



DECK CONSTRUCTION GUIDELINES

Kevin Kamenetz,
County Executive

Arnold Jablon,
Director, PAI

Important Points:

1. **Attaching the deck-** Unless the deck is independently supported, the attachment to the house is of critical importance. The ledger board must be attached to an adequate support using bolts. Nails alone will not do the job; they tend to work loose over time. *Most deck failures are the result of faulty support of the ledger board.* This is relatively cheap and easy to do right, but can be fatal if you do it wrong. When there is no adequate attachment base available, the deck must be supported independently of the house. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.

2. **Hardware-** Nails, screws and bolts aren't very glamorous, but they are what hold the deck together. Since the beginning of 2004, pressure treated wood has contained a new chemical preservative mixture called ACQ. This new mixture, formulated to eliminate the use of arsenic, is corrosive to steel and aluminum. The old style deck nails and galvanized bolts won't do any more. The new preservative can destroy the old style fasteners in just a few years. *Only triple dip galvanized, stainless steel, or other approved fasteners are safe to use.*

3. **Cross bracing-** When a deck is more than a few feet off of the ground, it can feel "wobbly" when someone walks on it. In addition to feeling uncomfortable, this motion can loosen connections and lead to deck failure. For this reason, Baltimore County requires cross bracing for any deck over five feet high.

4. **Unusual designs-** If your deck layout and design is not covered by the information on the drawings, contact building inspection at 410-887-3953 before starting any work. Be aware that some complex cases may require a professional design.

5. **Railings, footings, etc.-** These and other details of the deck can make the difference between a good job and a disaster. Please read the requirements carefully and make both yourself and the inspector smile!

New Wood Preservative:

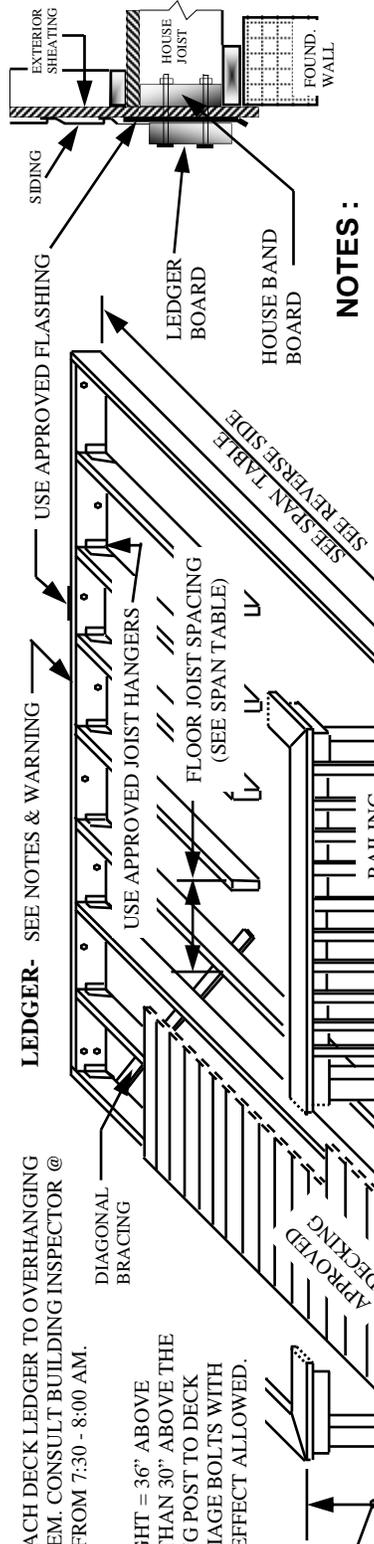
Baltimore County is blessed with a diverse environment rich in natural resources, including shoreline along the Chesapeake Bay. We are committed to preserving and protecting these resources that enhance the lives of our citizens. New building materials are safer for the environment.

Pressure treated wood protects against rot, insects, and decay. For many years, Chromated Copper Arsenate (CCA) has been the chief chemical compound used to treat wood for outdoor use, but environmental concerns about arsenic have led to a gradual withdrawal of this type of treated wood. No more has been produced since December 31, 2003. Today's copper-based preservatives are just as effective, but environmentally safe for long term outdoor applications. The disadvantage of using copper based preservative is its corrosiveness to ordinary metal fasteners. This can be avoided by using high quality corrosion resistant nails, screws, hangers, etc (See item 2). For more information, call building inspection at 410-887-3953. Let's make the environment safe for future generations.

WARNING: DO NOT ATTACH DECK LEDGER TO OVERHANGING FLOOR SYSTEM. CONSULT BUILDING INSPECTOR @ 410-887-3953 FROM 7:30 - 8:00 AM.

MINIMUM RAILING HEIGHT = 36" ABOVE DECKING WHEN MORE THAN 30" ABOVE THE GRADE. ATTACH RAILING POST TO DECK WITH 3/8" LAG OR CARRIAGE BOLTS WITH WASHERS. NO LADDER EFFECT ALLOWED.

NAIL BEAMS TOGETHER WITH 3 ROWS NAIL AT 24" O.C. THRU ALL PLY. ALL SPLICES MUST BE ON BEARING POINTS.

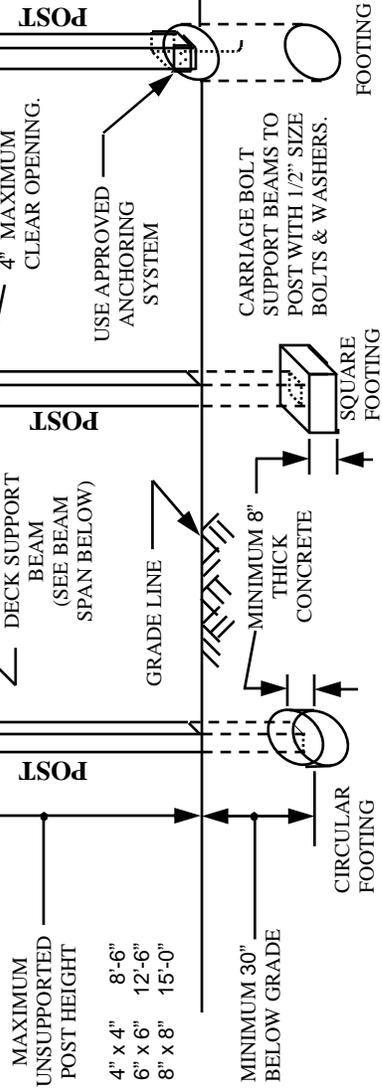


NOTES :
IF LEDGER BOARD IS TO BE ATTACHED TO :

- 1.) BRICK VENEER- LEDGER BOARD SUPPORTED BY POST AS REQUIRED.
- 2.) BRICK w/BLOCK OR BLOCK ONLY- USE 1/2" CARRIAGE BOLTS AND WASHERS THROUGH BOLTED TO FULL DEPTH OF THE WALL WITH CONTINUOUS 2" x 4" BACKER BOARD.
- 3.) CONCRETE POURED- USE 1/2" LAG BOLTS, WASHERS AND SHIELDS. MINIMUM 4" EMBEDMENT.
- 4.) HOUSE BAND BOARD- USE MINIMUM 1/2" CARRIAGE BOLTS STAGGER BOLTED 16" ON CENTER OR MINIMUM 2 LEDGER LOCKS 16" On CENTER.
- 5.) FOR DECKS UP TO 5'-0" ABOVE GRADE, 1/2" x 5" LAG BOLTS AND WASHERS MAY BE USED.
- 6.) A.P.A. PERFORMANCE RATED RIM BOARD- USE MINIMUM 1/2" CARRIAGE BOLTS STAGGER BOLTED AS FOLLOWS:

- UP TO 12 FT. SPAN 18" ON CENTER
 - 13 FT. - 15 FT. SPAN 12" ON CENTER
 - GREATER THAN 16 FT. SPAN 9" ON CENTER
- 7.) PROVIDE A CONTINUOUS 1" x 4" (MINIMUM) DIAGONAL BRACING TO THE UNDERSIDE OF DECK JOISTS FOR DECKS OVER 5'-0" ABOVE NATURAL GRADE.

ALL NAILS, BOLTS & HANGERS MUST BE HOT DIP GALVANIZED. STAINLESS STEEL OR TRIPLE COATED ZINC POLYMER MATERIAL.



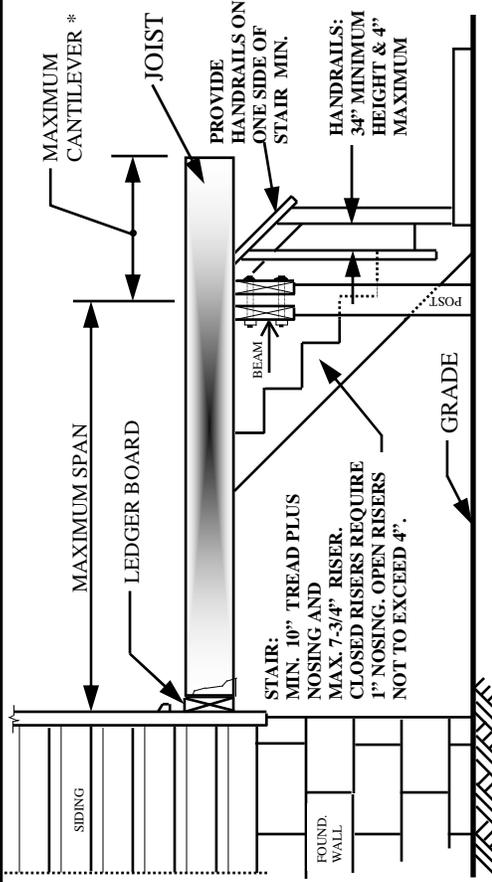
BEAM SPAN (FOR 12 FT. JOIST SPAN)	FOOTING SIZE:	
2 - 2" x 8"	MAX. SPAN = 8' - 0"	15" DIA. OR 13" SQ.
3 - 2" x 8"	MAX. SPAN = 10' - 0"	17" DIA. OR 15" SQ.
2 - 2" x 10"	MAX. SPAN = 10' - 0"	17" DIA. OR 15" SQ.
3 - 2" x 10"	MAX. SPAN = 12' - 0"	18" DIA. OR 16" SQ.
2 - 2" x 12"	MAX. SPAN = 12' - 0"	18" DIA. OR 16" SQ.
3 - 2" x 12"	MAX. SPAN = 14' - 0"	19" DIA. OR 17" SQ.
4 - 2" x 12"	MAX. SPAN = 17' - 0"	23" DIA. OR 20" SQ.



PERMITS APPROVALS AND INSPECTIONS

BALTIMORE COUNTY BUILDING CODE
OUTSIDE DECK
CONSTRUCTION DETAILS
FOR ACQ PRESSURE TREATED WOODS

REVISIONS:
1-5-11



DECK

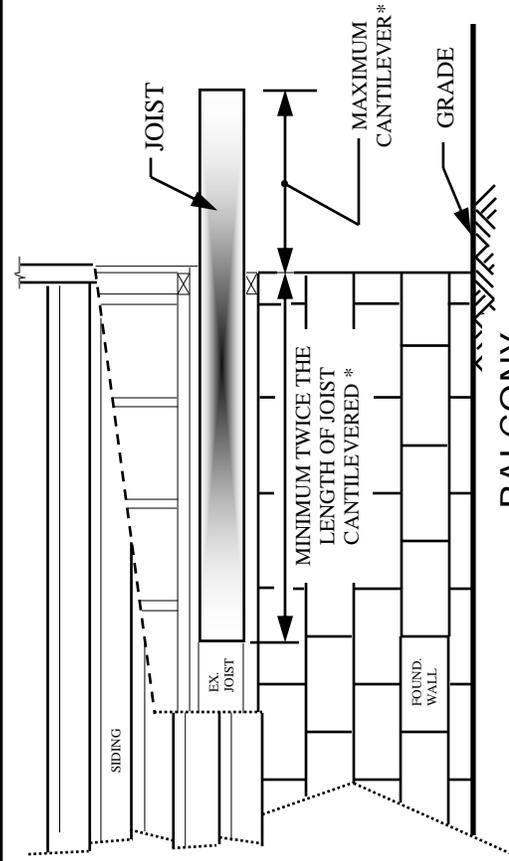
SUPPORTED BY HOUSE ON ONE SIDE AND BY POSTS AND BEAM ON THE OTHER.

40 psf LIVE LOAD ON SUPPORTED SECTION OF JOIST.
60 psf LIVE LOAD ON CANTILEVER.

FOR MAXIMUM CANTILEVER, USE SPAN SHOWN IN BALCONY CHART.

SPAN TABLE - DECK JOISTS (PRESSURE TREATED S. YELLOW PINE #2)

JOIST SIZE	SPACING	MAXIMUM SPAN
2" X 6"	12" ON CENTER	10' - 9"
	16" ON CENTER	9' - 9"
	24" ON CENTER	7' - 9"
2" X 8"	12" ON CENTER	14' - 2"
	16" ON CENTER	12' - 10"
	24" ON CENTER	10' - 2"
2" X 10"	12" ON CENTER	18' - 0"
	16" ON CENTER	16' - 1"
	24" ON CENTER	13' - 0"
2" X 12"	12" ON CENTER	21' - 9"
	16" ON CENTER	18' - 10"
	24" ON CENTER	15' - 10"



BALCONY

PROJECTING FROM AND SUPPORTED BY HOUSE WITH NO OTHER SUPPORTS.

60 psf LIVE LOAD

* FOR EVERY FOOT OF JOIST CANTILEVERED PAST THE WALL (OR PAST THE DECK BEAM), THERE MUST BE AT LEAST **2 FEET** OF JOIST BEHIND THE WALL OR BEAM.

SPAN TABLE - BALCONY JOISTS & CANTILEVER ON DECK JOISTS (PRESSURE TREATED S. YELLOW PINE #2)

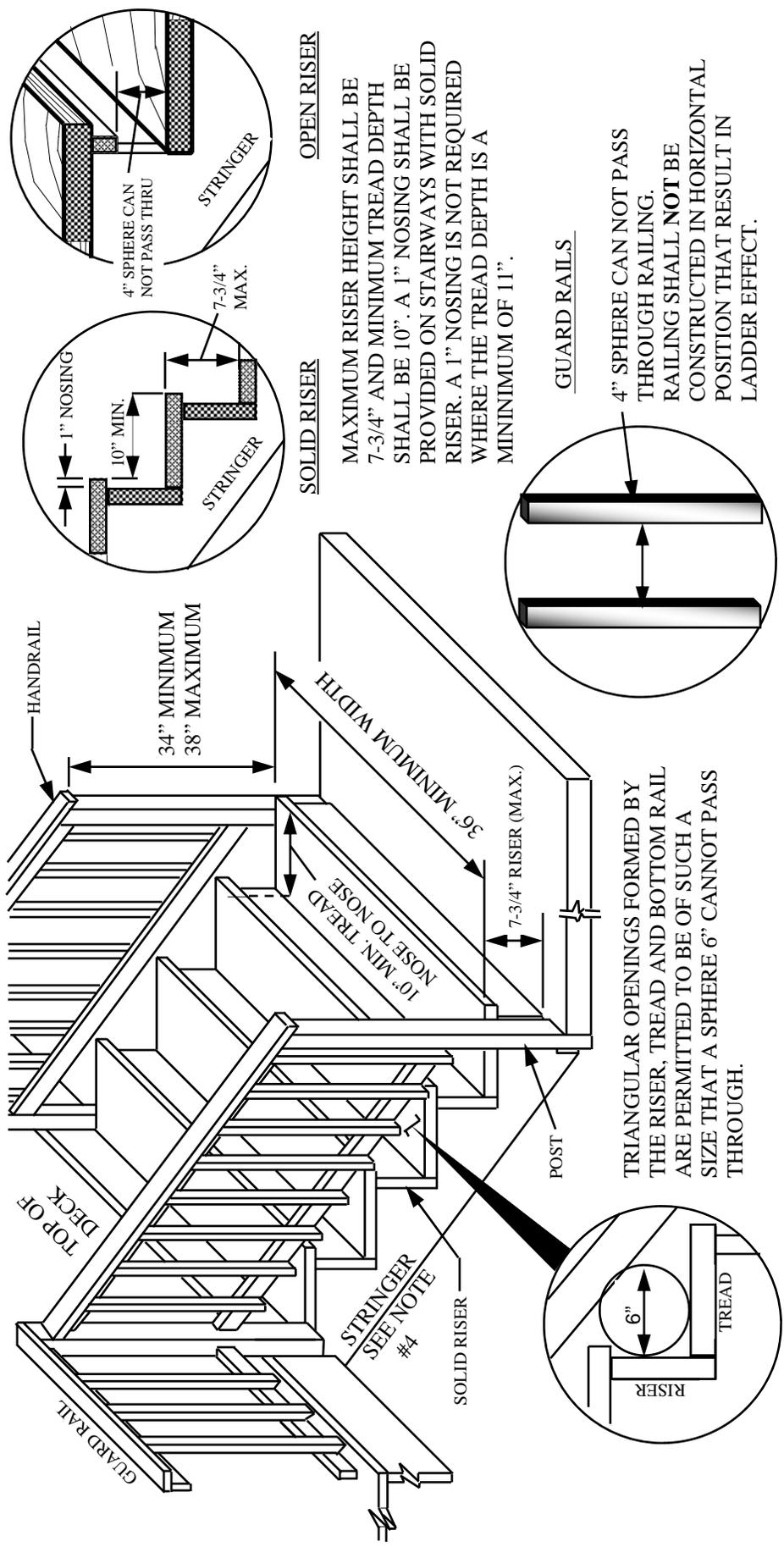
JOIST SIZE	SPACING	MAXIMUM CANTILEVER
2" X 6"	12" ON CENTER	4' - 2"
	16" ON CENTER	3' - 9"
	24" ON CENTER	3' - 1"
2" X 8"	12" ON CENTER	5' - 9"
	16" ON CENTER	5' - 3"
	24" ON CENTER	4' - 3"
2" X 10"	12" ON CENTER	6' - 0"
	16" ON CENTER	6' - 0"
	24" ON CENTER	5' - 6"
2" X 12"	12" ON CENTER	6' - 0"
	16" ON CENTER	6' - 0"
	24" ON CENTER	6' - 0"



PERMITS APPROVALS AND INSPECTIONS

**BALTIMORE COUNTY BUILDING CODE
DECK AND BALCONY
CONSTRUCTION DETAILS
FOR ACQ PRESSURE TREATED WOODS**

REVISION
1-5-11



OPEN RISER

MAXIMUM RISER HEIGHT SHALL BE 7-3/4" AND MINIMUM TREAD DEPTH SHALL BE 10". A 1" NOSING SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISER. A 1" NOSING IS NOT REQUIRED WHERE THE TREAD DEPTH IS A MINIMUM OF 11".

SOLID RISER

GUARD RAILS

4" SPHERE CAN NOT PASS THROUGH RAILING. RAILING SHALL NOT BE CONSTRUCTED IN HORIZONTAL POSITION THAT RESULT IN LADDER EFFECT.

NOTES :

1. One (1) handrail is required for 4 or more risers.
2. Two (2) guardrails are required for tread surfaces more than 30" above grade, minimum one (1) handrail.
3. All riser heights shall be equal.
4. 2" x _ treads, stringer's maximum spacing= 3'-0"; 5/8" x _ tread, stringer's maximum spacing= 2'-0". Tread and other engineered materials= follows manufacturer's recommendation.

SECTION 310.5 EMERGENCY ESCAPE WINDOWS UNDER DECKS

EMERGENCY ESCAPE WINDOWS ARE ALLOWED TO BE INSTALLED UNDER DECKS AND PORCHES PROVIDED THE LOCATION OF THE DECK ALLOWS THE EMERGENCY ESCAPE WINDOWS TO BE FULLY OPENED AND PROVIDES A PATH NOT LESS THAN 36" IN HEIGHT TO A YARD OR COURT.



PERMITS APPROVALS AND INSPECTIONS

BALTIMORE COUNTY BUILDING CODE

OUTSIDE DECK STAIR DETAILS

REVISION

1-5-11