

WHITEHALL TOWNSHIP

DECK GUIDE



PERMIT FEES

- Deck (over 48" above grade): \$130.00 *
- Deck (any portion under 48" above grade): \$ 190.00 *
(Pursuant to Contracted Agent fee schedule)

* *Plus PA ACT 13 SURCHARGE: \$ 4.00*

Note: Fees subject to change without notice

NOTE: THIS IS A GUIDE ONLY!
**FOR DETAILED INFORMATION CONTACT THE TOWNSHIP OR THE
BUILDING INSPECTOR, AS ADDITIONAL REQUIREMENTS MAY
PERTAIN TO YOUR DECK.**

**WHITEHALL TOWNSHIP
BUREAU OF PLANNING, ZONING & DEVELOPMENT
DECK CODE GUIDE**

Whitehall Township has assembled the information contained in this "Code Guide" to assist homeowners when planning to construct a deck on their property. It contains general information regarding zoning and setback issues as well as materials and types of construction permitted by Township Ordinances.

While we hope that this information is most helpful to you, please remember that it is a **guide** only, and if you have additional questions beyond the information contained herein, you should contact either the Zoning Officer at (610-437-5524 x155) or the Building Inspector at Keycodes Inspection Agency at (610-866-9663). Please note, effective April 1, 2012, several changes to the Township's inspection and permit issuance procedures will take effect, largely as a result of the Township contracting out ***all plan reviews and inspections*** as appropriate to the Township's third party inspection agency Keycodes Inspection Agency.

Please also know that the Township's hours are 8:00 a.m. to 4:30 p.m. Monday thru Friday (payments are received up until 4:00 p.m.), and all permit applications must be considered complete before review (this means all plans and specifications must be included with the application, contractor's workmen's compensation coverage information submitted, and plot plan included) Any permit fees required are paid at time of permit approval and issuance.

Definition

Decks in this code guide will refer to all such structures constructed either on or above ground, of lumber or other approved materials.

Permits and Plans

A permit application must be submitted with complete construction details (including but not limited to) ledger, flashing, footer, framing, hardware, hand and guardrail details. A detailed plot plan showing property lines, easements, size of deck and setbacks from all property lines must be submitted with the permit application. No deck shall be constructed, installed, enlarged, or altered unless and until the appropriate permit has been secured from the Bureau of Planning, Zoning and Development. An application for permit must be submitted **by the individual doing the work**, and must include detailed plans as outlined in this guide; and if involving a contractor, be accompanied by the appropriate Workmen's Compensation insurance information. If any information is missing, the application will not be accepted.

Location

According to the Whitehall Township Zoning Ordinance, all decks, porches, patios and similar structures shall:

- Be permitted within the rear and side yard areas, provided that same shall not exceed one third (1/3) of the rear yard setback required for the district in which the property is located, or shall not be closer than ten (10) feet to the rear property line, whichever is greater.
 - Not be enclosed unless the deck, porch or patio meets all the structural and setback requirements for a principal structure in the zoning district where property is located.
 - No deck, patio, porch or similar structure shall be permitted in the front yard.
 - Decks for swimming pools must also adhere to the regulations contained in the Whitehall Township Swimming Pool Code Guide, as well as any other applicable regulations.
- * Shall not be permitted to encroach in any easement areas dedicated to Whitehall Township.
- * Special requirements may apply to properties located in a flood zone; (it is your responsibility as a property owner to be aware of flood zones on your property. For more information visit msc.fema.gov or floodsmart.gov.)

Plans and Specifications

General Notes

Decks constructed according to this guide are not to be used for hot tub support. Decks for hot tubs have heavy design loads that are outside the scope of this guide and generally require a structural engineer's sealed design.

Decks shall not be attached to house overhangs (cantilevers), cantilevered box or bay windows, brick veneers, or chimneys. These decks would require self supporting construction methods or a design stamp by a Pennsylvania licensed engineer.

Footings / Piers

Footings / Piers shall be properly sized for the design and loading of the deck. Post holes for pier footings must be excavated to a minimum of thirty-six (36) inches in depth below grade. A minimum twelve (12) inch builder tube is required for piers; for 4x4 posts and a minimum eighteen (18) inch tube for 6x6's with mechanical fasteners post to pier and post to beam. Locations of posts will be determined by the size of the deck proposed, and must be indicated on plans.

Framing

First floor decks require 4x4 posts; second floor decks require 6x6 posts. Beam and joist size must be clearly indicated on plans. Ledger board shall be secured according to the chart provided within (Please see Span Chart Table – R 502.2.2.1). Ledger locks are allowed **ONLY** in the ledgers as per manufacturer's specifications.

No screws are permitted in framing unless approved for the use such as Simpson SDS screws.

All deck measurements - widths and lengths - must be clearly indicated on plans, so the sizes of proposed materials can be checked for the proper span.

Railings

Railings are required around all elevated (30" or more above ground level) deck areas, at a minimum of thirty-six (36) inches height, and maximum spacing permitted between balusters or spindles is four (4) inches. Handrails are also required on stairs with three or more steps.

Deck Boards

Must be a minimum thickness of 5/4 ".

REMEMBER: Applicant must call PA ONE CALL (8-1-1) 3 days prior to any excavation.

Materials

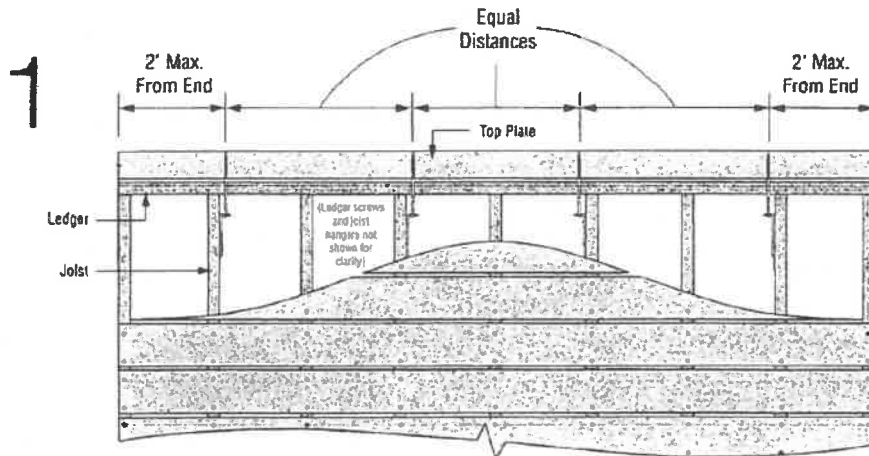
All wood decks must be constructed of pressure treated lumber or other approved material; and all fasteners, nails, etc. must be of galvanized steel. Teco nails should be used. Roofing nails shall **not** be used.

Inspections

A minimum of three (3) inspections are required for all decks; post hole inspection for the footings prior to pouring concrete; ledger board must be installed and flashed at the time of footing inspection; framing inspection when all the beams and joists have been placed; final inspection when work is complete. **Note:** framing can be done at the same time as the Final inspection if the framing is not less than three (3) feet above grade. Please know that Keycodes Inspection Agency requires a minimum of forty-eight (48) hour notice for all inspection requests. You must have the permit number, type of inspection needed and address of job location when calling to schedule an inspection. If there is a contractor performing the work, *they* must request the inspections. Additional fees may be charged if inspections are requested for work not yet complete.

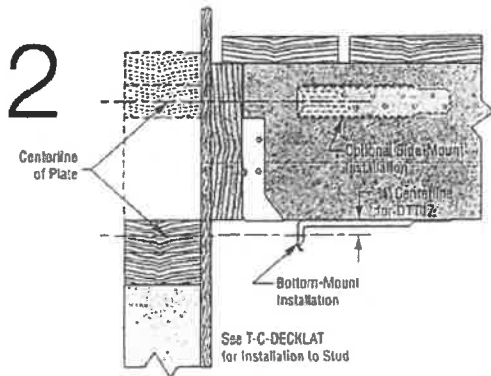
Furthermore, if a contractor is constructing said deck, appropriate documentation of Workmen's Compensation insurance coverage must be provided to the Township, pursuant to PA Workmen's Compensation Laws, which **must** accompany building permit application at time of submission.

DTT1Z Installation Instructions for Deck Applications



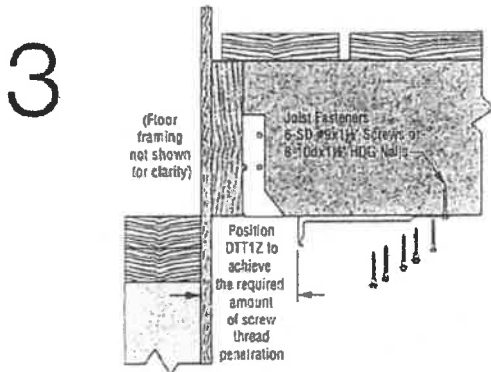
Layout:

Determine the horizontal locations of the installations. A minimum of four DTT1Z deck tension ties must be evenly distributed along the deck with one DTT1Z within two feet of each end of the ledger.



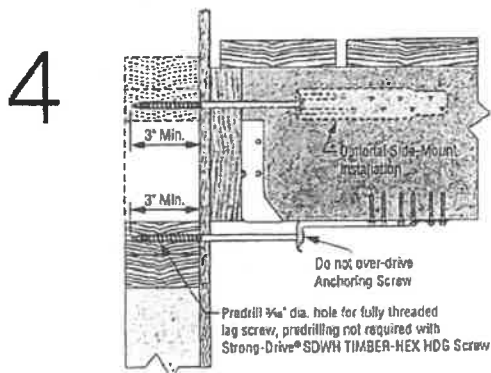
Location:

Determine the vertical locations of the installations. The DTT1Z tension tie must be fastened into the center of the top plate, studs or header (siding may need to be removed and exploratory holes may be needed). Ensure location is free of piping, wiring, ductwork, or other obstructions. In some cases, structural blocking fastened to the deck joists may be required to position the DTT1Z in the proper location. For additional information, refer to the technical bulletin T-C-DECKLAT at www.strongtie.com.



Joist Fasteners:

Position the DTT1Z on the deck joist in a location that provides a minimum of 3" of thread penetration of the anchoring screw into the top plate, studs or header. Using a low-torque wrench, fasten the DTT1Z to the deck joist with the required fasteners (6 - #9x1½" Strong-Drive® SD Connector screws or 8-10d x 1½" HDG nails).



Anchoring Screw:

Install anchoring screw through the hole of the DTT1Z and into the center of the top plate, studs or header with a minimum of 3" of thread penetration and snug to the base of DTT1Z. Do not over-drive. Simpson Strong-Tie Strong-Drive® SDWH Timber-Hex HDG screws do not require predrilling or a washer. A ¾" lag screw anchor can also be used but requires predrilled holes and a standard ¾" washer.

Note: The details above are applicable where floor joists are parallel to deck joists per IRC figure R507.2.3 (2).

R507.7.1 Deck post to deck beam. Deck beams shall be attached to deck posts in accordance with Figure R507.7.1 or by other equivalent means capable to resist lateral displacement. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut.

Exception: Where deck beams bear directly on footings in accordance with Section R507.8.1.

R507.8 Deck posts. For single-level wood-framed decks with beams sized in accordance with Table R507.6, deck post size shall be in accordance with Table R507.8.

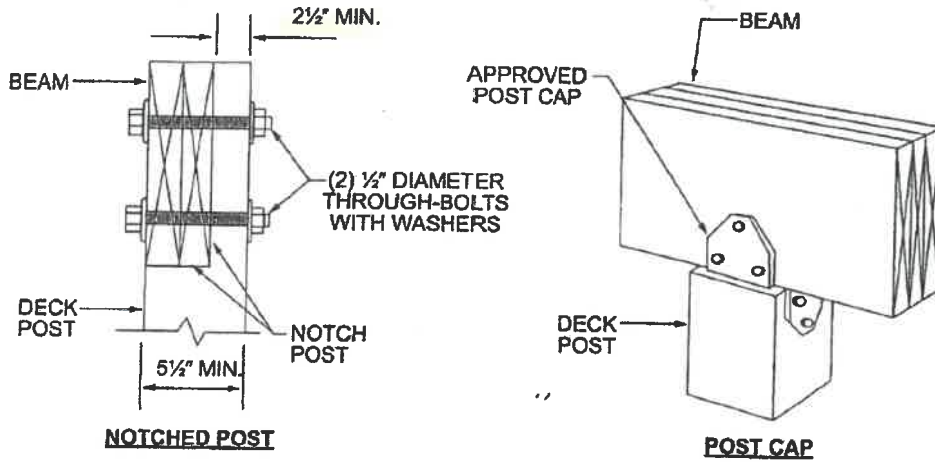
**TABLE R507.8
DECK POST HEIGHT***

DECK POST SIZE	MAXIMUM HEIGHT*
4 × 4	8'
4 × 6	8'
6 × 6	14'

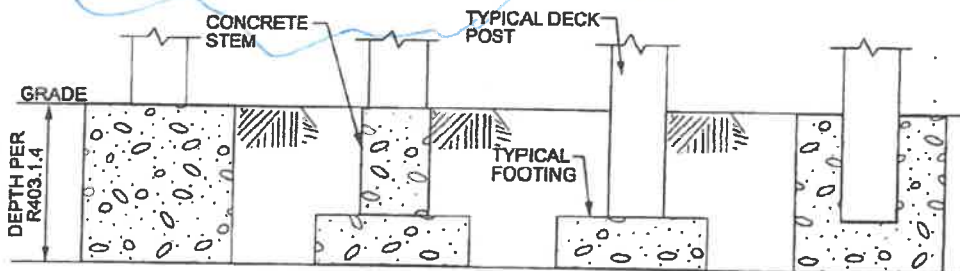
For SI: 1 foot = 304.8 mm.

a. Measured to the underside of the beam.

R507.8.1 Deck post to deck footing. Posts shall bear on footings in accordance with Section R403 and Figure R507.8.1. Posts shall be restrained to prevent lateral displacement at the bottom support. Such lateral restraint shall be provided by manufactured connectors installed in accordance with Section R507 and the manufacturers' instructions or a minimum post embedment of 12 inches (305 mm) in surrounding soils or concrete piers.



**FIGURE R507.7.1
DECK BEAM TO DECK POST**



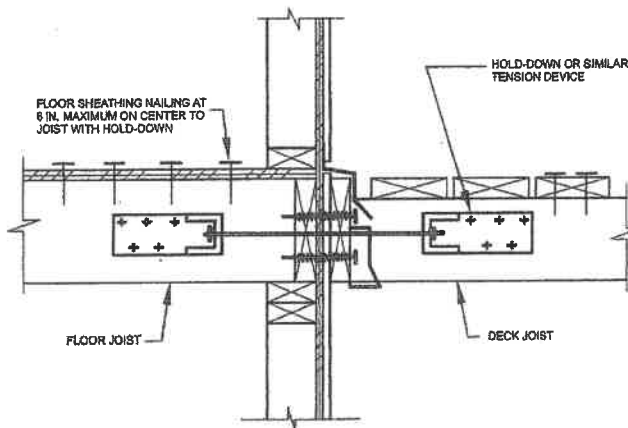
**FIGURE R507.8.1
TYPICAL DECK POSTS TO DECK FOOTINGS**

TABLE R502.2.2.1
FASTENER SPACING FOR A SOUTHERN PINE OR HEM-FIR DECK LEDGER
AND A 2-INCH NOMINAL SOLID-SAWN SPRUCE-PINE-FIR BAND JOIST^{a, b, c}
 (Deck live load = 40 psf, deck dead load = 10 psf)

JOIST SPAN	6' and less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
Connection details	On-center spacing of fasteners ^{d, e}						
1/2 inch diameter lag screw with 15/32 inch maximum sheathing ^a	30	23	18	15	13	11	10
1/2 inch diameter bolt with 15/32 inch maximum sheathing	36	36	34	29	24	21	19
1/2 inch diameter bolt with 15/32 inch maximum sheathing and 1/2 inch stacked washers ^{b, h}	36	36	29	24	21	18	16

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

- The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- The maximum gap between the face of the ledger board and face of the wall sheathing shall be 1/2".
- Ledgers shall be flashed to prevent water from contacting the house band joist.
- Lag screws and bolts shall be staggered in accordance with Section R502.2.2.1.1.
- Deck ledger shall be minimum 2x8 pressure-preservative-treated No.2 grade lumber, or other approved materials as established by standard engineering practice.
- When solid-sawn pressure-preservative-treated deck ledgers are attached to a minimum 1 inch thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist), the ledger attachment shall be designed in accordance with accepted engineering practice.
- A minimum 1 x 9/16 Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.
- Wood structural panel sheathing, gypsum board sheathing or foam sheathing not exceeding 1 inch in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1 inch.



For SI: 1 inch = 25.4 mm.

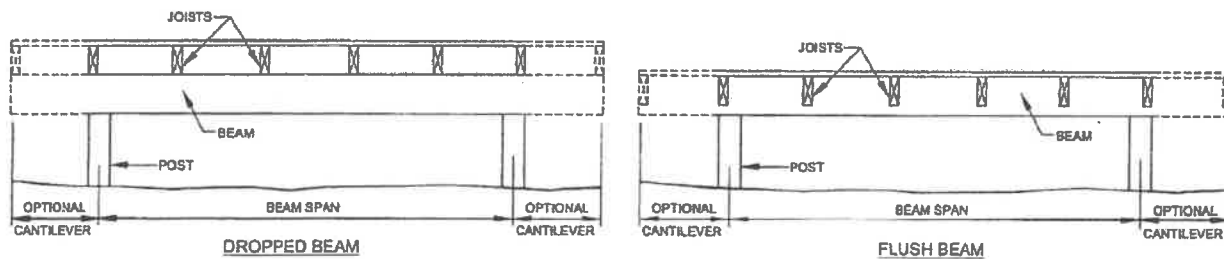
FIGURE S02.2.2.3
DECK ATTACHMENT FOR LATERAL LOADS

**TABLE R507.6
DECK BEAM SPAN LENGTHS^{a, b} (ft. - in.)**

SPECIES ^a	SIZE ^c	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	2-2 x 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2-2 x 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2-2 x 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2-2 x 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3-2 x 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3-2 x 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3-2 x 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
Douglas fir-larch ^d , hem-fir ^e , spruce-pine-fir ^e , redwood, western cedars, ponderosa pine ^f , red pine ^f	3 x 6 or 2-2 x 6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3 x 8 or 2-2 x 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 x 10 or 2-2 x 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 x 12 or 2-2 x 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 x 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 x 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 x 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 x 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3-2 x 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3-2 x 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3-2 x 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3-2 x 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

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/Δ = 360 at main span, L/Δ = 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.
- f. Northern species. Incising factor not included.



**FIGURE R507.6
TYPICAL DECK BEAM SPANS**

**TABLE R507.5
DECK JOIST SPANS FOR COMMON LUMBER SPECIES¹ (ft. - in.)**

SPECIES ^a	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER ^b (Inches)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (Inches)		
		12	16	24	12	16	24
Southern pine	2 x 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 x 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 x 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 x 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch ^d , hem-fir ^d spruce-pine-fir ^d	2 x 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 x 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 x 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 x 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine ^e , red pine ^e	2 x 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 x 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 x 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 x 12	17-5	15-1	12-4	16-5	15-1	12-4

¹For 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.

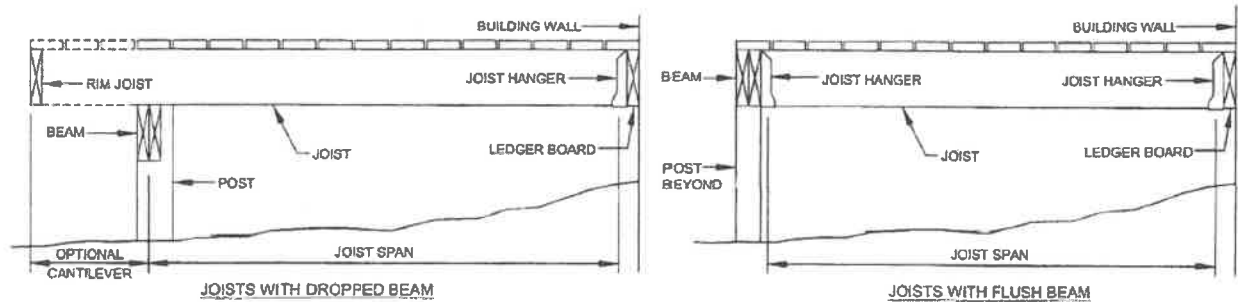
b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.

c. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied to end.

d. Includes incising factor.

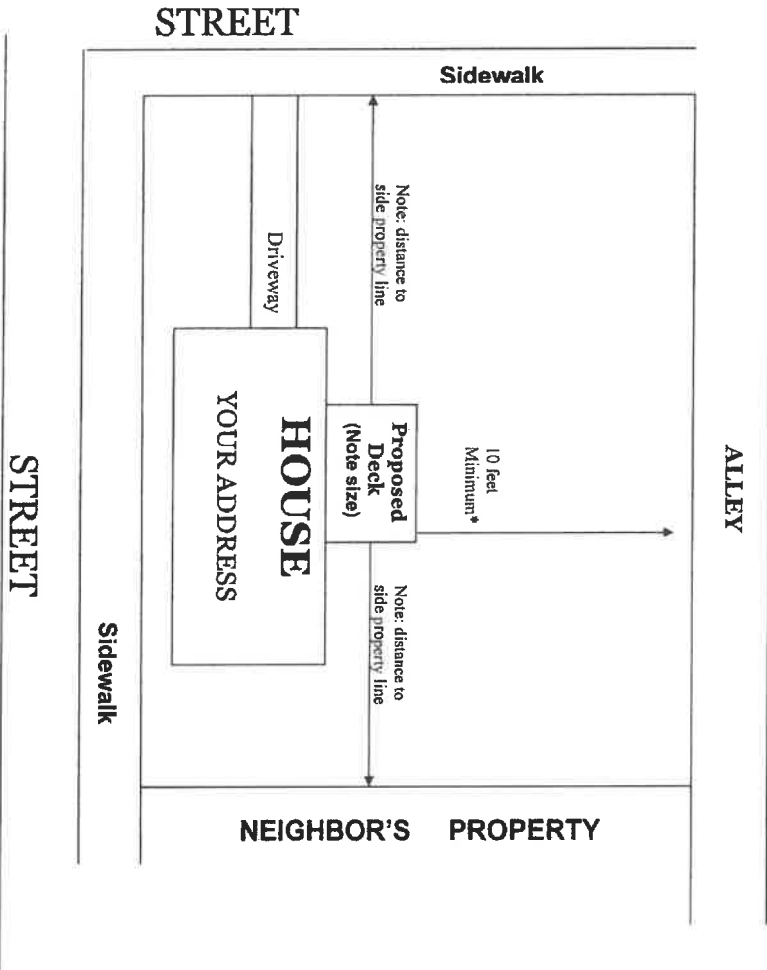
e. Northern species with no incising factor

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.



**FIGURE R507.5
TYPICAL DECK JOIST SPANS**

PLOT / SITE PLAN REQUIREMENTS



PLAN MUST SHOW ALL PROPERTY LINES

MINIMUM DISTANCES

- > Decks are permitted within the rear and side yard areas, provided that same shall not exceed one third (1/3) of the rear yard setback for the district in which the property is located, or shall not be closer than ten feet (10') to the rear property line, whichever is greater.
 - > All other structures on the property must also be shown on the plan (.i.e. shed, pool, fence, garage, etc.).
 - > No deck can be located in a front yard (any yard that abuts a street). Contact the Zoning Officer to determine what the setback must be.
 - > Plan must include ALL right of ways or easements encumbering your lot.
 - > May not be enclosed unless the deck, porch or patio meets all the structural and setback requirements for a principal structure in the zoning district where the property is located.
- * Minimum front and rear yard setback distance varies depending on the zoning district in which you reside. Any questions please contact the Zoning Officer.

REMEMBER
 You MUST call PA One
 Call (8-1-1)