

CEE 536
Problem Set 1

PLANNING OVERLOOK

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Due: Thursday, September 4, 2025

Problem 1.3, on pages 13-14 in the textbook by R.B. Harris, is reproduced below.

Draw a bar chart for this project on 8.5"x11" square-lined (engineering) paper. Include notes that explain your reasoning for the placement of steps (activities) along the time axis.

1.3 A small bus stop project is to be constructed at one side of a street. It consists of a stopping area for buses and a small shelter approximately 8 ft by 16 ft in plan (see Figure Ex. 1.1). The floor is to be a concrete slab and the walls are to be brick. There is a timber beam across the front to support a laminated timber roof. The structure is lighted by two light fixtures, one on each end wall. The existing curb and sidewalk are to be removed and replaced as shown to give stopping space for the buses out of the traffic lane. This stopping space will need to be repaved. The project has been broken down into steps and a construction time estimate has been made for each as follows. These steps are not in any particular order. Draw a bar chart for this project.

1. *Shelter Slab*: Includes the fine grading, casting of concrete, and finishing. Time: 2 days.
2. *Shelter Walls*: Includes the laying of brick for the walls and the inclusion of electrical conduit for the lighting. Time: 3 days.
3. *Shelter Roof*: Includes the construction of the laminated roof, the covering with built-up roofing, and the trimming of the edges. Time: 2 days.
4. *Roof Beam*: Includes the cutting and erection of the beam. Time: 1/2 day.
5. *Cut Curb*: Includes the cutting of the existing curb and breaking up of the existing curb and sidewalk. Time: 1 day.
6. *Excavation*: Includes the removal of broken concrete curb and sidewalk, the excavation of the parking space, the excavation of the space for the shelter slab and sidewalk. Time: 2 days.
7. *Curb and Gutter*: Includes the forming, casting, and finishing of the new curb and gutter. Time: 2 days.
8. *Sidewalk*: Includes the forming, casting, and finishing of the new sidewalk. Time: 2 days.
9. *Shelter Seat*: Includes the attachment of seat brackets to the wall and the construction of the seat. Time: 1 day.
10. *Lights*: Includes the wiring and attachment of the light fixtures. Time: 1 day.
11. *Paint*: Includes putting a natural stained exterior finish on the edges of the roof, the roof beam, and the shelter seat. Time: 1 day.
12. *Paving*: Includes the laying of the finished paving in the parking strip. Time: 1 day.

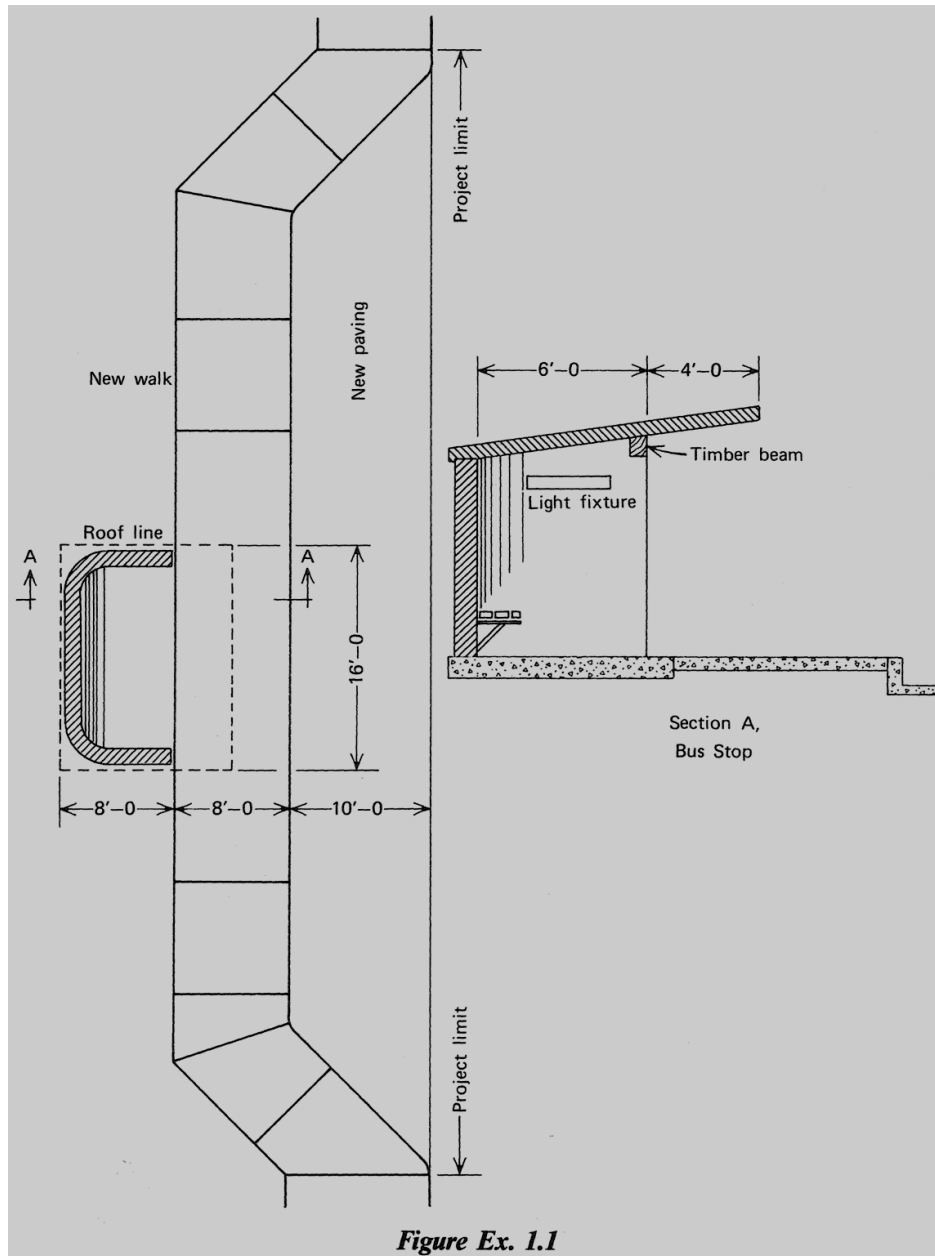


Figure Ex. 1.1