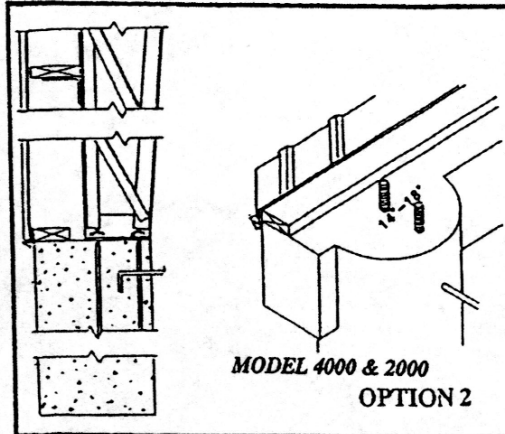
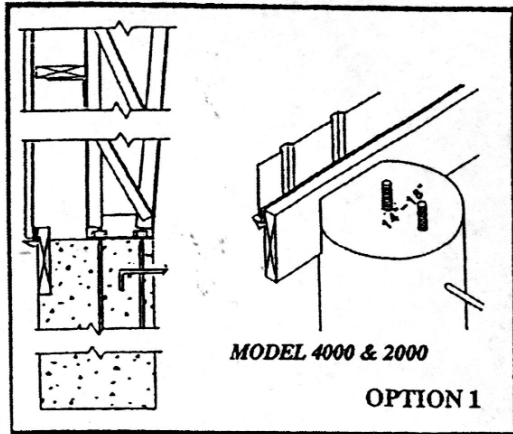


FOUNDATION ALTERNATIVES

What do we need for the Foundation?

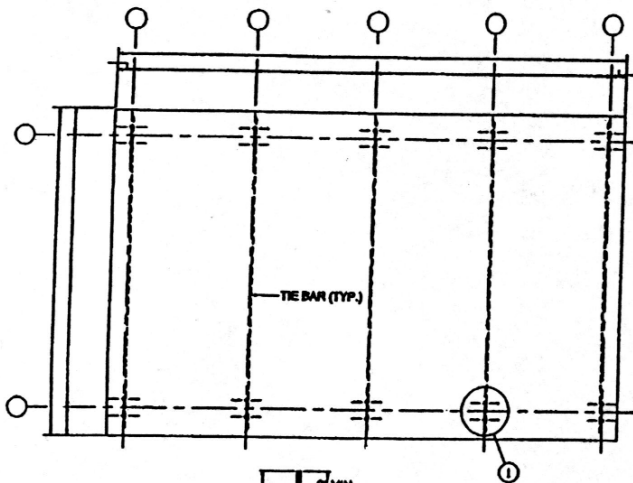
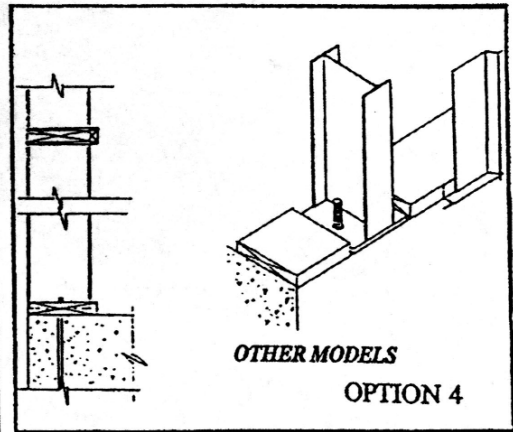
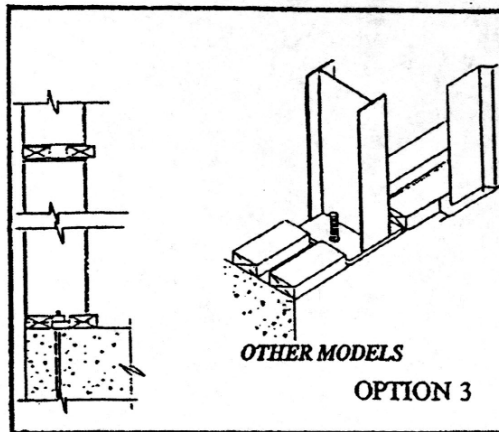
Are the Girts on the Outside of the Columns or inside (Flush?)



THE CHOICE IS YOURS!!

Options 1 & 2 for outside mounted Girts.

Options 3 & 4 for flush mounted Girts.



Perka furnishes the Anchor Bolt Layout with the Frame loads or reactions (kips)

Kips are the column reactions for the vertical and Horizontal loads of the frames. (Live load - Dead load - Wind load) (See back of Sales Binder)

Perka does not provide engineering and/or Anchor Bolts for the foundation!

Your local engineer or foundation contractor will be able to do this with the reactions provided by Perka along with the local soil condition test report.

COLUMN REACTIONS (KIPS)					
COLUMN LINE	DEAD LOAD	LIVE LOAD	WIND/SEISMIC LOAD	BASIC PLATE SIZE	ANCHOR BOLT QTY. & SIZE
VER.					
HOR.					

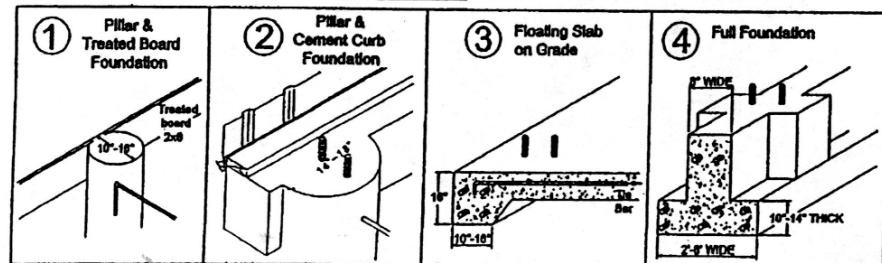
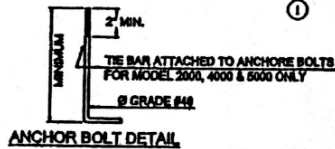
GENERAL NOTES:

- THIS IS AN ANCHOR BOLT LAYOUT ONLY.
- THE OWNER IS RESPONSIBLE FOR THE FOUNDATION TO COMPLY WITH LOCAL BUILDING CODES.
- FOUNDATION DESIGN SHALL BE BASED ON THE COLUMN REACTIONS INDICATED AND THE SOIL BEARING CAPACITY.
- ANCHOR BOLTS ARE DESIGNED TO BE SPACED 40P UNLESS OTHERWISE NOTED AND SHALL HAVE PROPER ENCHMENT AND COVER.
- DESIGN DATA: LIVE LOAD = psf, WIND SPEED/DIR. = psf, DEAD LOAD = psf, SEISMIC = psf.

THIS BUILDING FRAME HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1997 UNIFORM BUILDING CODE.

NOTE: WINDBRACE RODS TO BE LOCATED IN BAYS BETWEEN COLUMN LINES ○ & ○.

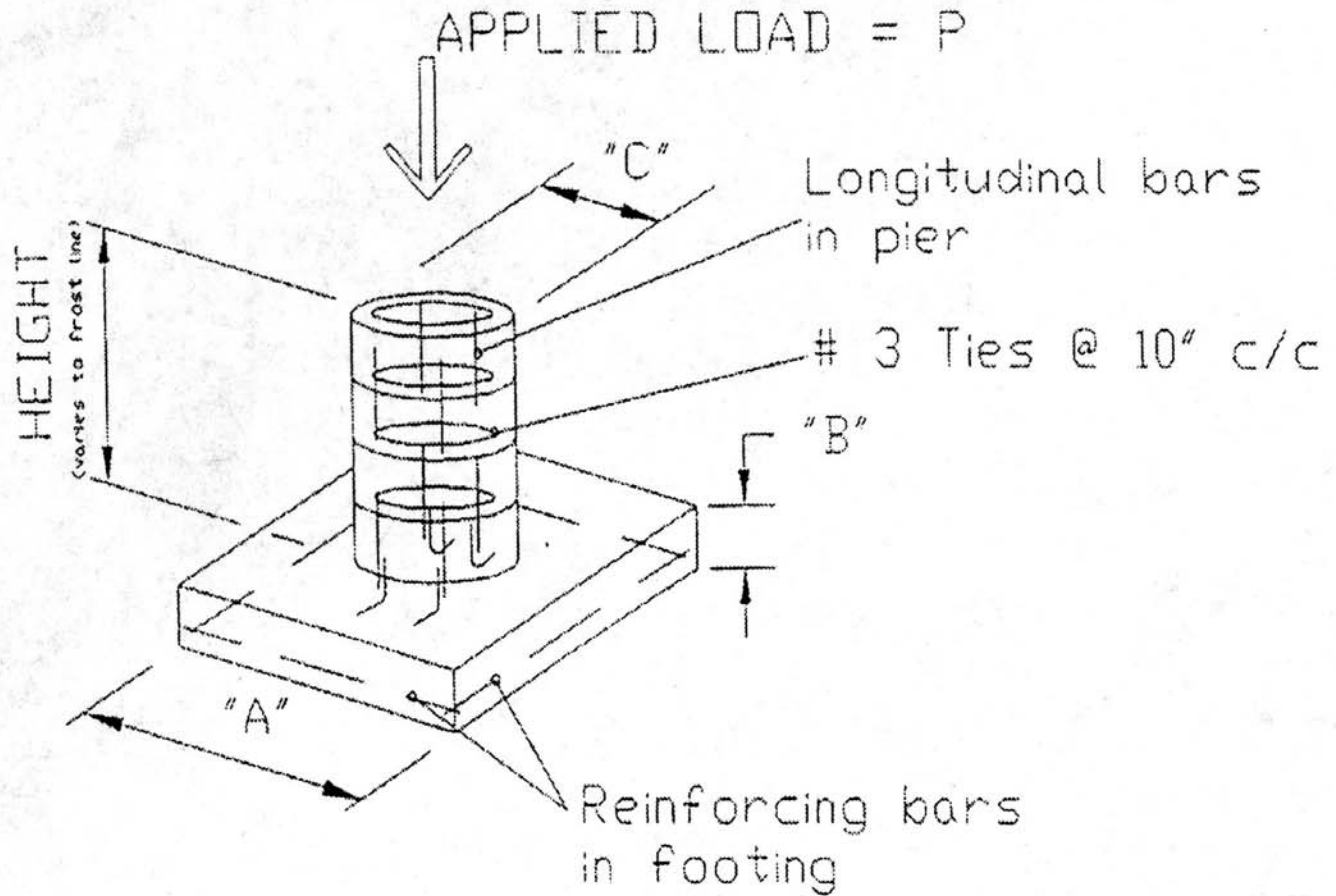
Select The Foundation That Suits Your Requirements



ANCHOR BOLT LAYOUT

FOUNDATION/DVG

What Does A Typical Foundation Look Like?



- NOTES:
- 1) Applied Load is total load resulting from column plus any additional load such as wall load.
 - 2) Soil bearing capacity = 4000 psf.
 - 3) Concrete Strength = 3000 psi.
 - 4) Steel : ASTM A615 Grade 40 or its equivalent CSA G30.12 Grade 300
 - 5) Local architect or Engineer should verify and adjust design to suit local soil conditions.

APPLIED LOAD P (Kips)	DIMENSION			LONGITUDINAL BARS IN PIER	CROSS SECTION	REINFORCING BARS IN FOOTING
	'A'	'B'	'C'			
32.9	3'-0"	11'	12'	4 @ # 5		6 @ # 4
44.8	3'-6"	11'	12'	4 @ # 5		8 @ # 4
58.3	4'-0"	12'	14'	6 @ # 5		10 @ # 4
73.8	4'-6"	12'	14'	8 @ # 5		11 @ # 4

☛ **Do the Columns Have to Be Tied from Side to Side?**

This depends on your foundation style design which is dependant on your horizontal column reactions, soil conditions, adjacent obstructions and budget.

Most of Perka's Models (10000, 8000, 7000, & 6000) will have relatively low horizontal forces (more commonly known as the "outward kick"). In these buildings the likely hood of needing to have the columns tied are less. We say only less, because in some extreme cases tie rods could be "used" to minimize the size of the piers...

Perka's Models 2000, 3000, 4000 & 5000 will have more significant horizontal forces especially in wider frame sizes. Tying the columns from side to side may be part of the foundation design to reduce the pier sizes, and in some cases where adjacent obstructions exist, it may be the only way to resist the forces exerted.

All this to say that while the columns DO NOT necessarily have to be tied from side to side, this may either be the only way to resist outward kick, or at the very least keep the pier size smaller and therefore less expensive (budget).

Bottom line is as long as the foundation design resistance (with or without tie rods) meets or exceeds the foundation reactions (as noted on Perka Anchor Bolt Layouts), then all is well!!

☛ **What Is a Fixed Connection?**

A "fixed connection" in a foundation pier design relates to the connection at the base of a frame where the pier and not the column needs to resist rotation, horizontal AND vertical stresses. To do this the concrete needs to be larger in both length, height and base than its normal counterpart. Consequently the columns do not need to be as strong as they might have to be in another foundation design alternative. While this makes the frame lighter and less expensive, it can be questioned if it might "cheat" the frames capacities regarding other important matters.

PIN CONNECTION:

This latter concept, as its name would indicate, is designed to allow for a free rotation (like on a pin) thereby causing the column to have to withstand all of the rotation and more of the horizontal and vertical stresses. Though this requires smaller foundations, less concrete and smaller or fewer anchor bolts, it usually requires that the columns be larger.

Perka Building Frames typically uses Pinned Connections. Since this typically requires larger columns, this actually makes for an overall stronger frame, able to resist and withstand stronger forces and stresses from such things as heavier wind loads from storms, exaggerated snow and ice loads and even extensive heat from fire. So even if an overall building system using fixed connections with rigid or plate beam designs ends up costing a little less, you do end up losing out on some of the extra security you might otherwise get by the benefits of using a pinned connection. As the saying goes: *"You can only get what you pay for!"*