Application Procedures

- A nonrefundable application fee of $25 is due at time of application
- A nonrefundable $40 plan review fee is due at the time of application
- $80 building permit fee (to be paid at time the permit is issued)
- All fees (plan review, application and permit fees) will be assessed a 1% fee collected on behalf of the Ohio Board of Building Standards
- Permit is issued after plans are reviewed, approved, and fees are paid
- A separate deck permit is not required when the deck is constructed as part of a new home. The deck will be included in the new home building permit (as long as it is shown on the approved plans and associated fees are paid)
- Submit a zoning permit from your township (necessary in most townships)
- Health department site plan approval, for properties with well and septic systems
- Submit two site plans showing the house and deck location (see illustration). If applicable show location of well and septic system
- Submit two building plans of deck to be built
  - Plans must include: deck layout, post location, and concrete footing sizes to support the deck load and post and beam connection details (see illustration)
  - Plans must include: The location of a GFCI electrical outlet installed within the perimeter of any balcony, deck or porch required by the 2017 National Electric Code article 210.52 (E) 3.

Inspection Procedures

- Call for posthole inspection after all holes have been dug and before any concrete has been placed; holes must be clear of any debris
- Call for frame inspection if the bottom of the deck joists are less than 36" above grade
  or
- If the joists are over 36" above grade, the frame inspection can be done during final inspection (no need to call for frame inspection at this time)
- Call for a final inspection when the deck is complete – all handrails/ guardrails and steps must be in place (If you call in your frame and final together, please remember to schedule both inspections)

TO SCHEDULE AN INSPECTION

Call (937) 645-3019

You must have your building permit # and address to schedule inspections

233 West Sixth Street • Marysville, Ohio 43040 • 937.645.3018 • 937.645.3161 Fax • engineer@co.union.oh.us

Revised 9/11/2019 Page 1
EXAMPLE SITE PLAN FOR DECK

Residential Deck

NOTE: IF DECK IS WITHIN 3' + OF AN EASEMENT, DIMENSION TO EASEMENT MUST BE SHOWN.

SHOW DIMENSIONS OF DECK.

ALL DIMENSIONS FROM DECK TO PROPERTY LINES MUST BE AT 90°.

(CLOSEST DIMENSIONS TO PROPERTY LINE.)

APPROVED PLANS MUST BE ON SITE FOR ALL INSPECTIONS.

SCALE: 1"=40'

40'  20'  0   40'
Submit this Sheet with Application
Residential Deck

Directions:
1. Draw your deck plan in the space provided below.
   (each square = 1ft x 1ft)
2. Provide location and sizes for foundations, posts, beams and floor joists.
3. Provide all required dimensions. (see sample)

PLEASE FILL IN THE BLANKS

Foundation Dia. = ___ in. (12” min) Beam Size = 2 in. x ___ in.
Post Size = ___ in. x ___ in. Joist Span = ___ ft. ___ in.
Joist Size and Spacing = 2 in. x ___ in. ___ in. O.C.
Note: R403.1.4 exception #2 states: Decks not supported by a dwelling need not be provided with footings that extend below the frost line: minimum post hole depth 12".
## FIGURE 507.5
TYPICAL DECK JOIST SPANS

## TABLE 507.5
DECK BEAM SPAN LENGTHS ± (feet - inches)

<table>
<thead>
<tr>
<th>SPECIES:</th>
<th>SIZE</th>
<th>DECK JOIST SPAN LESS THAN OR EQUAL TO:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(feet)</td>
</tr>
<tr>
<td>Southern pine</td>
<td>3 x 6 or 2-2 x 6</td>
<td>5-5</td>
</tr>
<tr>
<td></td>
<td>3 x 8 or 2-2 x 8</td>
<td>6-10</td>
</tr>
<tr>
<td></td>
<td>3 x 10 or 2-2 x 10</td>
<td>8-4</td>
</tr>
<tr>
<td></td>
<td>3 x 12 or 2-2 x 12</td>
<td>9-8</td>
</tr>
<tr>
<td></td>
<td>4 x 6</td>
<td>6-5</td>
</tr>
<tr>
<td></td>
<td>4 x 8</td>
<td>8-5</td>
</tr>
<tr>
<td></td>
<td>4 x 10</td>
<td>9-11</td>
</tr>
<tr>
<td></td>
<td>4 x 12</td>
<td>11-5</td>
</tr>
<tr>
<td></td>
<td>3-2 x 6</td>
<td>7-4</td>
</tr>
<tr>
<td></td>
<td>3-2 x 8</td>
<td>9-8</td>
</tr>
<tr>
<td></td>
<td>3-2 x 10</td>
<td>12-0</td>
</tr>
<tr>
<td></td>
<td>3-2 x 12</td>
<td>13-11</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

- a. Ground snow load, live load = 40 psf, dead load = 10 psf, L/d = 360 at main span, L/d = 180 at cantilever with a 220-pound point load applied at the end.
- b. Beams supporting deck joists from one side only.
- c. No. 2 grade, wet service factor.
- d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
- e. Includes incising factor.
- g. Beam cantilevers are limited to the adjacent beam's span divided by 4.
### Table 507.6
**Deck Joist Spans for Common Lumber Species (ft. - in.)**

<table>
<thead>
<tr>
<th>Species*</th>
<th>Size</th>
<th>Allowable Joist Span*</th>
<th>Maximum Cantilever a,b,c,d,e,f</th>
<th>12</th>
<th>16</th>
<th>24</th>
<th>12</th>
<th>16</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SPACING OF DECK JOISTS (inches)</td>
<td>SPACING OF DECK JOISTS WITH CANTILEVERS a (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern pine</td>
<td>2 x 6</td>
<td>9-11</td>
<td>9-0</td>
<td>7-7</td>
<td>1-3</td>
<td>1-4</td>
<td>1-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 8</td>
<td>13-1</td>
<td>11-10</td>
<td>9-8</td>
<td>2-1</td>
<td>2-3</td>
<td>2-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 10</td>
<td>16-2</td>
<td>14-0</td>
<td>11-5</td>
<td>3-4</td>
<td>3-6</td>
<td>2-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 12</td>
<td>18-0</td>
<td>16-6</td>
<td>13-6</td>
<td>4-6</td>
<td>4-2</td>
<td>3-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas fir-larch*, hem-fir*, spruce-pine-fir*</td>
<td>2 x 6</td>
<td>9-6</td>
<td>8-8</td>
<td>7-2</td>
<td>1-2</td>
<td>1-3</td>
<td>1-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 8</td>
<td>12-6</td>
<td>11-1</td>
<td>9-1</td>
<td>1-11</td>
<td>2-1</td>
<td>2-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 10</td>
<td>15-8</td>
<td>13-7</td>
<td>11-1</td>
<td>3-1</td>
<td>3-5</td>
<td>2-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 12</td>
<td>18-0</td>
<td>15-9</td>
<td>12-10</td>
<td>4-6</td>
<td>3-11</td>
<td>3-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redwood, western cedars, ponderosa pine*, red pine*</td>
<td>2 x 6</td>
<td>8-10</td>
<td>8-0</td>
<td>7-0</td>
<td>1-0</td>
<td>1-1</td>
<td>1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 8</td>
<td>11-8</td>
<td>10-7</td>
<td>8-8</td>
<td>1-8</td>
<td>1-10</td>
<td>2-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 10</td>
<td>14-11</td>
<td>13-0</td>
<td>10-7</td>
<td>2-8</td>
<td>2-10</td>
<td>2-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 x 12</td>
<td>17-5</td>
<td>15-1</td>
<td>12-4</td>
<td>3-10</td>
<td>3-9</td>
<td>3-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. No. 2 grade with wet service factor.
b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/A = 360.
c. Ground snow load, live load = 40 psf, dead load = 10 psf, L/A = 180 at main span, L/A = 180 at cantilever with a 220-pound point load applied to end.
d. Includes incising factor.
e. Northern species with no incising factor.
f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

### Table 507.7
**Maximum Joist Spacing for Decking**

<table>
<thead>
<tr>
<th>Decking Material Type and Nominal Size</th>
<th>Maximum On-Center Joist Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2-inch-thick wood</td>
<td>Decking perpendicular to joist: 16 inches</td>
</tr>
<tr>
<td>2-inch-thick wood</td>
<td>Decking diagonal to joist: 12 inches</td>
</tr>
<tr>
<td>Plastic composite</td>
<td>In accordance with Section 507.2</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

a. Maximum angle of 45 degrees from perpendicular for wood deck boards

### Table

**Post Plant Diameter (in Inches)**

<table>
<thead>
<tr>
<th>Post Plant Diameter (in Inches)</th>
<th>Square Foot per Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>27&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>23.6&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>32.2&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>41.7&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>53&quot;</td>
</tr>
<tr>
<td>20&quot;</td>
<td>65.7&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>73&quot;</td>
</tr>
</tbody>
</table>
For SI: 1 inch = 25.4 mm.

**Figure 507.5.1(1)**
Deck Beam to Deck Post

**Figure 507.5.1(2)**
Notched Post-to-Beam Connection
SUBMIT THIS SHEET WITH APPLICATION
Residential Deck

GUARDRAIL
JOIST
JOIST HANGER
ATTACHMENT TO HOUSE
Joist Span
WEED CONTROL
6 MIL. PLASTIC AND GRAVEL
FINISHED GRADE

FOUNDATION DIAMETER
(SEE DETAIL A)

Provide positive connection at post and
Pressure Treated

GUARDS REQUIRED IF GREATER THAN 30" ABOVE GRADE

MIN. HGT. JOIST 36"
MAX. HGT. 48"

See next sheet for optional post beam connections

JOIST BEAMS OR BOTH MEMBERS OF BEAMS
1/2" THROUGHT HOLE
3-8 x 6 OR 8" POST

FOUNDATION HILL

JOISTS ATTACHED TO HEADER WITH JOIST HANGERS

SEE TABLE A
DETAIL A

ALTERNATE BEAM (BETTER)
SUBMIT THIS SHEET WITH APPLICATION

Residential Deck

GUARDRAIL/HANDRAIL/STAIRS DETAIL

CIRCLE EACH DETAIL THAT APPLIES

STAIRS WITH 4 OR MORE RISERS REQUIRE HANDRAIL ON AT LEAST ONE SIDE, WITH ADEQUATE GRASPABILITY.

*SEE HANDRAIL DETAIL SHEET

81/4” Maximum Rise
9” Minimum Tread
No more than 3/8” variation between all steps in run.

DETAIL E

36” MIN.
48” MAX.

BALUSTER

DECKING

TWO 1/2” THROUGH BOLTS WITH WASHERS

DETAIL D
Residential Deck
HANDRAIL DETAIL SHEET

OPTION 1

NONCIRCULAR
Perimeter: 4"–6½"

CIRCULAR
Perimeter: 4"–6½"

OPTION 2

2x4 or 2x6 "grooved" for ease of gripping.

Note: Handrails shall run continuously from a point directly over the lowest riser to a point directly over the highest riser and shall return to the guard at each end. Handrails may be interrupted by a guard posts only at a turn in the stair. A 2x4 or 2x6 can only be used as a handrail if it is grooved to provide a graspable finger recess area.

HANDRAIL GRASPABILITY TYPES/GEOMETRY

HANDRAIL REQUIREMENTS

Page 5
**Table 507.9.1.3(1) Deck Ledger Connection to Band Joist**

(Deck live load = 40 psf, deck dead load = 10 psf, snow load <40 psf)

<table>
<thead>
<tr>
<th>CONNECTION DETAILS</th>
<th>JOIST SPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6'- less</td>
</tr>
<tr>
<td>½&quot; - inch diameter lag screw with ½&quot; - inch maximum sheathing</td>
<td>30</td>
</tr>
<tr>
<td>½&quot; - inch diameter bolt with ½&quot; - inch maximum sheathing</td>
<td>36</td>
</tr>
<tr>
<td>¼&quot; - inch diameter bolt with 1&quot; - inch maximum sheathing</td>
<td>36</td>
</tr>
</tbody>
</table>

1. Ledgers shall be flashed in accordance with Section 703.4 to prevent water from contacting the house band joist.
2. Snow load shall not be assumed to act concurrently with live load.
3. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
4. Sheathing shall be wood structural panel or solid sawn lumber.

**Table 507.9.1.3(2) Placement of Lag Screws and Bolts in Deck Ledgers and Band Joists**

<table>
<thead>
<tr>
<th>MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP EDGE</td>
</tr>
<tr>
<td>Ledger</td>
</tr>
<tr>
<td>Band Joist</td>
</tr>
</tbody>
</table>

1. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with figure 507.9.1.3(1).
2. Maximum 5 inches.
3. For engineered rim joists, the manufacturers recommendations shall govern.
4. Minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure 507.9.1.3(1).
DIAGONAL BRACING REQUIREMENTS

Openings shall not allow passage of a sphere 4-inches in diameter

Typical at each post

DECKS GREATER THAN 4 FEET ABOVE GRADE SHALL BE PROVIDED WITH DIAGONAL BRACING

Provide blocking when the floor joists do not align with the posts
ROOF FRAMING CROSS SECTION

(Rafter Span)

\( \frac{3}{4} \times \text{Through Bolt} \)

ROOF FRAMING PLAN VIEW

Provide all connections per Table 602.3(1) 2013 Residential Code of Ohio

(Attached)

Rafter Size & Spacing

Post Size & Spacing

Beam Size

(2) \( \frac{3}{4} \text{"Bolt Typical} \)

Page #14
Lean-To Print Details

Ledger and attachment to structure

Rafter Size

Beam Size

Post Size

Spaced @ O.C.