

EXTERIOR TRIM

Approved Methods

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Accordingly, not all risks and hazards associated with homebuilding could be anticipated by the authors of this manual and Charlotte Region Habitat for Humanity. Always read and observe all safety precautions provided by any tool or equipment manufacturer, and always follow all accepted safety procedures. Because codes and regulations are subject to change, you should always check with authorities to ensure that your project complies with all local codes and regulations.

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Introduction to the Exterior Trim Section

This Section Includes

- Work Schedule and Crew assignment
- Safety Guidelines
- Task List
- Tool and Equipment List
- Material List

Schedule: 1-3 Exterior Trim Workdays

On most Habitat projects, exterior trim will be completed during three scheduled workdays, depending on the crews' experience. Though the same number of volunteers should be utilized, it will take approximately three days to complete the exterior trim of a house.

Crew Assignments

Exterior trim is visible to all who view the house and should be led by experienced leaders.

It is suggested that three volunteers, including the Task Leader and one Crew Leader, be recruited for exterior trim. An additional volunteer and Crew Leader can be utilized if the leadership is experienced. Divide the crews by distributing the experience level among the crew leaders.

Material Descriptions

Miratec Trim boards – An engineered product that is paintable and durable and comes in various widths and lengths. Primary use is as a wrap over the porch beams and also used between double windows

Medium density overlay panel, or MDO panel – this is a paintable surface made of plywood with a weather-resistant resin overlay bonded to the wood by heat and pressure. The overlay resists water, weather, wear and degradation. Cut to size in the warehouse to wrap around columns.

Exterior Trim Safety Guidelines

Review these guidelines with each crew member at the start of the day or as they arrive on site.

“NO JOB IS SO IMPORTANT THAT IT CAN’T BE DONE SAFELY”

Speak up if something looks unsafe. An observer can spot danger quicker than a worker.

Know where **water** & a **first aid** kit are located. Tell the site supervisor immediately in the event of an injury.

Habitat **requires safety glasses** not just when using power saws, but at all times.

Habitat requires **hardhats** if any siding or framing is occurring on the job site.

Utility knives - keep your hand out of the blade’s path. Retract blade when not in immediate use. A sharp blade is safer than a dull one. Safely dispose of used blades.

Power Saws:

- Only crew members with power saw **experience** can use them. A busy work day is not the time to teach saw skills nor is it the time to learn saw skills.
- Habitat advises that **ear & eye protection** be used when using power saws. Don’t bind the blade of any saw – listen for it. Back off and resupport lumber. Keep electric cords out of the way of the saw and out from underfoot.
- Don’t cross hands over to stabilize material on the miter saw. Find another way or get help.
- **Guards** on saws must be in place & operating.

Use a **ladder** that will reach the work. Move the ladder with your work. Place ladders on solid footing.

Scaffolding - See the site supervisor for the numerous safety requirements for scaffolding (i.e. using triple widths of walkboards, placing scaffolding on solid footing, and guardrail requirements).

Keep the entire work area, inside and out, **free of trip and fall hazards**.

Keep tools not in use in your tool belt at all times. Select the correct tool for your work. Don’t leave loose objects on walls, porch beams or ladders.

No loose clothing or hair that could get caught in power tools.

Wear appropriate clothing for the task including work boots that protect from falling objects, have a nonskid sole & resist nail penetrations. No open toed shoes allowed.

Tools must be in a safe condition (meet OSHA standards, i.e. no nicks in cords or missing grounding prongs.)

Remove nails before discarding lumber.

Discarded material must be placed in the designated area.

Think & concentrate on your task.

If you are uncertain about how to do a task, or how to operate a power tool, ask your crew leader.

Task List - Exterior Trim

Staffing

- House Leader
- 1 Exterior Trim Task Leader
- 1-2 Crew Leaders
- 1-2 Additional Volunteers

Tasks To Be Completed

1 crew	_____	Install rear porch guardrails/handrails/pickets (if required)
1 crew	_____	Install front porch guardrails/handrails/pickets (if required)
2 people	_____	Build/Install crawl space Door (if required)
2 people	_____	Wrap front porch beams in 1x material
2 people	_____	Build Front Porch Columns
2 people	_____	Install mailbox post and mailbox

Quality Checkpoints

- _____ Porch posts are set securely, nails and screws checked
- _____ Pickets are installed on porch rails and stair rails
- _____ Mailbox post and mailbox installed
- _____ All materials re-stacked, site cleaned, tools accounted for and put away

Additional Quality Checkpoints

- _____ Tapered columns are centered under beam so four sides have consistent angles.
- _____ Nails on wood porch wrap are set $\frac{1}{16}$ " to $\frac{1}{8}$ " below surface

Exterior Trim Tool And Equipment List

Tools Each Trim Crew Member Will Need	Tools and Equipment Needed at Each Site
Hammer (16 oz. Minimum)	100' - 12 Gauge Grounded Drop Cord
Nail Apron	4-Way Electrical Box (Splitter)
<u>Retractable</u> Utility Knife with Extra Blades	Electric Miter Saw (10") with Saw Table
Measuring Tape (16' Minimum.)	½" Electric Drill
Square (Speed or Combination)	Assortment of Bits (wood & concrete)
Two Pencils	6' Step Ladder
Safety Glasses	8' Step Ladder
Hard Hat	Extension Ladder -if needed
Work Gloves	Handy Bar or Crow Bar
Water	Broom
	Four Saw Horses
Tools Each Trim Crew Will Need	Snips for galvanized flashing
Ear protection	Plumb bob
Safety Glasses	Shovel
Circular Saw (7 ¼")	Post Hole Digger; sledge hammer;
Portable Drill and bits	Tub (for Mixing Concrete)
50' 12- Gauge Grounded Drop Cord	Mailbox Post and mailbox
25' Measuring Tape	Dry Concrete mix
4' and 2' Level	Spare brick for bottom of mailbox post
Hand Saw	
Chalk Line	Temporary Posts - screw type for porch
Cats Paw (for Removing Nails)	Framing Square
Wood Chisel	
Nail Set	

Exterior Trim Material List

Porch Material List:	Front Porch Posts Material List:
Galvanized steel flashing 24" wide; for wood floors	1x1 Posts (37" w/45° bevel cut at top and bottom)
Galvanized 16d common nails	Metal post anchors
Galvanized 10d nails; joist hangers	¼"x2" masonry anchors (if no J-bolt)
Treated 4x4; Porch Posts Treated 6x6; Front Porch posts	3 ½" Deck Screws
Treated 2x12; wood steps/wood house	Primer and brush; post bottoms
Treated 2x12; band joists	
Treated 2x12; stringers	
Treated 2x2 ledger board or joist hangers	Additional/Substituted Material List:
Treated 2x4; kickers, temporary posts	Treated 2x2 (porch detail)
Treated 2x8; joists	1x6 beam wrap (Miratec)
Treated 2x10; band joists	1x10 beam wrap (Miratec)
Treated 5/4x6; deck boards	1x12 MDO column wrap
Treated 2x6; diagonal bracing	Treated 2x4 rail cap
Precast footings	Tap con screws for guardrail to column
Concrete	Tap con screws for pickets if needed
16d Galvanized Finish Nails	
5/8" Galvanized Hex Bolts/Washers/Nuts (to attach deck to band joist)	Aluminum column caps
½" x8" Galvanized Bolts; diagonal bracing	Exterior caulk
8d Galvanized Ring Shank Nails; deck	6d galvanized trim nails; columns
16d Galvanized Ring Shank Nails	Ring shank galvanized boxing nails; Beam wrap builders' felt (between wood base and concrete cap)
½"x4" Galvanized Hex Bolts/Washers/Nuts (attach steps to deck)	Porch Posts and Railing
½"x8" Galvanized Hex Bolts/Washers/Nuts (attach post to stringer)	Treated 4x4; Porch Posts when not braced against brick posts. Treated 2x4 for posts to house and to the brick posts.
3/8"x5" galvanized lag screws (guard post to deck and house)	Treated 2x4 for bottom rail and top cap over top rail Treated 2x6; for top handrails and step top hand rails
3" deck screws (guardrail to front posts)	2x2 treated pickets with a miter cut on both ends, predrilled
2 ½" deck screws; pickets, 5/4 board	4x4 post anchors with tap con screw and washers to anchor these to the masonry floor and walls.
Wedge anchors (expansion bolts); stringer to brick porch	
1" galvanized screws (post anchor to post)	

Items that may come as Components:

Column Bases

Columns and column wrap

Column Caps

Pickets

General Instructions for Exterior Trim

All exterior trim joints (mitered or beveled) should be tight, with no spaces between the two pieces of wood. Treated lumber will shrink. Do not try to improve bad joints by puttying or caulking.

Use only double dipped galvanized nails and fasteners in areas exposed to the weather or in contact with pressure treated lumber. On treated lumber, drive the nails or screws flush with the surface of the material being careful not to make hammer marks on the wood. On untreated lumber, use a nail set to set the nails $\frac{1}{16}$ " to $\frac{1}{8}$ " below the surface.

Careful planning, measuring and cutting help reduce the amount of waste on the job.

The exterior trim for typical Charlotte Region Habitat home includes:

- Front porches are poured concrete and may have partial brick columns
- Tapered columns are built on site but the components are cut at the warehouse
- Front porches have brick steps
- Porches have handrails and guardrails, depending on the porch height
- Porch Beams are wrapped in painted 1x Miratec Treated Exterior Composite trim
- Rear porches are poured concrete and the steps are brick
- Porch rail posts are 1 ½" taller to accommodate 2x4 cap on rail



Typical Charlotte Region front Trim Package

Set Permanent Porch Posts

When permanent porch posts that support the beam are installed, they are installed after the beams have been wrapped.

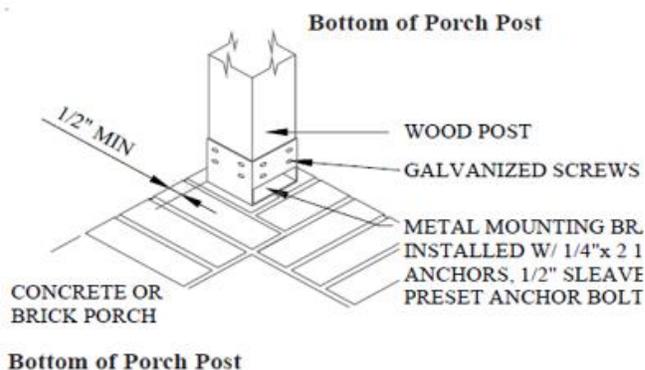
Porch posts are installed at the outside corner of the porch and under each joint in the beam. Posts are mounted over a masonry base (either a base flush to the floor or a raised brick base above the floor). Plumb down from the center of the outside corner of the porch beam and mark a point on the porch

floor. (Use a plumb-bob or a 4' level and a straight 2x4 to find this point.) Install a metal post anchor to the porch floor using 1/4" x 2 1/2" masonry anchors or use the pre-installed J- bolt if provided by the masons.

Once the porch beam is level, measure the distance between the top of the bracket and the porch beam. This distance will be the length of your 4x4 post AND your top plate/plates. Screw the center of the top plates into the center of your 4x4 post.

If the post **IS NOT** pressure treated, prime both ends prior to installation. Note: It is easy to cut the wrong end of a decorative post! Cut extra length off the top. If the post **IS** pressure treated, flash the top of the post with a piece of galvanized flashing to prevent corrosion. Fit the flashing to the top of the post, leaving it 1/8" shy of the edges, which will allow room for a bead of caulk and no chance of exposing the flashing. Nail the flashing into place.

Use screw-type temporary posts if they are available. Place them next to the permanent post location and slightly lift the beam. If using a 2x4 temporary post, tapping at the bottom will raise the beam. When finessing the permanent post, tap (protecting it with a piece of scrap) it in place and check for plumb. Once plumb, slowly release the temporary posts. Lightly mark a corner of the permanent post for reference on top and bottom because each screw that goes into it is likely to move it out of plumb. Screw the bottom of the post to the bracket with 1" galvanized screws and to the porch beam with countersunk galvanized screws. Pre-drill for screws. Countersink top screws by using a drill bit the size of the screw head for the first 1/8th inch.



Top Plate and Bottom Plate on Porch Railing

Front Porch Posts, Handrails, and Pickets

Front porch trim is the same as rear porch trim with some exceptions.

Posts, railing and caps

There are 2 styles of porch post to support the porch railing. Both posts will support the top and bottom railings.

One porch posts uses treated 2x4 that are mounted to the house siding and through the siding, Styrofoam and OSB using 4" long timber lock screws. The other 2x4 are also mounted to the brick piers using tap cons

The other posts uses 4x4 and these are used to support the step railing and intermediate points in the porch railing. Use two $\frac{3}{8}$ "x5" lag screws (with washers), or TapCons into the house brick piers. Do not locate the lag screws in conflict with where the rails will be mounted.

Post height will be 36" from porch floor to top of post NOT including the bevel cut at the top of the post. (To keep picket production simple at the warehouse.)

Post tops are mitered 1" down using a 45 degree bevel cut.

The hand rail post is set in from the edge of the masonry porch the same distance as the corner post. If the corner post is set in $\frac{1}{2}$ ", then the guardrail post is set in $\frac{1}{2}$ ".

Porch rails

Front porch handrail posts are set back approximately 3" from the edge of the brick on the sides of the porch (tight against the corner post) and $1\frac{1}{2}$ " on the front of the porch.

Be sure the rails are level as the concrete front porch always has a slight slope to the outside.



Lag Screw Installed by Exterior Trim Crew

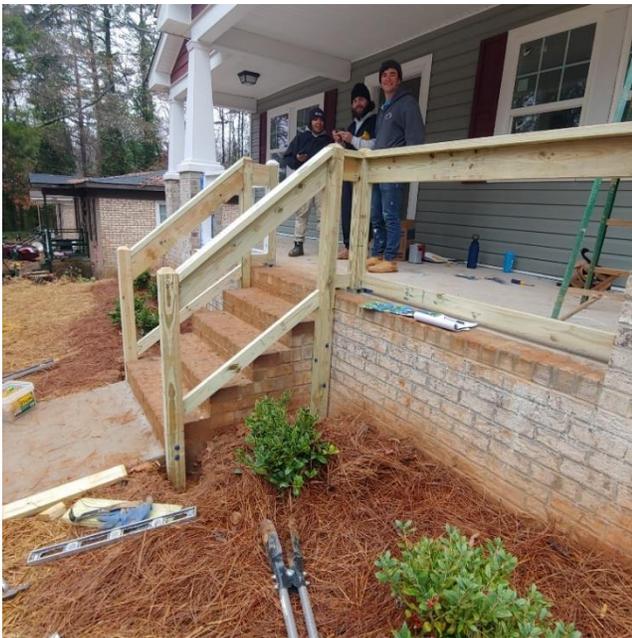


Guardrail Post Installed with Tap Con

When using a 4x4 for the porch post, tap-cons are acceptable here because guardrails are less prone to movement and the porch rail is wedged in between posts, which provides additional strength. Tap cons are not acceptable on handrail posts.



Front Railing Connecting to Step Railing



Use of TapCon Screws to connect the End of the railing to the Brick Porch Column

Porch Rails

Install the 2x4 cap rail 36" off the porch floor (Butt against your bevel cut on the posts)

Set the top of the 2x6 top rail directly under the inside of the 2x4 Top plate. Because porches slope, it will be necessary to take this measurement against the house and transfer this mark to all corner posts using a 2x4 and a level.



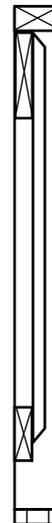
Railing tying into Brick Porch

All porches require a lower rail. Set the bottom of the 2x4 bottom rail two inches up from the porch floor. (By code it can be no greater than 3 1/2".) From the top of the top rail, to the bottom of the lower rail will be 32 1/2". Attach the upper and lower rails using countersunk deck screws.

Note: Drill TapCon screw into the mortar, NOT the bricks themselves

Handrail Stiffener

Stiffen an 8' or greater hand rail by installing a 4x4 post at its center. Use a post anchor and 1" galvanized screws at the bottom. The top is secured with 3" deck screws driven in from the outside of the top rail. The center picket should be centered on the post, and the left 2x6 should be on the inside edge (left edge)



Guardrail Stiffener

The cap that runs from one post to the other should sit on top of the center post. Cut the center post to

the height of the top of the upper guard rail (It should be 37" less the height of the post anchor base).

Rail Pickets

Pickets are to be 32 ½" and mitered at a 45° angle just at the top or at the top and bottom. Install pickets snug up against the bottom of the cap rail on the outside of the porch. Use a 2x4 to space the pickets evenly at 3½" apart (code requires that the space between pickets must be no greater than 4"). Pre-drill for each picket and attach each with 2 ½" deck screws, one at the top and one at the bottom. Start the first picket by finding the midpoint of the 2x6 rail. Using this as the center for the first picket, install this center picket with deck screws so it is plumb from top to bottom

Using a scrap 2x4, set it flush against the 1st picket and install the second and successive pickets. Every 2-3 pickets check for plumbness. If the last gap has a gap of more than 3 ½", install a picket.

Set step Posts

Dig minimum 12" holes for the step handrail posts. Either an 8"x16"x4" thick precast footings or a poured 8"x16"x6" thick concrete footings is needed. After cutting a 4x4 post to length (post extends 39 ½" above step tread), and beveling it's top with a 45 degree angle bevel, 1" from the top, set the post on the footing and pour mixed concrete around the post and footing up to grade.

Step rail post(s) can be through bolted at the front of the lowest brick step with two bolts if they were pre-installed by the masons. This method provides more strength than wedge anchors, but not as much as setting the post in concrete. If the bolts were not pre-installed, the second choice is to use two wedge anchors, also called expansion bolts. Do not overtighten expansion bolts. (Tap-con screws are not acceptable on a step handrail because with time they will work loose.)



Step Handrails and Rail Pickets

Step rails and posts are required only if there are four or more risers. NOTE: The rise from ground to the first step and the last step onto the porch are counted as risers. (Each time you step up, it counts as a riser.)

The top of the handrail should be 34", measured vertically at the front of the step's nosing. (By code it must be between 34" and 36".) Use a longer length 2x6 for the top handrail, set it to be 2" below the bottom of the post bevel cut, mark the angle and cut at the top and bottom. The top handrail is set inside the posts and angle screwed with three 3" deck screws into the posts. Place a 2x4 cap on top of the angle 2x6 handrail, marking it to the proper angle for the cut so it fits tightly between the top and bottom posts. Attach this cap railing with 3" deck screws into the 2x6 angle hand rail and into the posts at the top and bottom.

A lower rail is installer using 2x4 that follows the grade of the step. If this method brings the lower rail into contact with the steps, place it as close to the nosing as possible (without touching) and most importantly, parallel with the upper handrail. Remember, the 2x4 at the bottom of the railing must follow the grade of the steps so that the gap is not large enough to present a hazard.

Both the top and bottom rails sit flush with the inside of the step posts.

Install pickets on the outside of the step rail so that the bottom is lined up with the bottom rail of the steps.

If pickets do not come with pre-drilled holes, drill a hole at the top and bottom with 1/8" drill bit where the picket will attach to the railing. This will avoid the pickets from splitting when mounted with deck screws. Pickets are placed on the outside of the handrails and will have to be measured on site for accuracy. Pickets on the handrail must be 2" below the top of the rail. Use 2 1/2" deck screws, one at the top and one at the bottom of the rails.

Please note, HFH Charlotte paints all the railing and pickets with exterior grade paint.



Front of the house, Railing tying into front Beam down at base of steps

“NO JOB IS SO IMPORTANT THAT IT CAN’T BE DONE SAFELY”

Keep the entire work area **free of trip and fall hazards.**

Keep scrap away from saw table, walkboards, and pathways. Discard in designated areas.

Center Trim on Double Windows

If the siding crew has not installed the trim board between the double windows, now is the time to address this. Measure, cut and install a Miratec exterior trim board, such that it fits between each pair of windows. Install with galvanized finish nails. Set nails.



Double Window Ready to Receive Center Trim



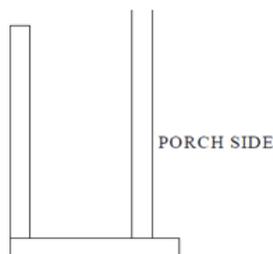
Center Trim in Place Between Windows

Front Porch Beam Wrap

Front porch beams are wrapped in Miratec treated exterior composite trim boards. It comes in a few sizes, the 1x4 (for the bottom of the porch beam), and 1x10, 1x8, or 1x12 (for the side of the porch beam) depending on the model of the house and the beam sizes used on that plan.

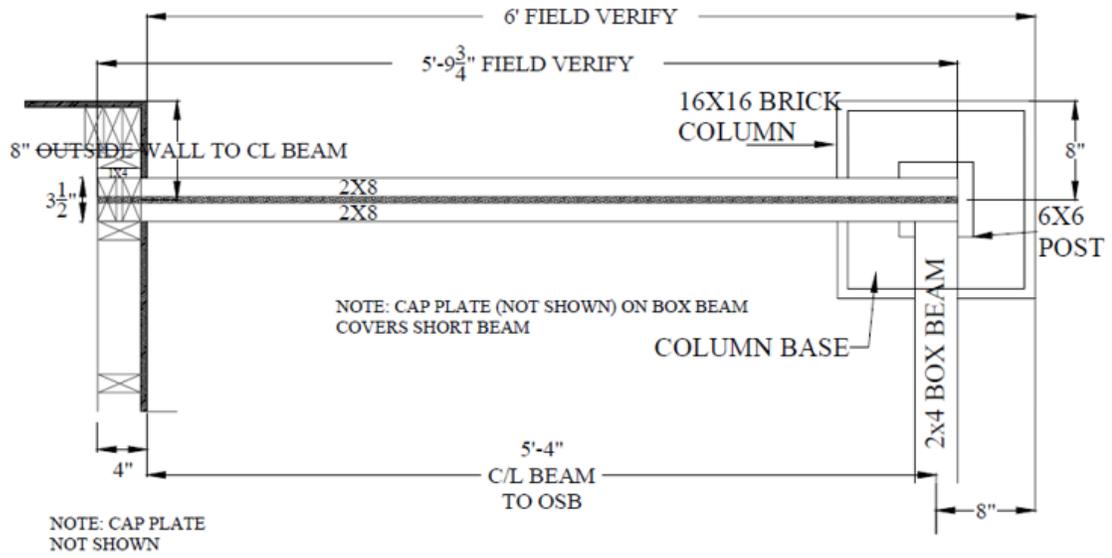


For the sake of this narrative, we will use the 1x10 and 1x4 wrap. The front and back sides of the beams are wrapped in 1x10 and the undersides in 1x4. The beams should have been installed prior to setting the permanent posts. Move temporary adjustable posts as needed. The 1x4 is not centered, but is installed flush to the outside wrap and lips past the inside wrap. Use ring shank galvanized boxing nails and set flush. The beam wrap should be completed before the siding is installed on the wall where the beams are set.

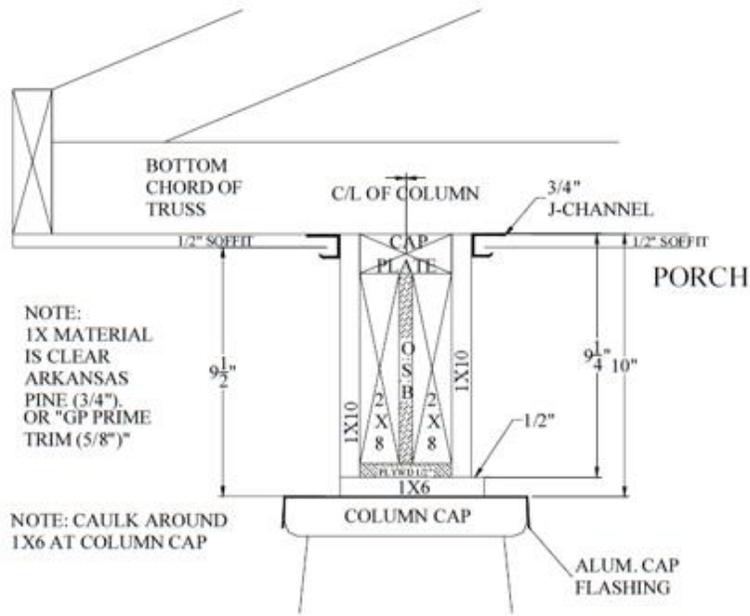


Cross Section of 1x Beam Wrap

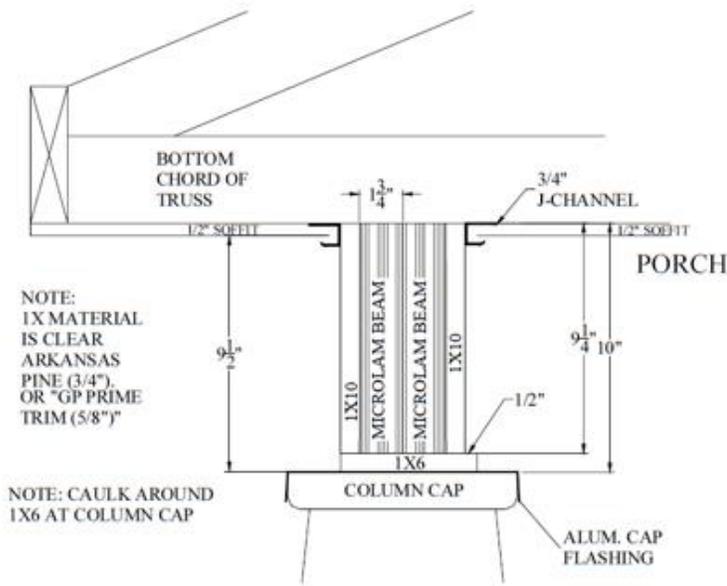
Plan view of short porch beam/box beam intersection



Beam Details



Short Porch Beam Cross Section

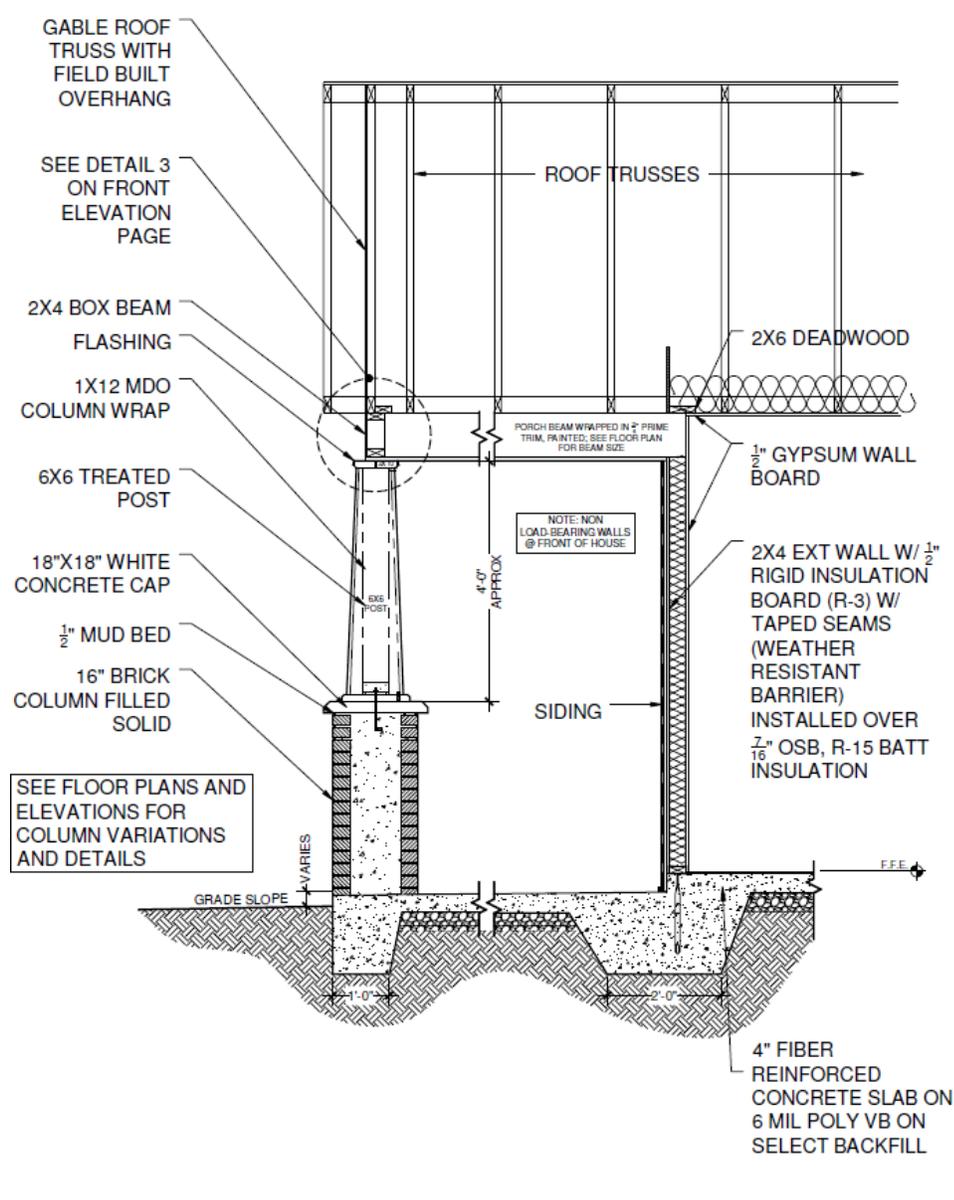


Long Porch Beam Cross Section

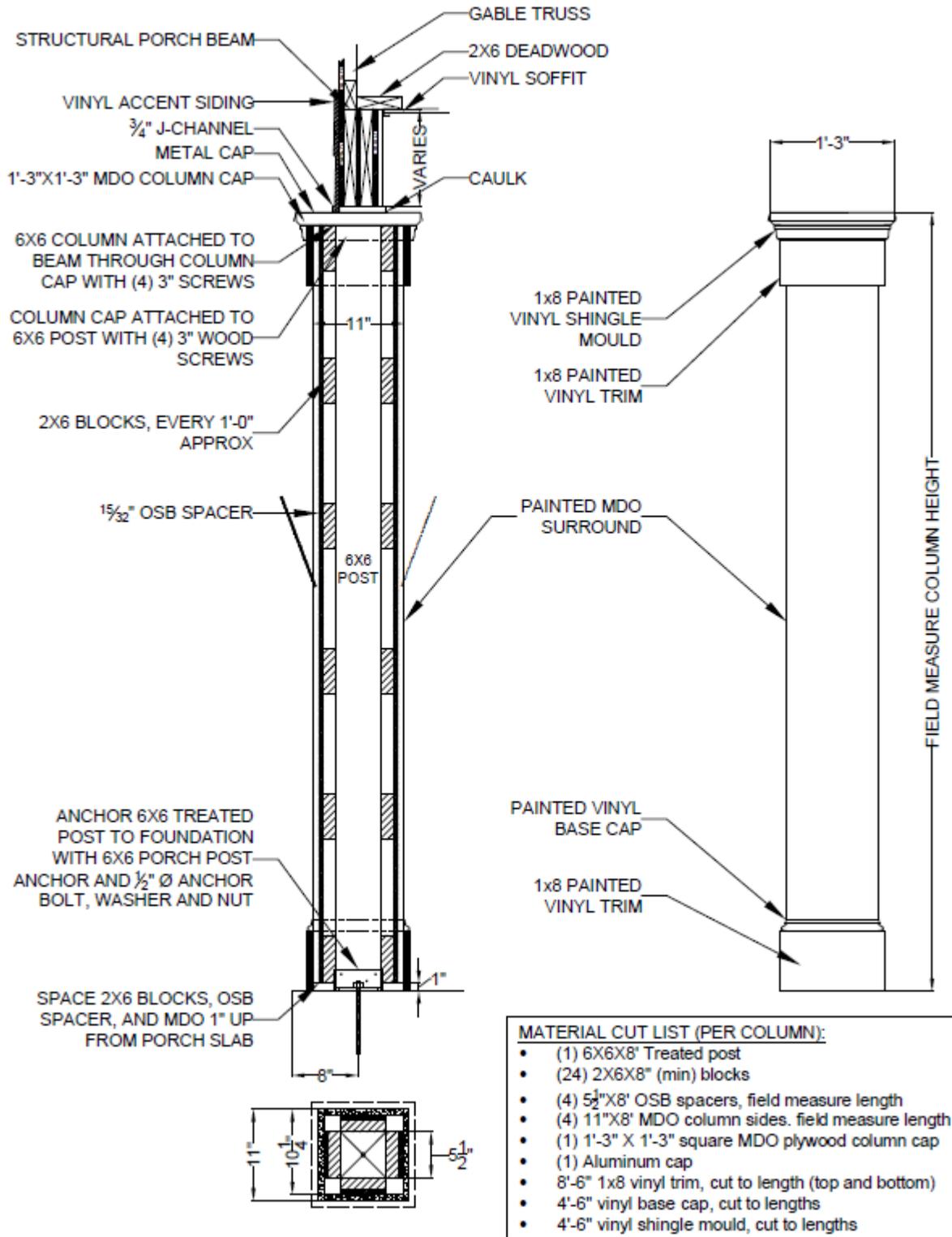
Column Base and Wrap Detail

Column for the front or side porches differ based on the house plans. The columns are internally set up with 6x6 treated posts. The columns style is based on the house plans but can be straight box like, tapered or round ones. In the straight and tapered styles columns these are wrapped using MDO wood that is pre-cut at the warehouse. Be sure to prime and paint the MDO to protect it and avoid paint bubbling later on. Columns are set directly on the porch base or over a brick base. Columns are either tapered or straight box-like shape, depending on the house plan.

The following is the tapered column for the front porch.



The following is a straight box shaped column:



The photo below shows a completed straight box shaped column.



Make sure 2x2s for columns are centered and square. They may need adjusting on site. This is a critical item and necessary in order for the MDO boards to come together flush. If the MDO boards are not flush, please see site supervisor.

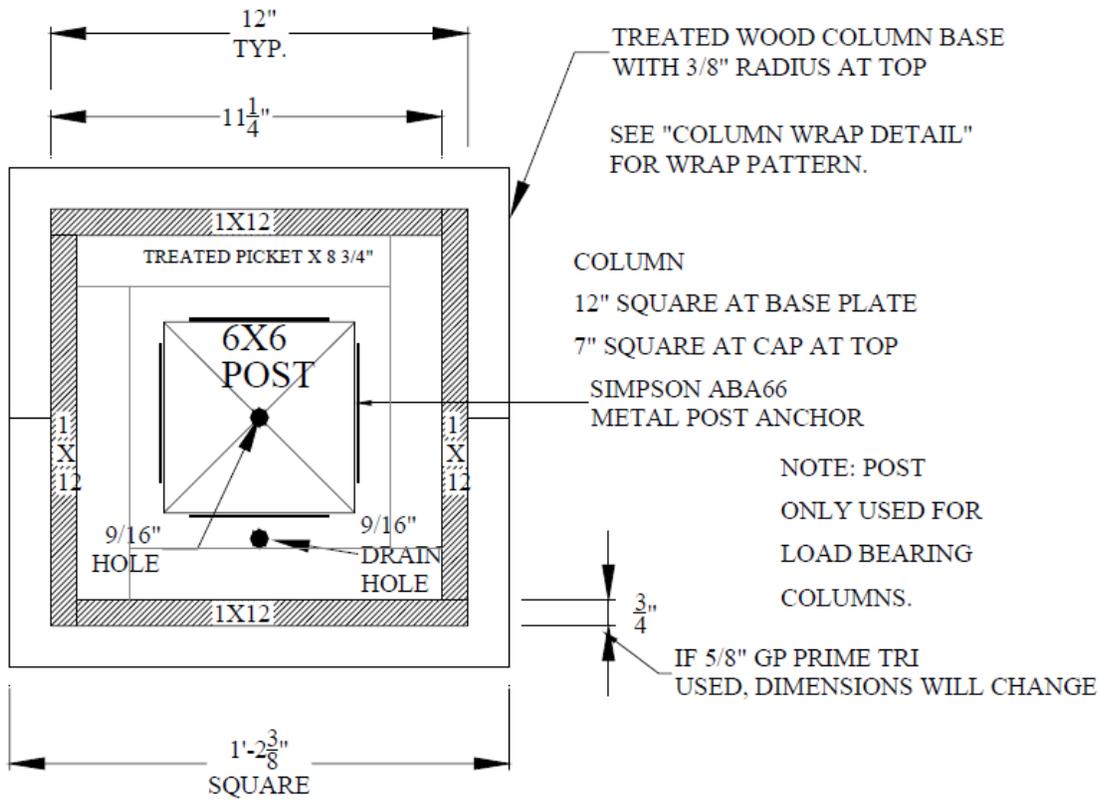
Tapered columns must be centered under beam so all four sides will have consistent tapers (angles).

The column wrap is cut to shape in the warehouse using medium density overlay panel, or MDO panel, which has a paintable surface made of plywood with a weather-resistant resin overlay bonded to the wood by heat and pressure. The overlay, which has at least 27% resin content, resists water, weather, wear and degradation. These are cut to the needed shape for the 6x6 columns, and the tapered columns

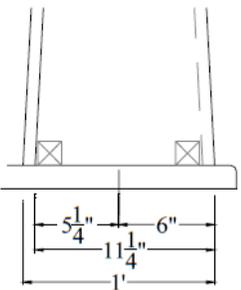
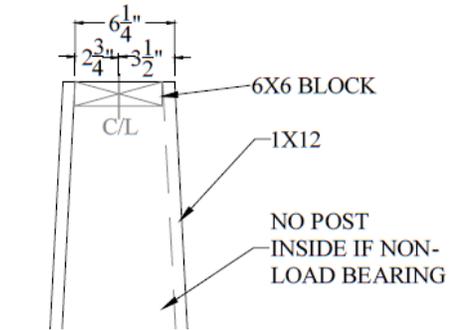
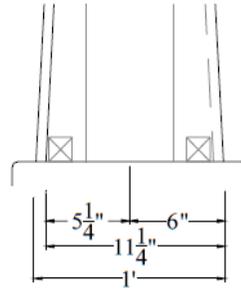
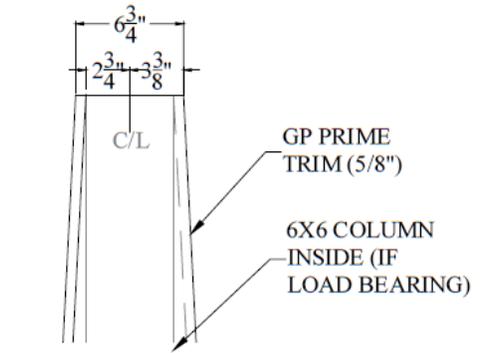
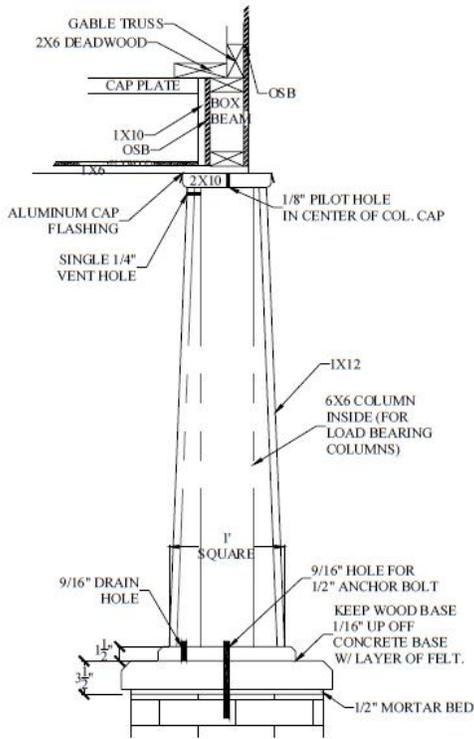


Post Base Assembly shown without post in place.
Install fourth 2x2 only after post is in place.

Only load bearing columns require a column base support (metal post anchor) and interior post. The site supervisor will advise you as to which columns are load bearing. For non-load bearing columns, install the MDO boards wrap against a 6x6 block, centered at the top of the column, and the 2x2s centered at the bottom of the column on the wood base.



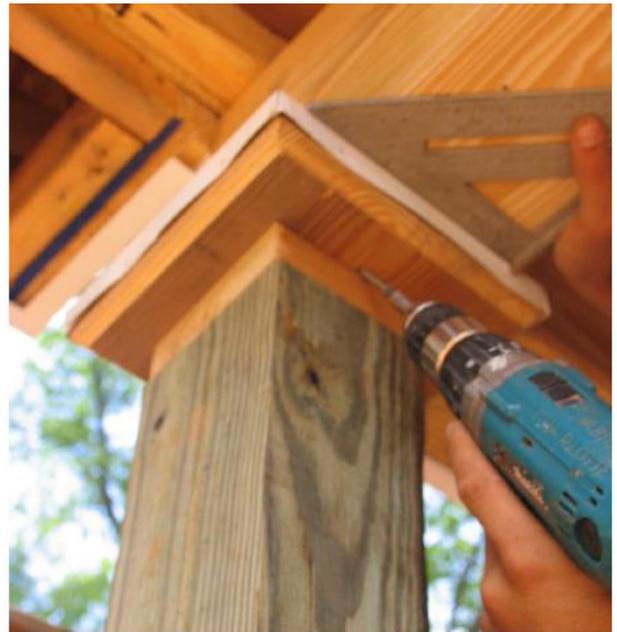
Tapered Column Details



Column Wrap Pattern GP Prime Trim (upper detail)
 Column Wrap Pattern 1x12 (lower detail)
 Load Bearing (upper detail)
 Non-Load Bearing Columns (lower detail)



Temporary Screw Type Post



Top of Post



Aluminum Cap Being Placed



Bottom of Post

Use a screw type temporary post for support. Use a scrap piece of wood between the temporary post and the beam so it will not dent the MDO boards wrap.

Tapered columns wrap the 6x6 support posts. Use 16d galvanized countersunk trim nails for the MDO boards.

The MDO tapered sides, caps and base components may be pre-built in the warehouse. Minor adjustments for height can be made in the field. If moderate changes are needed, see site supervisor. No additional trim is necessary if tapered column cuts are accurate and smooth.



1x12 Assembly Ready to Install



Fourth Side Held in Place for Marking



1x12 Assembly in Place



1x12 Assembly Being Shimmed and Nailed



Completed Column



- To avoid splitting, predrill for screws and trim nails.
- Mark the bottom base plate for the location of the 4 nail cleats (use drawing on previous page for the location and spacing from the center post. The cleats should be 2.5" from the column post to the outside of the cleat).
- Measure the distance for each side from the top of the block to the bottom of the base plate at the cleat edge. You should measure the all sides and take 2 measurements on each side as there is no assurance that the base plate is completely level.
- Mark the panel using the measurements you took. Mark from top to bottom. Cut the bottom with a circular saw. Cutting at a 10-15 degree bevel will from the line towards the back of the panel is recommended
- Using clamps at the top set the 3 sides of the wrap so it fits snugly at the top and bottom. Each side overlaps the adjacent side. Once the 3 sides are snug and fit smoothly you can use finishing nails to build the 3 sides as a unit.
- Hold tapered side assembly in place when fitting fourth side. Scribe to show where the assembly comes together neatly then shim as needed to give solid support.
- When the 4 sides are nailed as a unit, you can now use finishing nails to nail the wrap into the bottom cleats and at the top to the 6x6 post.
- Practice caulking on scrap material. Smooth caulking, with no smudges, is important to the final painted product.

Installation of mailbox post and mailbox

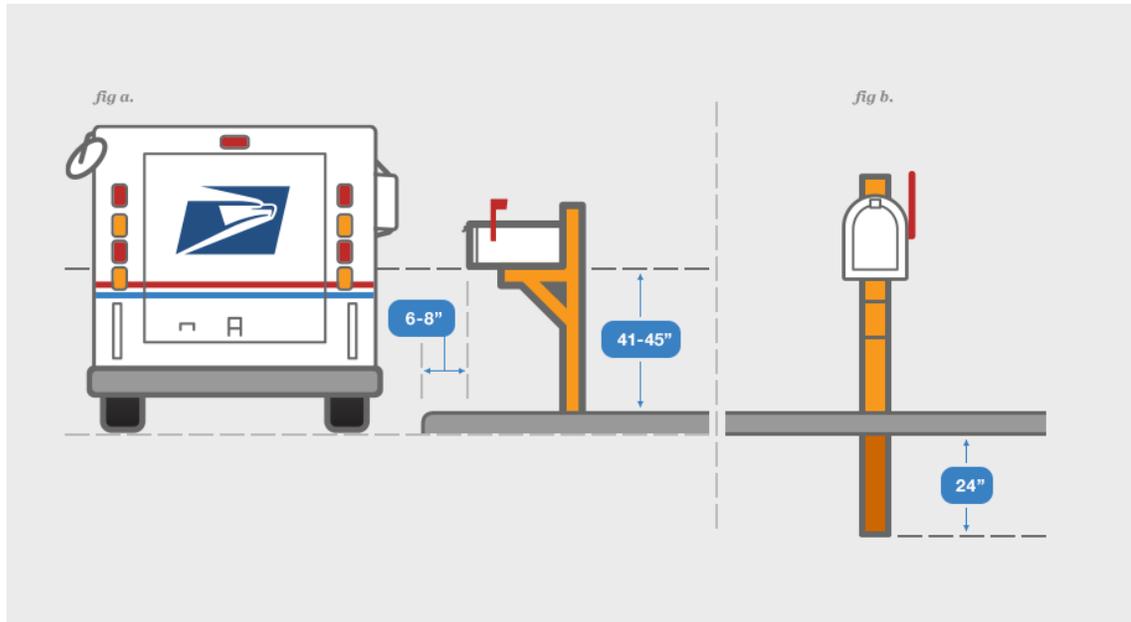
A mailbox with the Postmaster General's (PMG) seal of approval meets USPS size and construction standards is installed.

Where to Place the Mailbox

Here are some helpful guidelines to follow when placing your mailbox:

- Position your mailbox 41" to 45" from the road surface to the bottom of the mailbox or point of mail entry.
- Place your mailbox 6" to 8" back from the curb. If you do not have a raised curb, contact your local postmaster for guidance.

- Put your house or apartment number on the mailbox.
- If your mailbox is on a different street from your house or apartment, put your full street address on the box.



Installing the Mailbox Post

The best mailbox supports are stable but bend or fall away if a car hits them.

- A 4" x 4" pressure treated wooden support.
- Bury your post no more than 24" deep.

The mailbox posts are pre-fabricated treated wood based and are set on a brick at the bottom of the hole. Install the post close to the house driveway. Make sure that it is positioned on the lot in similar way as on other homes. Use a bag or 2 of dry concrete mix (60 or 80lb) at the bottom of the hole. Set up the post in the center of the hole, after pouring the dry concrete mix into the hole, back fill the hole with soil and tamp this down. Make sure the post is plumb as you backfill it with soil and gravel. The actual mailbox is attached via screws to a mailbox mounting board.

A typical Railings/ Columns Installation on a side porch

Side Porch Post and Railing

All the wood in this process needs to be PRESSURE TREATED



The first step in building the side porch railing is to install the 4x4 Posts. They must be lined up flush to the edge of the mortar beneath the brick. In addition, they must be 36" above the brick not including the bevel cut on the top of the post (according to code). Once the post is level, predrill holes for 2x TapCon screws, and screw them in to secure the post.

Repeat this process for the post nearest the steps.

Next install a 2x4 post to the house using screws (Not TapCons). This post also needs to be 36" tall without including the top bevel cut. **Why is the height of posts not the same as front posts**



Then install handrails caps using 2x4 lumber connecting the top of the posts to each other. Use 3" deck screws to angle screw the handrail into the posts. The piece should sit at exactly 36" at the start of your bevel cut. Be sure the handrail is level.



Next install a 2x6 top rails underneath the handrail cap.

Use 3" deck screws to angle screw the top rail into the posts. Use the 3" deck screws to anchor the cap rail into the top rail every 12".

Then install a 2x4 bottom rail to the base of the side porch posts. Use scraps of 2x4 to rest the bottom rail on to ensure the spacing is uniform along the entire bottom. **Keep in mind that the masonry floor may not be absolutely level and the bottom rail will follow this unevenness**

-is this correct?



The only steps left now are to install the pickets (See pg. 15) and to paint the entire railing. We find it is helpful to paint the pickets and side porch railing SEPARATELY before screwing the pickets into the railings.