Quick Reference Guide

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Chapter 2 - Installing I-joists, Sill Box

Preparation	1. Check Manufacturer's Layout Plan a. Verify all materials are present and in stated dimensions b. Note areas where specific dimensions required 2. Measure thickness of rim boards (should be 1⅛") a. Snap chalk lines at this dimension around outside perimeter of sill plates b. Check lines for straightness
Layout & Install I-Joists	3. Starting at zero corner, layout I-joist spacing per House Plan (typically, on 19.2" centers - diamond mark on tape) on both long wall sill plates and on lam beam 4. If a foundation bolt interferes with I-joist location, secure sill plate to foundation on either side of foundation bolt with ½" wedge anchors and cut foundation bolt flush to top of sill plate 5. To install an I-joist a. Verify one end is square. If not, square up one end. b. Determine the length between rim board chalk lines on the long walls and cut the joist to that length using joist-cutting jig. 6. Install I-joist, so wording on its face is right-side up, with 3¼" collated nails. 7. To allow concrete crew access to the basement a. Install I-joists at both ends of foundation, near each support post, and a few in the middle (especially if it supports rim board at porch locations) b. Cut, and stack remaining I-joists next to installed I-joists 8. Layout and frame stair opening per House Plan
Layout & Install End Blocking	9. Beginning at zero corner, layout end block locations 32" o.c. on the short walls from OUTSIDE edge of long wall sill plate. Adjust the last blocking, as necessary, to allow for access from the basement into this area 10. Measure distance from rim board chalk line to the first I-joist at the beam and two ends of the I-joist. a. Cut scrap pieces of I-joists to this length b. Set block on chalk line, make sure it is square and flush with the top of the I-joist, and nail to sill plate, rim board and I-Joist. Use long clamp to stabilize blocking, if required.
Install Rim Boards	11. Measure width of rim board and rip if greater than the height of the I-joists. Must be = or +⅛" max. 12. Check rim boards for crown and set with crown up. 13. Lay bead of caulk on sill plate and between rim boards, set rim board on the plate, and secure to I-joists and sill plate. Do NOT join two boards at an I-joist. 14. Mark the location of end blocking on the outside of the rim board with black marker to later aid nailing bottom wall plates to the blocking. 15. For any rim board behind porch areas a. If foundation poly extends above the 2" foundation foamboard pull up and staple to rim board. b. Cover with ice and water shield extending 1-2' beyond the edge of the porch.
Layout & Frame Stair Opening	16. Layout stair opening per House Plan 17. Cut three pieces of LVL beam material to create the two perpendicular and one parallel stairway opening LVL beams. Also cut a piece of rim board material the same length as the parallel LVL beam 18. Layout the location of the parallel LVL beam on the two perpendicular LVL beams 19. Install the two perpendicular LVL beams by toenailing them to the sill plate 20. Transfer I-joist locations from sill plate to the parallel LVL beam and install I-joist hangers at these locations 21. Install parallel LVL beam between the perpendicular LVL beams at the location marked in Step 18 above 22. Install rim board material from Step 17 above between the perpendicular LVL beams on the lam beam, and flush with the face of the beam 23. Square the stairway framing and toenail the perpendicular LVL beams to the lam beam 24. Check the perpendicular LVL beams for bow; straighten, if necessary

Quality Points

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- I-joists are cut to proper length making sure they do NOT extend past the chalk line (too long). If anything, it is better to be SLIGHTLY short so as not to push out the rim board.
- All I-joists are nailed to sill plates and beam.
- Check that each I-joist is straight (no bow) by sighting along BOTTOM flange of I-joist.
- All end blocking are installed, squared to long I-joist both horizontally and vertically and secured to long I-joist, sill plate, and rim board (at both top and bottom flanges).

- Rim board:
  - is no more than ⅛" higher than I-joists
  - is caulked at sill plate and at all joints
  - joints do not fall on an I-joist (must be in between I-joists)
  - is nailed to each I-joist at top and bottom flanges
  - is toe nailed every 6" into sill plates
  - is straight (adjust/shim as needed)
  - is covered with house wrap and foamboard behind each porch/stoop (if zero grade entrance add ¾" decking strip along entire rim board/porch stoop length for top of porch/stoop concrete)

- Stairway framing:
  - is in proper location
  - is parallel to closest foundation wall rim board
  - is secured to the sill plate and the lam beam
  - I-joist hangers on the parallel LVL beam are facing the sill plate on the long wall