Configuration

- Frame – beams and columns must be reinforced concrete
- Concrete must be reinforced with steel
- Proper connections are essential
- Main steel must be at least d1/2
- All columns must be tied
- Minimum column size shall be 9” x 9” at least

Construction Details

- All Lintel Bands
  6’x4”, 2d3/8”
  d1/4”@4”
- All Beams
  9’x9”, 2d1/2” top & bot
  d1/4”@4”
- Footing 3’x3’
  3’x3’x6’
  d3/8”@8”
- Footing 4’4”
  4’x4’x8’
  d3/8”@8”

Member Sizes

<table>
<thead>
<tr>
<th>Footing Size</th>
<th>Soft Soil</th>
<th>Average Soil</th>
<th>Strong Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10’ x9’</td>
<td>8’x6’</td>
<td>6’x6’</td>
</tr>
<tr>
<td>2</td>
<td>8’x8’</td>
<td>6’x6’</td>
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</tr>
<tr>
<td>3</td>
<td>6’x6’</td>
<td>4’x4’</td>
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Footings depth = max. footing size

Footing Reinforcement

<table>
<thead>
<tr>
<th>Size</th>
<th>Thickness</th>
<th>Steel</th>
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<tbody>
<tr>
<td>3’x3’</td>
<td>12”</td>
<td>d3/8”@8”</td>
</tr>
<tr>
<td>4’x4’</td>
<td>16”</td>
<td>d3/8”@8”</td>
</tr>
<tr>
<td>6’x6’</td>
<td>24”</td>
<td>d1/2”@8”</td>
</tr>
<tr>
<td>8’x8’</td>
<td>32”</td>
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Concrete Mix

- Cement
- Sand
- Stone
- Water

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Note: Ratio of water to cement is always 0.75 by volume

Brick

- 4” thick, 3/8”@6”
- Both ways, top & bot

Slab

- 4” thick, 3/8”@6”
- Both ways, top & bot

Stair

- 4” thick, 3/8”@6”
- Both ways, top & bot

Retaining Wall

- At least 8” thick
- On 18”x4” 1:3:6 concrete

All Beams

- 9”x9”, 2d1/2” top & bot
- d1/4”@4”

All Columns

- 9”x9”, 4d1/2”
- d1/4”@4”

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Note:

- Do not use 90° bend
- Use 135° bend

All Lintel Bands

- 6”x4”, 2d3/8”
- d1/4”@4”

All Beams

- 9”x9”, 2d1/2” top & bot
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Footing 3’x3’

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Footing 4’4”

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