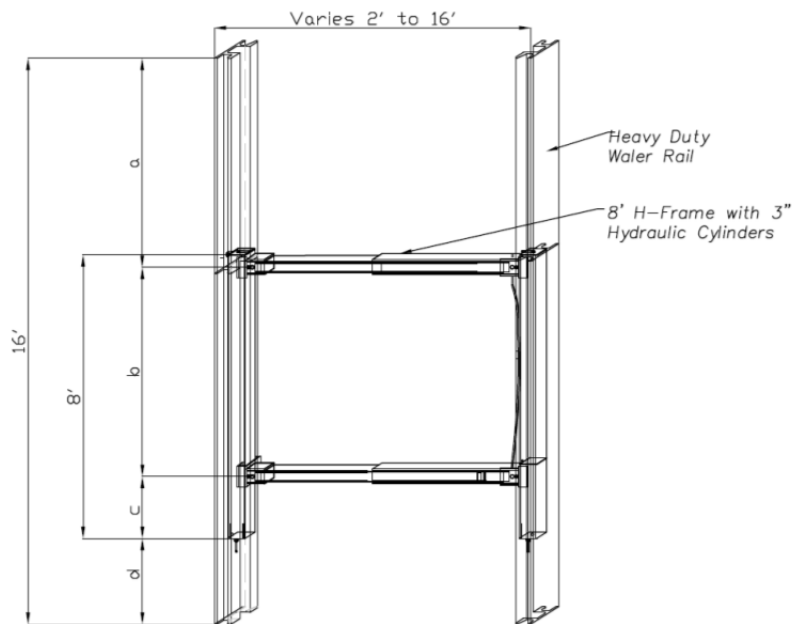


## H-FRAME SYSTEM

### TABULATED DATA Effective January 1, 2011

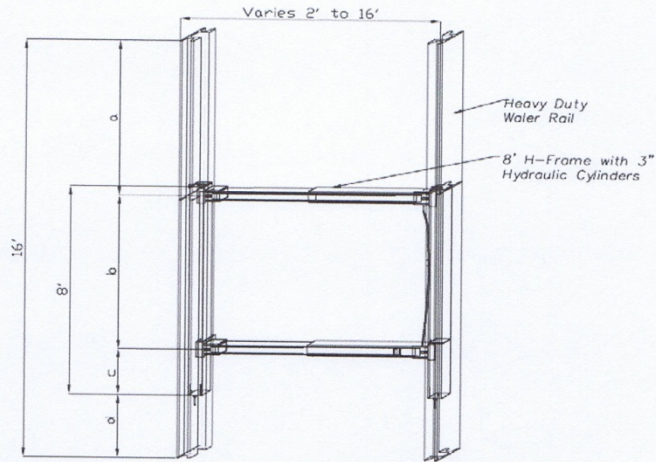


### MANUFACTURERS TABULATED DATA H-FRAME SHORE w/ 16 FT WALER RAIL

The Pacific Shoring H-Frame with Heavy Duty Waler Rail is a hydraulic jack frame that is used in conjunction with steel sheeting such as sheet piles and steel plates. This shore can be used vertical or horizontally with sheeting attached or set prior to setting the frame.

This shoring system can be utilized to achieve wide trenches with large trench bottom to strut clearances. Shore Spacing is also increased over typical trench jack and A-Frame shoring systems. Variations such as higher strength cylinders, longer shore length and stronger wales are available.

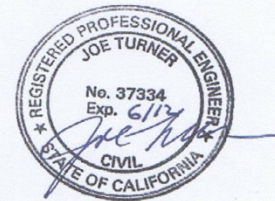
| Typical H-Shore Maximum Parameters*  |       |
|--------------------------------------|-------|
| Pipe Clearance                       | 12 ft |
| Trench Depth                         | 30 ft |
| Trench Width                         | 20 ft |
| Shore Spacing                        | 16 ft |
| * Site Specific Engineering Required |       |



| H-Frame + HD Waler Rail Properties |                            |            |                    |
|------------------------------------|----------------------------|------------|--------------------|
| Material                           |                            | Dimensions |                    |
| Rail                               | HSS 4x6x3/8"               | L          | 16 ft              |
| Hydraulic Cylinder Material        | AL 6061-T6                 | a          | 6 ft               |
| Hydraulic Cylinder Size            | 3"                         | b          | 6 ft               |
| Hydraulic Cylinder SWL             | 45000 lbs                  | c          | 1.75 ft            |
| Oversleeve                         | HSS 5x5x3/8"               | d          | 2.5 ft             |
| Inner Sleeve                       | HSS 4x4x5/16"              | width      | varies ft          |
| Section Modulus @ Bottom Strut     | 13.9 in <sup>3</sup> steel | Material   | Steel and Aluminum |
| Section Modulus @ Waler Rail       | 13.5 in <sup>3</sup> Al    | Weight     | 1300 lb            |

Notes-

- 1) Use of the H-Shore with Heavy Duty Rails requires site specific engineering by a registered civil engineer.
- 2) Tabulated Data is for the purpose of estimating and planning only.
- 3) Soil type to be determined by a competent person at the site as the soil is being excavated and as required by OSHA Subpart P.
- 4) Soil Type to be determined by a competent person in accordance with OSHA Subpart P, Appendix A.
- 5) C-60 Soil is OSHA Type C soil that will stand up long enough to install the shoring



|  |  |  |           |
|--|--|--|-----------|
| Pacific Shoring<br>265 Roberts Avenue<br>Santa Rosa, Ca. 95407<br>(707) 575-9014 |  | CER, INC<br>Construction Engineering Resource<br>1837 Wright St.<br>Santa Rosa, Ca. 95404 (707) 484-4704 |           |
|  |  | Job # 450  | Sheet # 1 |
|  |  | Date 6/1/2011  | 1 of 2    |

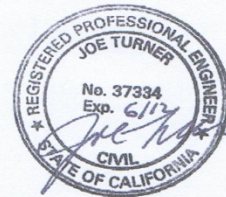
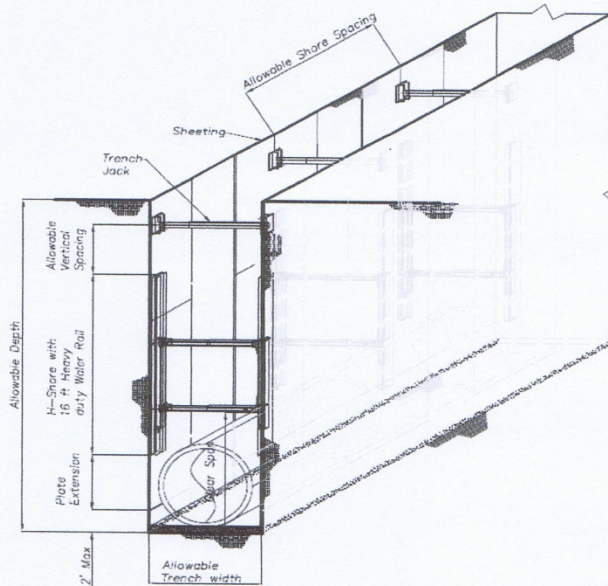


**Table 1** Clear Span and Horizontal Spacing using 1" Plate Sheeting

| Depth of Trench (ft) | Plate Extension (ft) | Clear Span (ft) | Horizontal Spacing (ft) | Vertical Spacing (ft) | Plate Extension (ft) | Clear Span (ft) | Horizontal Spacing (ft) | Vertical Spacing (ft) |
|----------------------|----------------------|-----------------|-------------------------|-----------------------|----------------------|-----------------|-------------------------|-----------------------|
|                      |                      |                 |                         |                       |                      |                 |                         |                       |
| 10                   | 5                    | 9.5             | 18                      | 10                    | 5                    | 9.5             | 10                      | 10                    |
| 12                   | 5                    | 9.5             | 15                      | 10                    | 4.5                  | 9.0             | 9                       | 9                     |
| 14                   | 5                    | 9.5             | 13                      | 10                    | 4                    | 8.5             | 8                       | 8                     |
| 16                   | 5                    | 9.5             | 12                      | 10                    | 4                    | 8.5             | 7                       | 8                     |
| 18                   | 5                    | 9.5             | 10                      | 10                    | 4                    | 8.5             | 6                       | 8                     |
| 20                   | 5                    | 9.5             | 9                       | 10                    | 3.5                  | 8.0             | 6                       | 7                     |
| 22                   | 5                    | 9.5             | 8                       | 10                    | 3.5                  | 8.0             | 6                       | 7                     |
| 24                   | 5                    | 9.5             | 8                       | 10                    | 3.5                  | 8.0             | 5                       | 7                     |
| 26                   | 4                    | 9.5             | 7                       | 8                     | 3                    | 7.5             | 5                       | 6                     |
| 28                   | 4                    | 8.5             | 7                       | 8                     | 3                    | 7.5             | 5                       | 6                     |
| 30                   | 4                    | 8.5             | 7                       | 8                     | 3                    | 7.5             | 4                       | 6                     |

| Depth of Trench (ft) | Plate Extension (ft) | Clear Span (ft) | Horizontal Spacing (ft) | Vertical Spacing (ft) | Plate Extension (ft) | Clear Span (ft) | Horizontal Spacing (ft) | Vertical Spacing (ft) |
|----------------------|----------------------|-----------------|-------------------------|-----------------------|----------------------|-----------------|-------------------------|-----------------------|
|                      |                      |                 |                         |                       |                      |                 |                         |                       |
| 10                   | 4                    | 8.5             | 9                       | 8                     | 4                    | 8.5             | 6                       | 8                     |
| 12                   | 4                    | 8.5             | 7                       | 8                     | 3.5                  | 8.0             | 6                       | 7                     |
| 14                   | 3.5                  | 8               | 6                       | 7                     | 3                    | 7.5             | 5                       | 6                     |
| 16                   | 3.5                  | 8               | 6                       | 7                     | 3                    | 7.5             | 5                       | 6                     |
| 18                   | 3                    | 7.5             | 5                       | 6                     | 3                    | 7.5             | 4                       | 6                     |
| 20                   | 3                    | 7.5             | 5                       | 6                     | 2.5                  | 7.0             | 4                       | 5                     |
| 22                   | 3                    | 7.5             | 4                       | 6                     | 2.5                  | 7.0             | 4                       | 5                     |
| 24                   | 3                    | 7.5             | 4                       | 6                     | 2.5                  | 7.0             | 3                       | 5                     |
| 26                   | 2.5                  | 7               | 4                       | 5                     | 2.5                  | 7.0             | 3                       | 5                     |
| 28                   | 2.5                  | 7               | 4                       | 5                     | 2                    | 6.5             | 3                       | 4                     |
| 30                   | 2.5                  | 7               | 3                       | 5                     | 2                    | 6.5             | 3                       | 4                     |



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