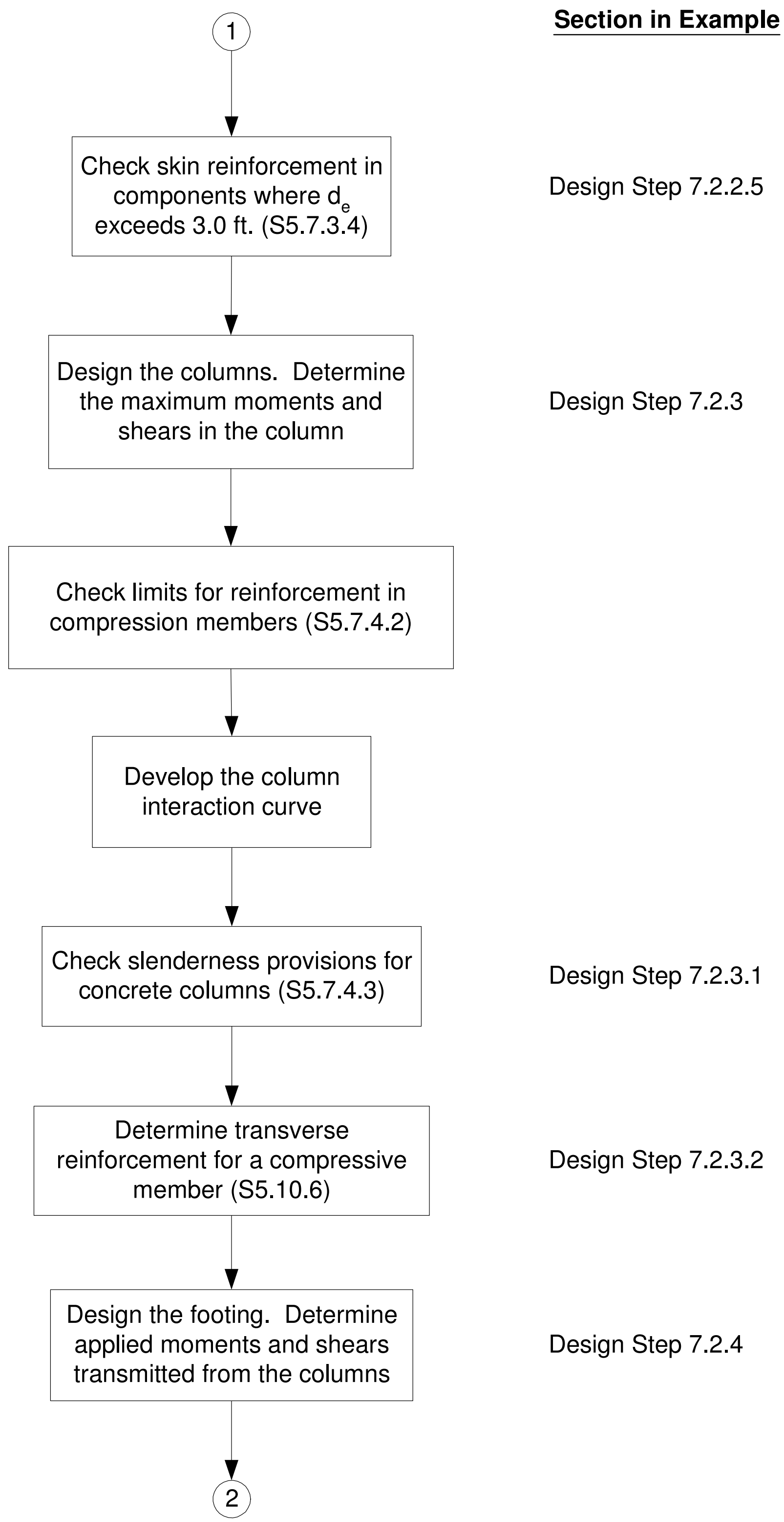
Integral Abutment Design



Intermediate Bent Design



Intermediate Bent Design (cont.)



Intermediate Bent Design (cont.)