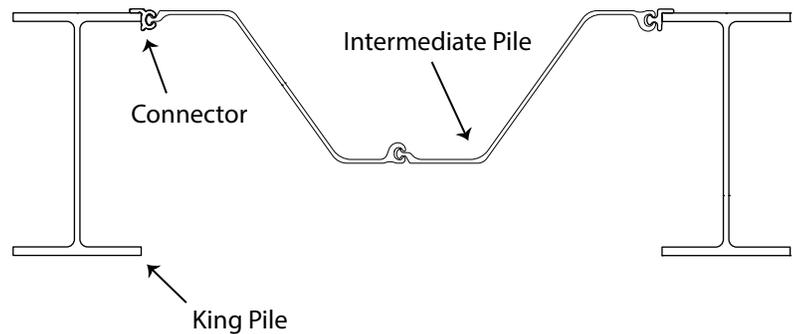


## Combi-Wall Systems

L.B. Foster Company is dedicated to providing the most efficient combi-wall system for your needs utilizing a variety of components. Using wide-flange beams or pipe piles along with extruded connectors and PZC™ sheet pile from Gerdau, L.B. Foster is able to provide an efficient solution to meet your project requirements.

L.B. Foster combi-wall systems have a range in section modulus of 50 in<sup>3</sup>/ft. to over 1000 in<sup>3</sup>/ft. Domestic systems (100% melted and manufactured in the USA) are available.

The systems shown represent only a portion of the variations possible. Intermediate sheet pile function as earth retention and for load transfer. The sheet pile is only required to resist active earth pressures down to the zero earth pressure level and may extend below this level as a safety measure. Shortening the lengths of the intermediate sheet pile will reduce the cost of the job and facilitate installation.



Metropolitan Transportation Authority, Staten Island, NY



Freeport Water Authority, Sacramento, CA



Cabrillo Way Marina, San Pedro, CA

## Combi-Wall Systems

Combi-walls are piling walls that are comprised of high modulus structural components interspaced by lighter sheet piles. The high modulus components - known as king piles - can be tubular, box, bearing or other types of fabricated piles.

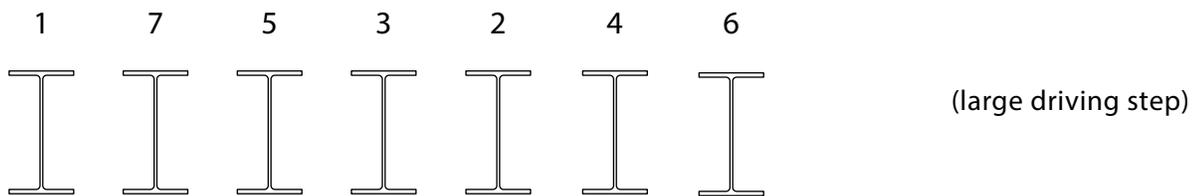
It is essential that a stable, heavy, adequately rigid and straight pile-driving template frame, adapted to suit the length and weight of the pilings, be provided.

The king piles are fixed into position within the template using welded bracket guides which take into account width tolerances.

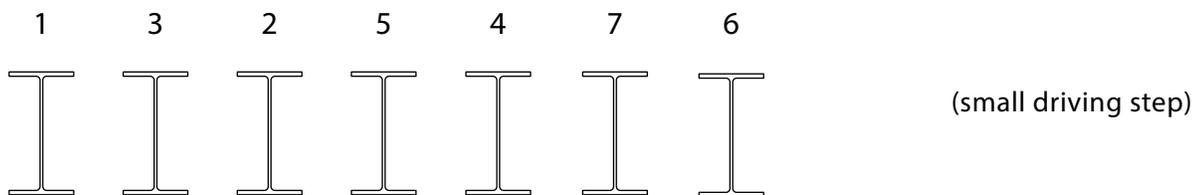
Driving of the king piles must be carried out with extreme care in order to ensure that they are embedded straight and vertical, or at a prescribed batter, thereby guaranteeing that they are parallel to each other and at the required spacing.

The driving sequence of the king piles must ensure that the pile toe encounters soil uniformly on its total circumference and not just on one side.

This is achieved by driving in the following sequence:



At least, however, the following sequence should be observed:



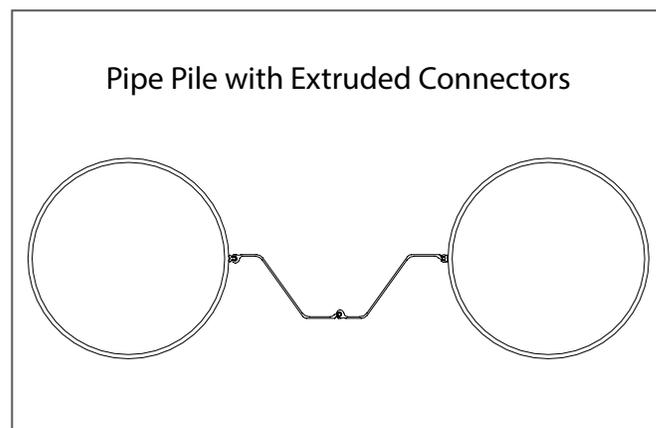
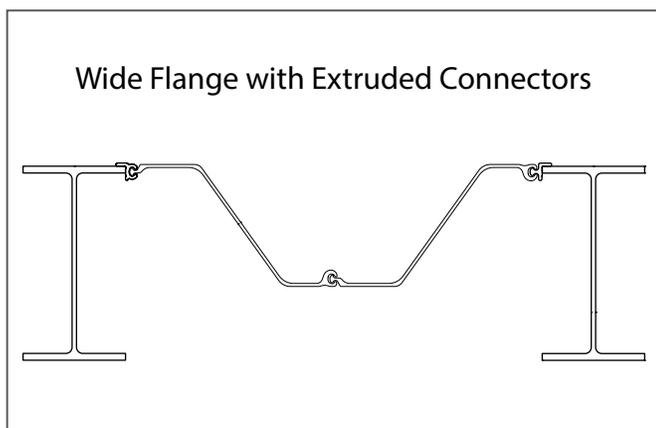
In general, all of the king piles should be driven in sequence to full penetration without interruption. Following successful completion of this, the intermediate light piling sections can be set and driven. During the setting and driving operations of the king piles, a constant check (using theodolites) should be made of their alignment in relation to the wall.

When the guide frames have been removed, a final survey should be made to ensure that the deviations in the distance between the king piles are within the acceptable tolerances in order to allow the proper installation of the sheet pile. However, if the deviations are outside the specified or practical tolerances, then either the intermediate piles have to be adjusted or the king piles must be extracted and re-driven.

To overcome difficult driving conditions, it may be possible to use: jetting; excavating inside the king piles; or any other the ground pre-treatment methods normally adopted for sheet piling.

## Combi-Wall Solution Variations

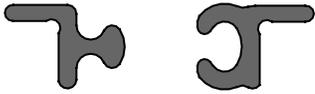
L.B. Foster is dedicated to offering the most efficient combi-wall system for your needs through utilization of our vast array of systems designed to your specific requirements.



Red Rock Hydroelectric Project, Pella, IA

## Combi-Wall Systems

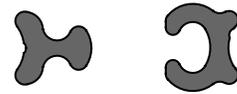
L.B. Foster combi-wall systems can be supplied with a range of connections. Each connector series offers distinct advantages to assure you have the best system for your project.



One leg BBS connectors:

*Universal and in stock - ready for quick orders*

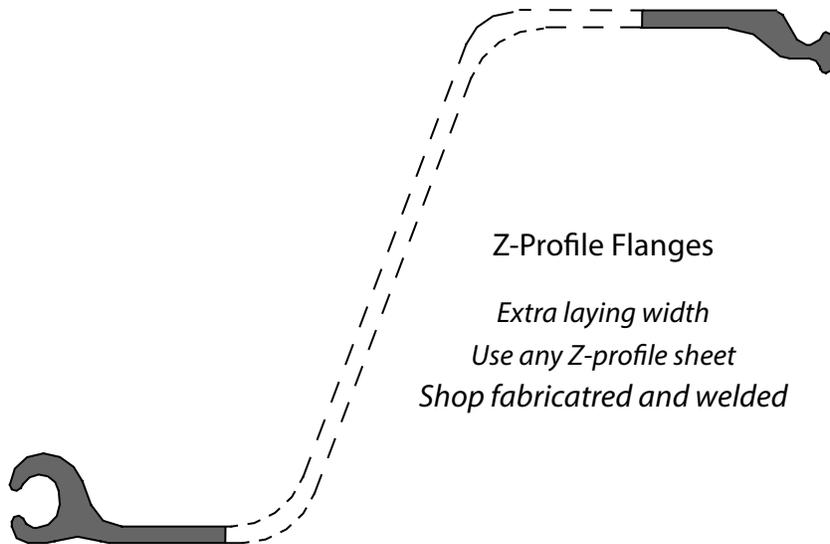
*Field or shop weld full length to beam*



WOM / WOF connectors:

*Used in weight efficient pipe combi-walls*

*Field or shop weld full length to pipe*



Z-Profile Flanges

*Extra laying width*

*Use any Z-profile sheet*

*Shop fabricatred and welded*

