CLAIMS

1. A method for installing a subsea equipment protection system into a seabed soil comprising:

determining an ice gouge depth at a seafloor location;

providing a suction caisson system comprising a caisson body, a detachable cover and a pump constructed and arranged to deliver fluid to and from the interior of the caisson body;

positioning the caisson body at the seafloor location;

operating the pump to apply a suction force thereby embedding the caisson body into the seabed soil;

removing the detachable cover;

excavating a portion of the seabed soil located inside the caisson body; and

installing subsea equipment inside the caisson body, wherein the caisson body has a weakened section located between an upper end and a lower end of the caisson body, the weakened section having a first cross-sectional dimension, the caisson body having a second cross-sectional dimension proximate the upper rim, and the first cross-sectional dimension is less than the second cross-sectional dimension, and wherein the top of the subsea equipment is positioned below the weakened section.

2. The method of claim **1**, wherein the seabed soil is evacuated from the suction caisson until a target depth is reached.

3. The method of claim **2**, wherein the target depth is equal to the gouge depth plus a subsea equipment height.

4. The method of claim **2**, wherein the target depth is greater than the gouge depth plus a subsea equipment height.

5. The method of claim **1**, wherein the subsea equipment includes a wellhead.

6. The method of claim **1**, wherein the weakened section is fabricated after the caisson is installed into the seabed soil.

7. The method of claim **6**, wherein the weakened section is provided around the entire perimeter of the caisson body.

8. The method of claim **1**, wherein the caisson body has a plurality of weakened sections provided along the length of the caisson body.

9. A suction caisson system comprising:

a caisson body comprising an upper rim, a lower rim, and a weakened section positioned between the upper rim and the lower rim, the weakened section having a first cross-sectional dimension, the caisson body having a second cross-sectional dimension proximate the upper rim, and the first cross-sectional dimension is less than the second cross-sectional dimension;

a caisson cover constructed and arranged to detachably connect to the upper rim of the caisson body;

a pump constructed and arranged to provide fluid to and from the interior of the caisson body; and

subsea equipment arranged inside the caisson body, wherein the top of the subsea equipment is positioned below the weakened section.

10. The suction caisson system of claim **9**, wherein the caisson body has a plurality of weakened sections provided along the length of the caisson body.

11. The suction caisson system of claim **9**, wherein the weakened section is provided around the entire perimeter of the caisson body.

12. The suction caisson system of claim **9**, wherein the weakened section is defined by a plurality of holes provided in the caisson body.

13. The suction caisson system of claim **9**, wherein the weakened section is composed of a first material, a remainder of the caisson body is composed of a second material, the first material is different from the second material.

14. A method for installing a subsea equipment protection system into a seabed soil comprising:

determining an ice gouge depth at a seafloor location;

providing a suction caisson system comprising a caisson body, a detachable cover and a pump constructed and arranged to deliver fluid to and from the interior of the caisson body;

positioning the caisson body at the seafloor location;

operating the pump to apply a suction force thereby embedding the caisson body into the seabed soil;

removing the detachable cover;

excavating a portion of the seabed soil located inside the caisson body;

fabricating a weakened section in the caisson body between an upper end and a lower end of the caisson body after embedding the caisson body; and

installing subsea equipment inside the caisson body, wherein the top of the subsea equipment is positioned below the weakened section.

15. The method of claim **14**, wherein the weakened section is provided around the entire perimeter of the caisson body.

16. The method of claim **15**, wherein the weakened section is fabricated by drilling a plurality of holes into the caisson body.

17. The method of claim **14**, wherein the caisson body has a plurality of weakened sections provided along the length of the caisson body.

18. The method of claim **14**, wherein the weakened section is positioned at or below the ice gouge depth.

19. A method for installing a subsea equipment protection system into a seabed soil comprising:

determining an ice gouge depth at a seafloor location;

providing a suction caisson system comprising a caisson body, a detachable cover and a pump constructed and arranged to deliver fluid to and from the interior of the caisson body;

positioning the caisson body at the seafloor location;

operating the pump to apply a suction force thereby embedding the caisson body into the seabed soil;

removing the detachable cover;

excavating a portion of the seabed soil located inside the caisson body; and

installing subsea equipment inside the caisson body,

wherein the caisson body has a weakened section located between an upper end and a lower end of the caisson body, the weakened section is composed of a first material, the remainder of the caisson body is composed of a second material, and the first material is different from the second material, and wherein the top of the subsea equipment is positioned below the weakened section.