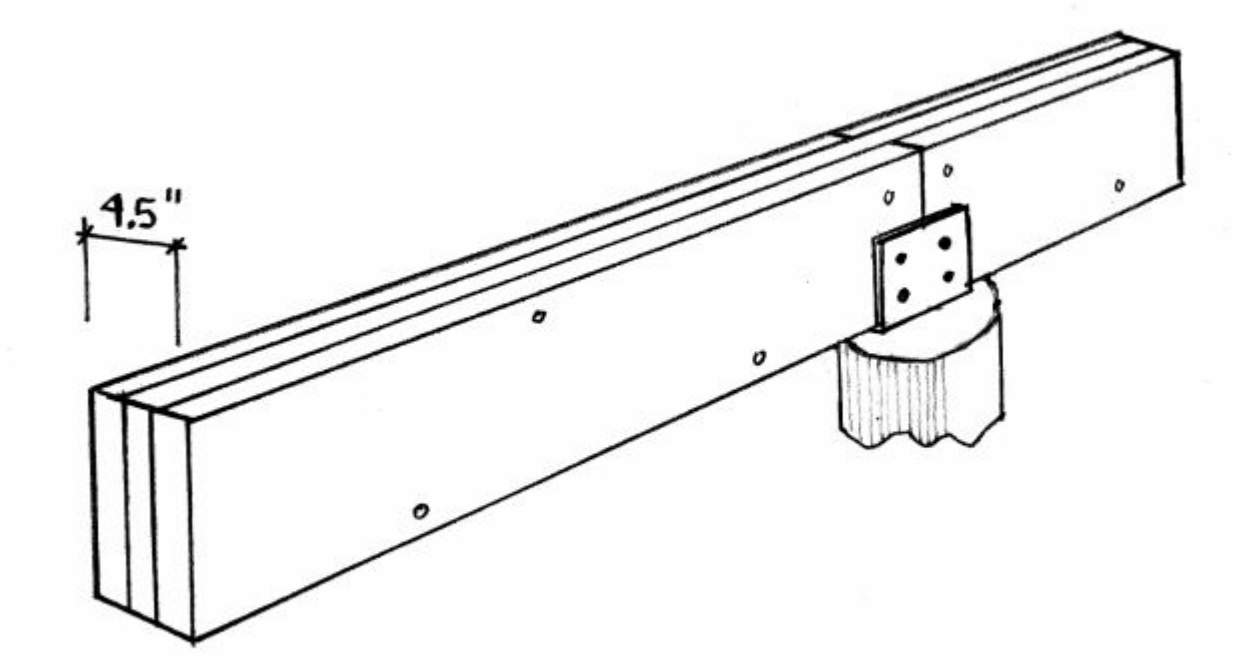
The Built-up Girder or Beam

A sandwich you make for your house



While this is not an engineered beam and may not be approved by all inspectors, a careful builder can construct a strong and durable built-up beam of almost any length using 2x joist lumber. A three joist beam is shown above. To use standard metal hardware such as post brackets, hangers and post caps, 1/2" plywood can be used as shims. For greater strength use four 2x's as it will be close to the same strength as a solid 6x beam.

Layout such a beam from straight solid lumber of reasonable length. You can build such a beam in place with major joints falling on the support piers. Typical spacing for nails is 20d galvanized 32" o/c in a "W" pattern with 2 nails over each other at splices.

The nails pin the joists together and get them to work as a single unit much like a LVL beam (but not as pretty or with the guaranteed and tested strength of the LVL). PT lumber can be used for exposed conditions. Be sure to use compatible fasteners such as stainless steel or hot-dip galvanized.

See this table of IRC spans for headers and girders.