GENERAL REQUIREMENTS

1. This document shall apply for single level decks only.

2. All decks shall follow Ohio Residential code for construction and materials. (RCO 301 & RCO 507) and Olmsted Township Zoning Regulations.

3. Any deck being built in a Development with an HOA shall have HOA approval and letter accompanied with application and plans for approval. Application will not be reviewed without HOA approval letter.

4. Decks are not permitted to encroach into the side yard that has been established by the main dwelling.

5. A deck must not encroach rear setback lines.

6. A deck may not encroach any easement.

7. Minimum structural posts shall be 4x6 or 6x6. 4x4 can be used if approved by Building Official. Guard posts may be 4x4.

8. All wood in contact with ground shall be pressure preservative treated wood suitable for ground contact. (RCO 371.2)

9. Decking shall be 2x4, 2x6, five quarter board, or Wood-Plastic Composite sizes per Manufacture Specifications.

10. Wood-Plastic Composite decking shall be installed per the Manufacturer’s Installation instructions.

11. All screws, nails, bolts, washers and nuts used with Preservative treated wood shall be hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. (RCO 317.3.1)

12. Decks supporting large concentrated loads (spa tubs, masonry fireplaces, etc.) are beyond the scope of this document and may require submission of professionally designed drawings by an Ohio licensed professional.

13. THIS DOCUMENT IS NOT INTENDED TO PRECLUDE THE USE OF OTHER CONSTRUCTION METHODS OR MATERIALS NOT SHOWN HEREIN.
Figure 1. Joist Span – Joist Attached at House and Bearing over Beam

Courtesy of American Wood Council - Leesburg, VA

The joist span is the distance between the two points supporting the joist (i.e. ledger to beam, beam to beam) and does not include any overhang. Allowable cantilever is joist span = (L)/4.
FLOOR JOIST SPANS FOR COMMON LUMBER  LIVE LOAD 40 PSF

<table>
<thead>
<tr>
<th>JOIST SPACING</th>
<th>SPECIES</th>
<th>2 x 6</th>
<th>2 x 8</th>
<th>2 x 10</th>
<th>2 x 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; o.c.</td>
<td>#2 SPF</td>
<td>9'11&quot;</td>
<td>13'1&quot;</td>
<td>16'2&quot;</td>
<td>18'0&quot;</td>
</tr>
<tr>
<td>16&quot; o.c.</td>
<td>#2 SPF</td>
<td>9'0&quot;</td>
<td>11'10&quot;</td>
<td>14'0&quot;</td>
<td>16'6&quot;</td>
</tr>
<tr>
<td>SPECIES</td>
<td>SIZE</td>
<td>SPAN LENGTH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUTHERN PINE</td>
<td>(2) 2x6</td>
<td>6'8&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) 2x8</td>
<td>8'6&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) 2x10</td>
<td>10'1&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) 2x12</td>
<td>11'11&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) 2x6</td>
<td>7'11&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) 2x8</td>
<td>10'7&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) 2x10</td>
<td>12'9&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) 2x12</td>
<td>10'4&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STRUCTURAL COMPOSITE LUMBER**

Structural Composite Lumber (SCL), which includes laminated veneer lumber (LVL), parallel stranded lumber (PSL), laminated strand lumber (LSL) and oriented strand lumber (OSL) must comply with the requirements of 2013 Residential Code of Ohio Section 317—Protection of Wood and Wood Based Products Against Decay.
CONNECTIONS

JOIST TO BEAM DETAIL

**Option 1**
- 3-8d threaded toe nails (2 on one side, 1 on the other)

**Option 2**
- Mechanical fastener or hurricane clip

**Option 3**
- Joist hanger
- Top of beam and joist must be at same elevation

*Option 1 shall only be used if deck is attached to house

**See manufacturer's recommendations for additional requirements

POST TO BEAM CONNECTIONS

(1) 3x or 4x or (2) 2x beam

Beam must bear fully on 6x6 notch

6x6 min.

(2) 1/2" diameter thru-bolts with washers

Notch post to accommodate beam

NOTCHED POST

Courtesy of American Wood Council - Leesburg, VA
CONNECTIONS

Solid sawn or multi-ply beam

6x6 min. post

POST CAP

PROHIBITED CONNECTION

Courtesy of American Wood Council - Leesburg, VA
LEDGER BOARD CONNECTIONS

1. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure.

2. Ledger boards shall be equal to or greater than the joist depth.

3. Ledger boards shall not be attached to veneers—brick, stone, masonry; or to cantilevered floors or windows.

4. Exterior finish (siding) shall be removed prior to the placement of a ledger board.

5. Continuous flashing is required when the ledger board is attached to wood-framed construction.

6. TYPES OF FASTENERS:
   A. LAG SCREWS: Lag Screws shall be hot-dipped galvanized or stainless steel with a 1/2 inch minimum diameter and installed with washers.
   B. EXPANSION ANCHORS: Expansion anchors, 1/2 inch diameter bolt or threaded rod minimum, equipped with washers installed according to the manufacturer’s installation instructions.
   C. ADHESIVE ANCHORS: Adhesive anchors (Hilti-HY-70; Red Head - Epcon A7) minimum 1/2 inch threaded rod with washers shall be used for concrete, solid or hollow masonry. Adhesive cartridges must remain on jobsite for inspector verification.
   D. WOOD SCREWS: Wood screws (FastenMaster—LedgerLok; Simpson Strong Tie-Strong-Drive Screws(SDS, SDW) with a minimum 1/4 inch diameter may be used to attach to wood frame construction.
**CONNECTIONS**

Placement of Lag Screws and Bolts in Ledgers

Stagger fasteners in two rows

5" max.

Ledger

Lag screw or bolt

5½" min. for 2x8
6½" min. for 2x10
7½" min. for 2x12

2" min.

3/4" min.

* Distance can be reduced to 4½" if lag screws are used or bolt spacing
is reduced to that of lag screws to attach 2x8 ledgers to 2x8 band joists.

**LEDGER BOARD FASTENER SPACING, INCHES ON CENTER**

<table>
<thead>
<tr>
<th>FASTENER</th>
<th>JOIST SPANS</th>
<th>6'</th>
<th>8'</th>
<th>10'</th>
<th>12'</th>
<th>14'</th>
<th>16'</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAG SCREWS</td>
<td>24&quot;</td>
<td>18&quot;</td>
<td>14&quot;</td>
<td>12&quot;</td>
<td>10&quot;</td>
<td>9&quot;</td>
<td></td>
</tr>
<tr>
<td>WOOD SCREWS</td>
<td>18&quot;</td>
<td>13&quot;</td>
<td>11&quot;</td>
<td>9&quot;</td>
<td>8&quot;</td>
<td>7&quot;</td>
<td></td>
</tr>
<tr>
<td>EXPANSION ANCHORS</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>34&quot;</td>
<td>29&quot;</td>
<td>24&quot;</td>
<td>21&quot;</td>
<td></td>
</tr>
<tr>
<td>ADHESIVE ANCHORS</td>
<td>32&quot;</td>
<td>32&quot;</td>
<td>32&quot;</td>
<td>24&quot;</td>
<td>24&quot;</td>
<td>16&quot;</td>
<td></td>
</tr>
</tbody>
</table>
GUARDS

1. A guard is required when a deck is greater than 30” above grade measured vertically at any point within 36” measured horizontally along deck edge. (RCO 312.1)

2. The height of the guard shall be not less than 36” measured vertically above the walking surface. (RCO 312.2)

3. Required guards shall not have openings from the walking surface to the required guard height which allow the passage of a sphere 4" in diameter. (RCO 312.3)

4. Guard posts shall be 4x4 minimum.

STAIRS

1. Stairs shall have a minimum clear width 36” (RCO 311.7.1)

2. The maximum riser height shall be 8 ¼”. (RCO 311.7.4.1)

3. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8” (RCO 311.7.4.1)

4. The minimum tread depth shall be 9” (RCO 311.7.4.2)

5. Wood-Plastic composites used shall bear a label indicating the required performance levels and demonstrating compliance with the provisions of ASTM D 7032.
STAIR HANDRAILS

1. Handrails shall be provided on at least one side of each continuous run of treads or flight with four (4) or more risers. (RCO 311.7.8)

2. Handrail height measured vertically from the tread nosing shall not be less than 34” and not more than 38”. (RCO 311.7.8)

3. Handrail shall be continuous for the full length of the flight. (RCO 311.7.8)

4. Handrail shall be approved with grasp ability as illustrated below. (RCO 311.7.8)

---

![Diagram of stair handrail designs](image)

- **NONCIRCULAR**
  - [R311.7.7.3 Type I]
  - Perimeter: 4" - 6\(\frac{1}{4}\""

- **CIRCULAR**
  - 1\(\frac{1}{4}\" - 2\"\)

- **RECESSED**
  - [R311.7.7.3 Type II]
  - Perimeter: >6\(\frac{1}{4}\"

---

Courtesy of American Wood Council - Leesburg, VA
STAIR HANDRAILS

MOUNTING EXAMPLES

Fasten handrails per manufacturer recommendations

- **1 3/4" min.**

MOUNTED TO GUARD

- **1 1/2" min.**

- **1 1/4" min.**

- **2x blocking**

- **34"-38" to nosing of stairs, typical**

MOUNTED TO WALL

- **corrosion-resistant handrail hardware**

Courtesy of American Wood Council - Leesburg, VA
MINIMUM INFORMATION REQUIRED FOR DECK PERMIT

Guardrail minimum of 36" above deck level where required.

Bannister Spacing Cannot Allow The Passage Of A 4" Inch Sphere

Rimjoist Attachment To House:

Decking Size: ___ X ___

Joist Size: ___ X ___ @ ___ O.C.

Beam Size: ___ X ___

Minimum 39" Below Grade

Post Size: ___ X ___
6.0 CCA Retention Required

8" Minimum X ___ Inches

Concrete Footing: ___ X ___