

Hopewell Township

Shed, Deck, Fence and Accessory Structure Zoning Permit Application

1700 Clark Boulevard
Aliquippa, PA 15001

A ZONING PERMIT IS REQUIRED FOR ALL NEW BUILDING/STRUCTURES SITUATE THEREIN HOPEWELL TOWNSHIP THAT ARE EXEMPT FROM THE STATEWIDE BUILDING CODE

- SHEDS AND DETACHED GARAGES (UNDER 1,000 SQ. FT.)
- CARPORTS
- GREENHOUSES AND SIMILAR STRUCTURES
- DECKS (LESS THAN THIRTY-INCHES 30" ABOVE GRADE)
- FENCES

THE FOLLOWING INFORMATION IS REQUIRED:

1. Name of Property Owner: _____
 Address: _____
 Phone #: _____
2. Proposed type of structure and description of construction: _____

 Estimated cost of work: _____
3. Applicant/Contractor Name: _____
 Applicant address: _____
 Applicant phone #: _____
4. Property owner name: _____

*Please attach two (2) copies of lot survey showing location of proposed structure and two (2) copies of construction plans.

APPLICANT SIGNATURE: _____

PRINT NAME: _____

DATE: _____

THIS BOX - TOWNSHIP USE ONLY

Date Received: _____ Zoning Approval #: _____

Permitted Use: _____ Approval Date: _____

Twp Approval: _____ (signature required)

DECK SUBMITTAL & GUIDELINES

How to Use this Guide

1. Complete this Building Guide by filling in the blanks on page two, and indicating which construction details will be used.
2. Provide 2 Plot Plans (site plan) showing dimensions of your project or addition and its relationship to existing buildings or structures on the property and the distance to existing property lines drawn to scale.
3. Fill out a building permit application. The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.
4. Fill in the blanks on the drawing below. Include dimensions and materials which will be used to build the structure. Please print legibly.
5. Indicate in the check box which detail from page 2 will be used.

Note: A plot plan (plan view) showing the dimensions of your project or additions and its relationships to existing buildings or structures on the property must be included. In addition to project dimensions, your plot plan must also show other details such as post locations and spacing, joist and beam spans, and any other pertinent information not shown on the section drawing

Size and Amount of Lags

(example: Two 3/8" x 4 1/2" lags @ 16' O.C.)

Type of decking _____ x _____

(example: 1 x 4 or 2 x 6 - Trex)

Deck Section

Existing bldg.

Approved flashing required

36" high guard with balusters spaced so that a 4 inch diameter sphere cannot pass through

Beam splices to occur over posts with 1 1/2" bearing

36 inches min.

Attach decking with non corrosive fasteners

Detail A (see page 3)

Check one

Detail B

Alternate Detail B1

Alternate Detail B2

(see page 3)

Conditions such as attachment to cantilevers or veneers may require Engineer's approval

Span

6 Ft. 8 in. min. (see note)

Detail C (see page 3)

Finished grade

Note: Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36" in height to a yard or court. 6'8" required for walk out basements or patios.

36 Inches Min.

2x _____ joists spaced _____" apart

(example: 2 x 10" spaced 24" apart)

() x _____ beam

(example: (2) 2 x 10 - see detail B)

2x _____ rim joist

(example: 2 x 10 - see Alternate B1 & B2)

_____ x _____ posts spaced _____ apart

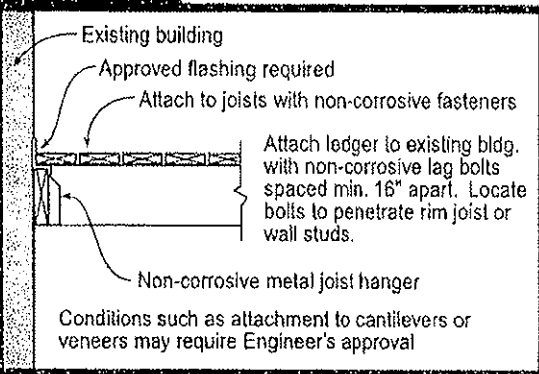
(example: 4 x 4 posts spaced 8' apart)

Span _____

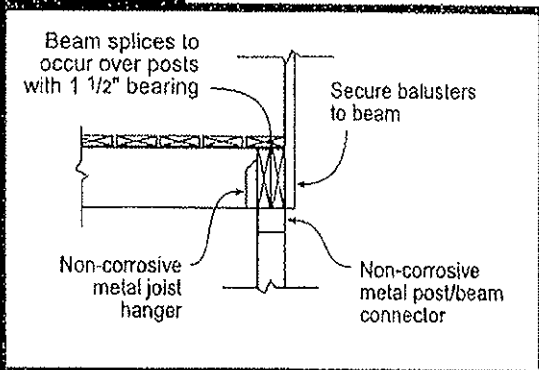
(example: 13' - 4")

Type of siding (existing) _____

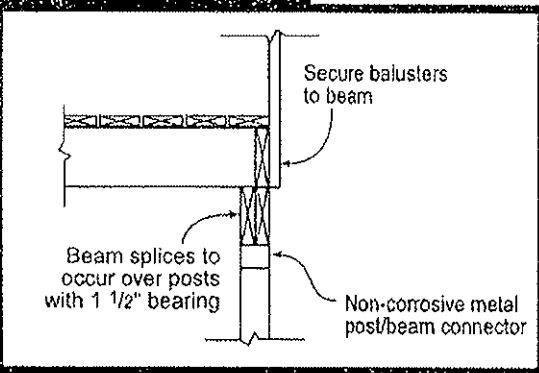
Detail A



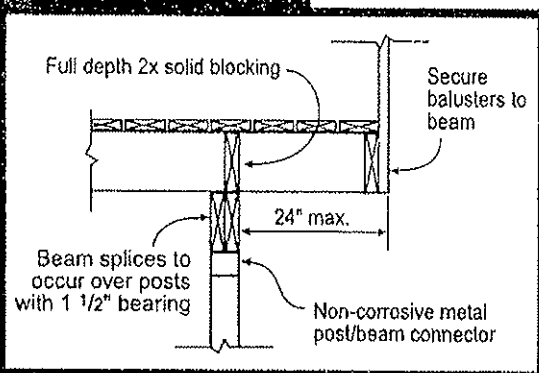
Detail B



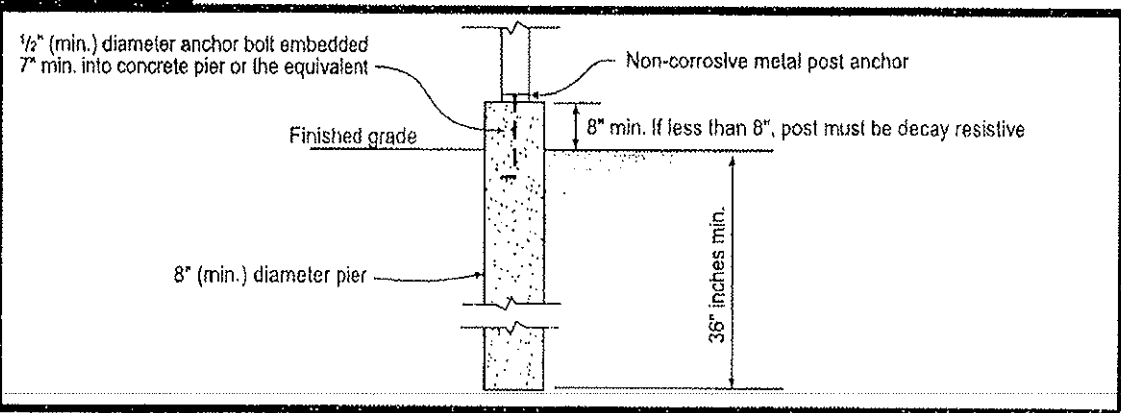
Alternate Detail B1



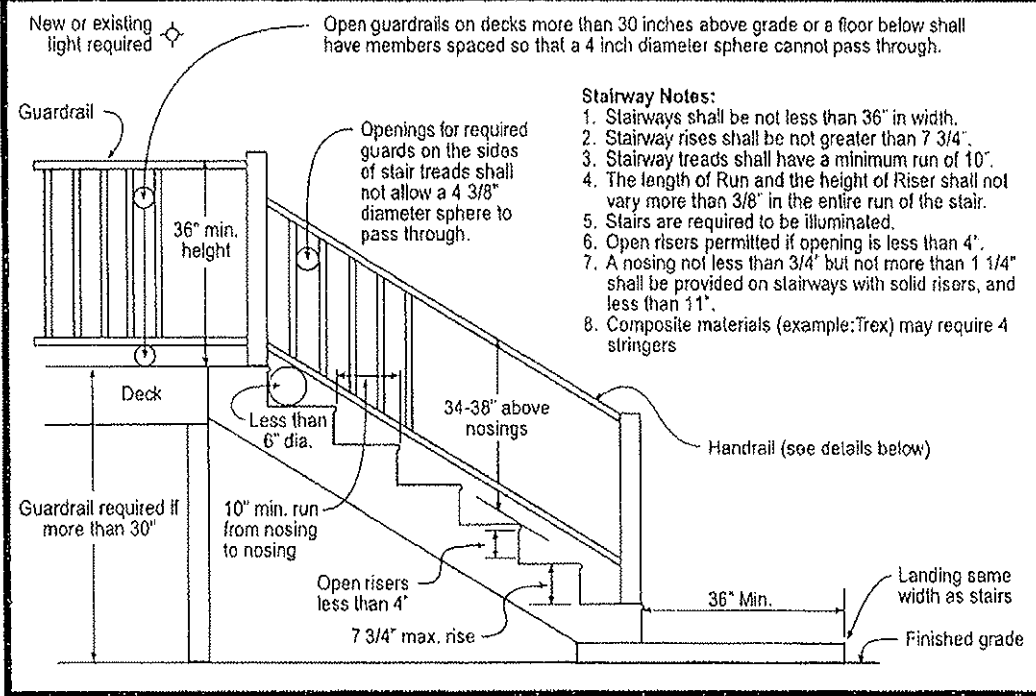
Alternate Detail B2



Detail C



Stair & Handrail Specifications



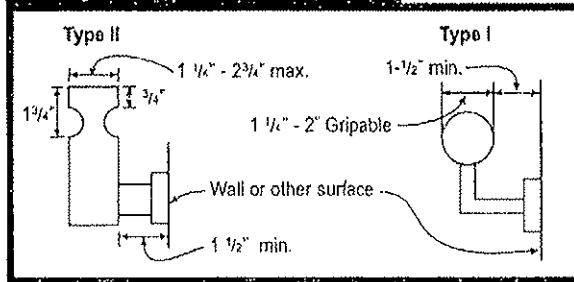
Stairway Notes:

1. Stairways shall be not less than 36" in width.
2. Stairway rises shall be not greater than 7 3/4".
3. Stairway treads shall have a minimum run of 10".
4. The length of Run and the height of Riser shall not vary more than 3/8" in the entire run of the stair.
5. Stairs are required to be illuminated.
6. Open risers permitted if opening is less than 4'.
7. A nosing not less than 3/4" but not more than 1 1/4" shall be provided on stairways with solid risers, and less than 1 1/4".
8. Composite materials (example: Trex) may require 4 stringers

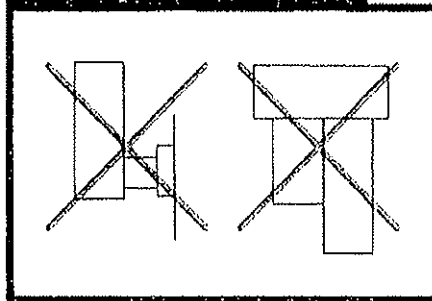
Handrail Notes:

1. Handrails shall be continuous on at least one side of stairs with 4 or more risers.
2. Top of the handrails shall be placed not less than 34 inches nor more than 38 inches above stair nosings.
3. The handgrip portion of handrails shall be not less than 1-1/4 inches nor more than 2 1/4 inches in cross section for non circular handrails.
4. Handrails shall be placed not less than 1-1/2 inches from any wall or other surface.
5. Handrails to be returned to wall, post or safety terminal (per 311.5.6.2 IRC)

Acceptable Handrail Details



Unacceptable Handrails



GENERAL DECK CONSTRUCTION NOTES

- Lumber shall be southern pine, grade #2 or better and shall be pressure treated ACQ or CA-B.
- Framing hardware and fasteners shall be hot-dipped galvanized or stainless steel.
- Decks shall not be attached to house overhangs, cantilevered bay windows, veneers, exterior finishes, or chimneys without the approval of a Pennsylvania registered architect or professional engineer.
- Inspections for decks include footing (prior to pouring concrete), framing and final. Framing and final inspections may be combined if the deck is elevated a minimum of 36" above grade.
- Electrical work performed in conjunction with deck projects is subject to the applicable provisions of the electrical code. Electrical work is subject to field inspection at the rough and final stages by a third party electrical inspection company.
- Decks shall not be used or occupied until all final inspection approvals are obtained.

PLAN SPECIFICATIONS Draw to scale or include dimensions on plans

Deck Framing Plan

- **Ledger Board:** Type, size and attachment details for ledger board. Ledger board attachment to the existing house shall be capable of supporting the new deck.
- Details are to include the existing house construction that will support the ledger, type of flashing, type/size of ledger board, type/size/spacing of ledger anchors. IRC R502.2.1
- **Flashing:** Remove exterior finishes prior to installing the ledger board. Install flashing where ledgers are secured to existing construction. Flashing is required at ledger connections of wood framed walls. Approved flashing materials include galvanized steel, UV resistant plastics/rubber, stainless steel and copper (attached using copper nails). IRC R703.8
- **Beams:** Identify the location, size, type, number of plies, and span of structural beams. Secure built-up wood beams with no less than two rows of 10d galvanized or stainless steel nails in a staggered pattern 16" on center. 3 rows of 10d nails needed for beams 10" or deeper. For beams secured to opposite sides of posts, install solid full depth 2x blocking at 4'0" on center.

MINIMUM BEAM SIZES FOR SINGLE SPAN JOIST LOADS

Joist Span Minimum Beam Size*	Minimum Beam Size*
0-6'8"	(2) 2" x 6"
6'8" - 11'2"	(2) 2" x 8"
11'2" - 15'9"	(2) 2" x 10"
16'0" - 18'9"	(2) 2" x 12"

*Beam sizes are based on support post spacing of 8 feet with single span floor joists extending from ledger board. This table is not applicable for beams carrying floor joist loads from two directions. This table is not applicable for decks supporting hot tubs or other concentrated loads. IRC R501.2

Floor Joists: Identify the size, type, on center spacing and direction of span of the floor joists.

MAXIMUM JOIST SPANS

Joist Size	Joist Spacing, on center	Joist Span (no overhang)
2x6	16"	9'9"
2x6	24"	8'6"
2x8	16"	12'10"
2x8	24"	11'0"
2x10	16"	16'1"
2x10	24"	13'1"
2x12	16"	18'10"
2x12	24"	15'5"

2006 IRC Table R502.3.1(2) Spans are based on 40 PSF live load, 10 PSF dead load, southern pine #2, deflection of $l/360$. This table is not applicable for decks supporting hot tubs or other concentrated loads.

- **Floor Deck:** Identify the type of decking to be installed. Typical materials include 2"x6" or 5/4" (five-quarter) lumber. **Composite decking is permitted if installed per manufacturer's product specifications.**
- **Support Posts:** Identify the location of support posts on the framing plan. 4" x 4" posts are permitted for decks up to 36" above grade. Decks above 36" are to be supported on 6" x 6" posts. Post to beam connections require (2) 1/2" diameter hot-dipped galvanized or stainless steel thru-bolts with washers. Single 1/2" diameter bolts are permitted for 2" x 6" beams. IRC R502.9
- **Footings:** Illustrate footing locations on the framing plan. IRC R401.2
- **Stairways:** Identify stairway(s) and/or deck elevation changes on the framing plan. IRC R311.

PLAN SPECIFICATIONS Draw to scale and include dimensions on plans

Cross Section

- **Footings:** Identify the footing depth below grade and footing dimensions. Footings shall bear on solid ground and be dug to a depth not less than the frost line depth of 36". No less than 12" of concrete is to be placed under all support posts, the bottom of which is 36" below grade. Footings shall be 12" square or 15" in diameter for 4" x 4" posts. Footings shall be 16" square or 18" in diameter for 6" x 6" posts. IRC R401.2
- **Support Posts:** Identify the size of support posts and the elevation of the deck above grade.
- **Post-to-Beam Attachment:** Identify the location and size of beams and identify the method of attachment between the support posts and beams. Post to beam connections require (2) 1/2" diameter hot-dipped galvanized or stainless steel thru-bolts with washers. Single 1/2" diameter bolts are permitted for 2" x 6" beams. IRC R502.9
- **Floor Framing:** Identify the floor joist type, size and span and on center spacing.
- **Floor Overhangs:** Cantilevers of up to 3 feet are permitted with a backspan to cantilever ratio of 2:1. For example, a 3 foot cantilever requires a minimum 6 foot joist back span. Connections capable of resisting the uplift forces at the backspan support shall be provided. A full depth rim joist shall be provided at the cantilevered ends of the joists. IRC R502.2.1
- **Guardrail System:** Identify guard systems. Provide attachment methods for securing guard posts to deck structure. Guards shall be designed to withstand a 200 pound load applied to the top rail at any point and in any direction. IRC R312.1 & R312.2

Stairway Specifications

- **Stair width:** Provide the proposed width of the stairway. Stairways shall not be less than 36" in clear width. Handrails may project into the clear width by no more than 4 1/2" on either side of the stairway. Clear width at and below the handrail height, shall not be less than 31.5" where a handrail is installed on one side and 27" where handrails are provided on both sides. IRC R311.5.1
- **Stair treads and risers:** Provide the proposed stairway riser heights and tread depths. Stairway riser height are not to exceed 8 1/4" with no more than a 3/8 inch variation in riser height within a flight of stairs. The minimum tread depth is 9 inches measured from tread nosing to tread nosing. The greatest tread depth within any flight of stairs may not exceed the smallest by more than 3/8 inch. IRC R311.5.3 per PA UCC 403.21(2) **Risers may be open, but shall not allow the passage of a 4 inch diameter sphere on stairs with a total rise of 30 inches or more.**
- **Stair profile:** A nosing not less than 3/4" but not more than 1 1/4" shall be provided on stairways with solid risers. Nosings are not required with a tread depth of 10" or more. IRC R311.5.3.3
- **Stairway illumination:** Exterior stairs shall be provided with a means to illuminate the stairs, including the landings and treads. Exterior stairs shall be provided with an artificial light source

located in the immediate vicinity of the top landing of the stairway. The illumination of exterior stairways shall be controlled from inside the dwelling. IRC R303.6, R303.6.1

- **Guardrails:** Provide an elevation detail of the proposed guard system(s). Guards along elevated deck surfaces shall be no less than 36" in height with openings not to exceed 4". Guards along stairways shall be no less than 34" measured vertically from the stair nosings with openings not to exceed 4 3/8". IRC R312.1 & R312.2
- **Handrails:** Provide a cross sectional detail of required graspable handrail. Handrails having a minimum and maximum heights of 34 inches and 38 inches respectively, measured vertically from the nosing of the treads, shall be provided on the least one side of the stairways of four or more risers. Handrails shall be continuous the full length of the stairs. Handrails shall be graspable and shall be constructed of decay-resistant and/or corrosion resistant material. Circular handrails shall be between 1 1/4" – 2" in diameter. Non-circular handrails with a perimeter dimension greater than 6 1/4" shall provide a graspable finger recess area on both sides of the profile. The width of the handrail above the recess shall be between 1 1/4"-2 3/4" IRC R311.5.6 & R311.5.6.3

2006 IRC CODE REFERENCES

The following code sections are applicable for deck additions. This list, although not inclusive, provides general guidance on code provisions affecting deck construction.

- **R502.2.2 Decks.** Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment **shall not** be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.4 acting on the cantilevered portion of the deck. Framing hardware and fasteners shall be hot-dipped galvanized or stainless steel.
- **R502.6 Bearing.** The ends of each joist, beam or girder shall have not less than 1.5 inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on masonry or concrete except where supported by the use of approved joist hangers.
- **R502.6.2 Joist framing.** Joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips not less than nominal 2 inches by 2 inches (51 mm by 51 mm).
- **R502.7 Lateral restraint at supports.** Joists shall be supported laterally at the ends by full-depth solid blocking not less than 2 inches (51 mm) nominal in thickness; or by attachment to a header, band, or rim joist, or to an adjoining stud; or shall be otherwise provided with lateral support to prevent rotation.
- **R502.8 Drilling and notching.** Structural floor members shall not be cut, bored or notched in excess of the limitations specified in this section. Notches shall not exceed 1/6 the depth of the joist, shall not be longer than 1/3 of the depth of the joist and shall not be located in the middle 1/3 of the joist span. The diameter of holes bored or cut into members shall not exceed 1/3 the depth of the joist. Holes shall not be closer than 2 inches to the top or bottom of the joist, or to any other hole located in the member. Where the joist is also notched, the hole shall not be closer than 2 inches to the notch.
- **R502.9 Fastening.** Floor framing shall be nailed in accordance with Table R602.3(1). Where posts and beam or girder construction is used to support floor framing, positive connections shall be provided to ensure against uplift and lateral displacement.