Alternative Design #3

Bed Railing Device (BRD)

Team #4
Randy Corriveau
Eric Nastuk
Ian Wallis

Client Contact:
Sean Stenglein, Brenda Stenglein
Phone: 860-429-1059
34 East Howey Road
Ashford, CT
brenda.stenglein@gmail.com
The second design of the BRD consists of a step with an adjustable platform and railing that swings outward when Sean needs to access the stairs. The railing will be constructed out of durable steel and fixed at both bed boards. The step will be made out of wood and have a wide platform with a non-slip surface. The step can be seen in Figure 1.

![Figure 1. Step design for the BRD.](image)

2.1. Railing:

The railing will consist of two horizontal pieces that are supported by four cross pieces. The base of the railing will be rectangular for structural rigidity, and support pieces will be spread out evenly across the frame and will be wrapped in protective foam. The top railing will be cylindrical to easily grasp onto, and to be safer for the user. Since the BRD needs to be constructed with Sean’s growth in mind, a durable design will be utilized.

2.2 Step:

The step will consist of a slotted platform that will allow be adjustable as Sean ages. Since the step is mainly a platform it can be wider than a set of stairs since Sean would not have to compensate for the stair. This would lead to a sturdier structure and a safer design. The step will deploy underneath the railing, and allow Sean to easily climb up to his mattress and down to the floor.

2.3 Deployment:

The railing will fixed at the headboard and the foot board and swing open on hinges to let Sean transfer to and from his bed. The railing will be hinged at both ends and both doors would swing open. A latch on the face of the door would be able to be lifted so the doors can swing open. The stairs will be deployed on a rolling track out into the middle of the room.