



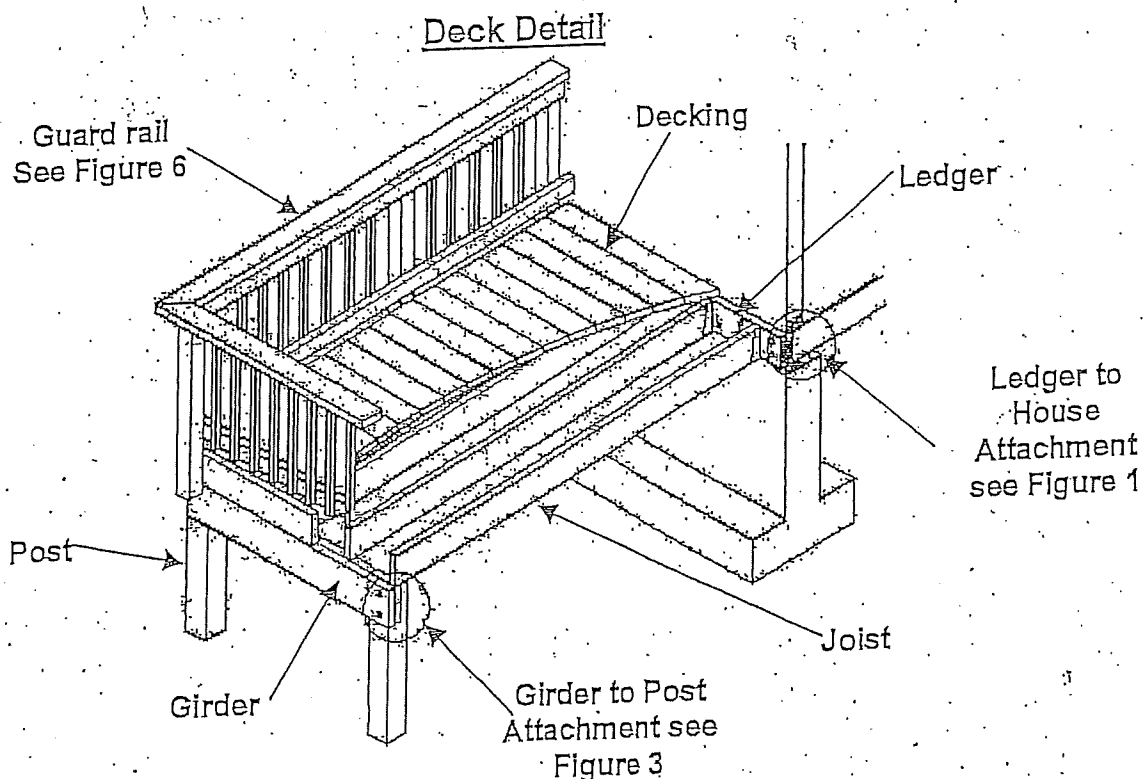
Township of Pequannock

Construction Department

Construction Department
Robert J. Grant, Construction Official
Tel: (973) 835-5700 ext. 181
Fax: (973) 835-9396
Email: rgrant@peqtpw.org
Mailing Address:
530 Newark-Pompton Turnpike
Pompton Plains, NJ 07444
Office Address:
99 Alexander Avenue (DPW Annex)
Pompton Plains, NJ 07444

Deck Construction Guide

1. This handout is based on the 2015 International Residential Building Code of NJ.
2. Drawings are required for decks, they may be drawn by the homeowner or an architect licensed in the State of New Jersey.
3. A copy of an accurate up to date property survey indicating the proposed location of the deck is required. If the deck is more than 30" above finished grade it must have a guardrail and be located within the building envelope. Decks less than 30" with no rail may encroach into the required side and rear yard setbacks. No decks are permitted in the front yards.
4. Prior to the construction of your deck, you must call for utility locations. The utility dig number is 1-800-272-1000. Once you obtain the dig number, write it in the designated area of the construction permit application folder (inside rear cover of the folder).
5. Permits are required for new and replacement decks.
6. Decks cannot be put on top of septic systems, see the Health Department for location information.
7. Lumber to construct decks should be naturally durable or preservative treated.
8. Required Inspections:
 - **Footing** – After hole is dug but before concrete is placed.
 - **Final** – After everything is complete.



NOTICE

New Rules for Fasteners and Flashing Use with "ACQ" Pressure Treated Wood

As of January 1, 2004, Wood treatment companies are no longer manufacturing CCA pressure treated wood for residential use in projects like decks, fences, sill plates and framing. This change was a voluntary agreement between the wood treatment companies and the U.S. EPA due to the fears about health effects of arsenic and chromium used in CCA treated wood. The majority of new pressure treated wood will contain "ACQ" (Alkaline Copper Quaternary) a copper-based preservative considered less environmentally toxic. Unlike CCA, which relies on toxic amounts of arsenic pumped into lumber to ward away pests and mold, ACQ's primary ingredient is copper, a relatively inert ingredient and an essential nutrient of human health. Quaternary, or Quat, a type of fungicide that attacks decay organisms, provides additional protection against rot and termite attacks, and is used in a wide array of consumer goods, from wood to paints to feminine hygiene products.

The Problem

While ACQ is more environmentally friendly, different techniques for fastening and flashing projects using ACQ are needed. ACQ uses copper as its main ingredient and ammonia as a vehicle to help penetration of the wood. The problem is that the high copper content of the wood when it comes in contact with other metals sets up a galvanic reaction, which causes corrosion. This seems to be aggravated by the ammonia contained in the wood when exposed to moisture.

The Solution

Special attention must be paid to the fasteners and metals used around ACQ wood.

Aluminum should never come in contact with ACQ treated wood. Flashing, which is required on deck ledger boards to prevent water from getting behind and rotting the house framing, must now be **copper, copper clad, stainless steel** or heavy **U.V. resistant plastic**. Aluminum sills of doors should not come in contact with treated wood sill plates or aprons. Aluminum coil trim should not be used to wrap treated posts or trim.

Nails, screws and bolts should be **hot dipped galvanized or stainless steel**, electro-galvanized nails and bolts will not hold up and should not be used. Most manufacturers of nail gun nails are changing to H.D. galvanized or stainless steel, but check that they are approved for use with ACQ. Lag bolts used to attach the ledger board **must be ½" in diameter**. Foundation anchor bolts should be **H.D. Galvanized** if you are using treated sills, aluminum termite shields should not be used.

Hangers and brackets must be approved for use with ACQ. Traditional galvanized joist hangers and brackets have been shown to corrode more quickly with ACQ, so most manufacturers are increasing the thickness of the galvanization of their products. Make sure all hangers and brackets are approved for use with ACQ. Simpson, one of the largest hanger manufacturers, identifies its new products with the name "Z-max".

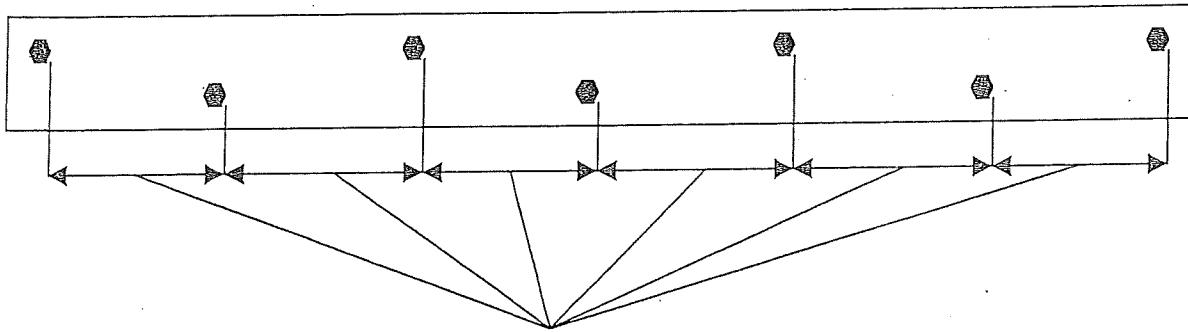
Flashing

Flashing shall be installed to prevent water from getting behind the ledger and damaging house framing. Aluminum flashing can not be used with ACQ treated lumber; flashing must be copper or stainless steel.

Ledger Attachment

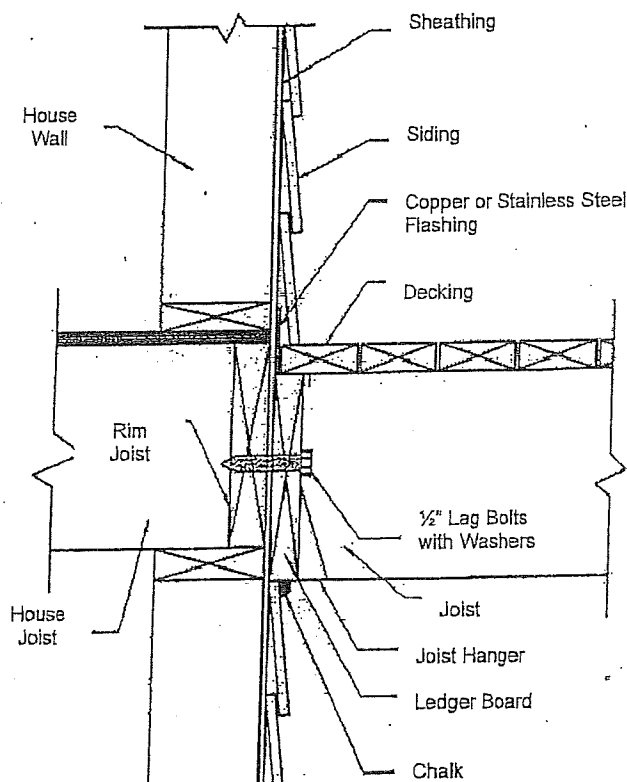
Ledger must be securely bolted to the house. For wood framing 1/2" lag bolts staggered 16" apart are recommended. (Figure 1) Lag bolts should be attached to the house's floor framing or wall studs and should penetrate framing at least 3". If the ledger is attached to the foundation, through bolting is recommended. Lag bolts must be hot dipped galvanized.

Ledger bolting pattern (Figure 1)



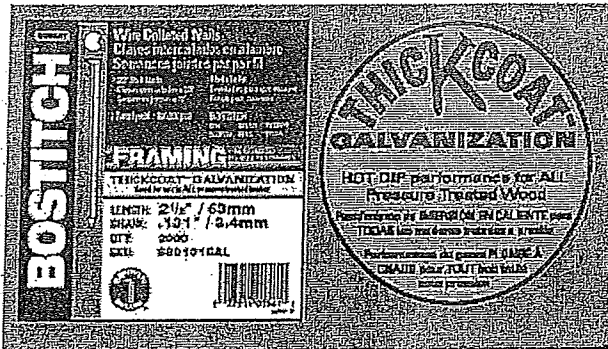
16" Bolt Spacing

Ledger Attachment Detail

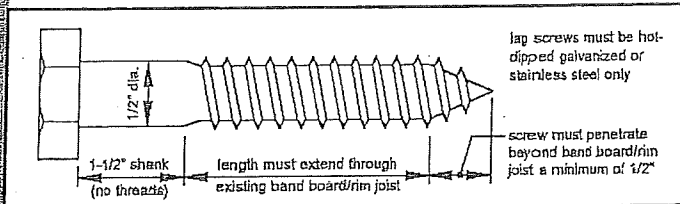


Fasteners

All fasteners must be hot dipped galvanized, stainless steel or approved for use with ACQ treated lumber. Nail gun nails that are electro-galvanized will not hold up with ACQ lumber and should not be used.



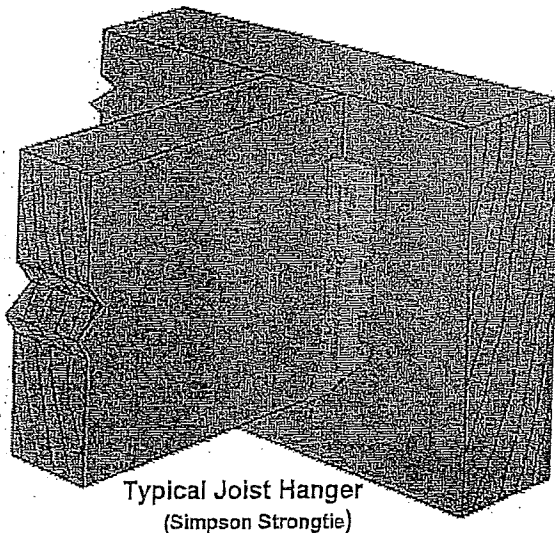
Sample Product Label
(Bostitch)



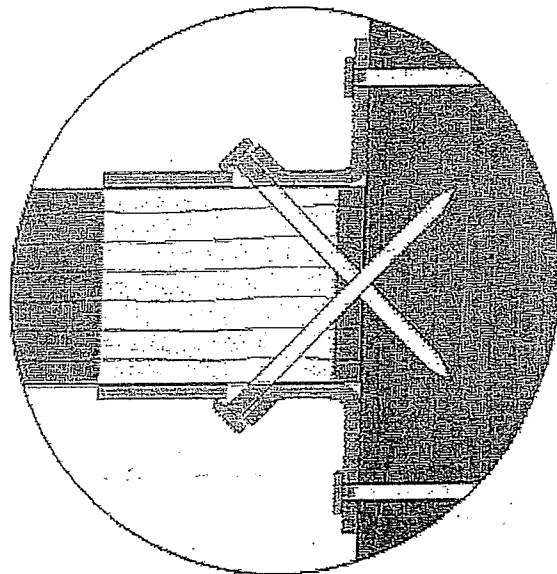
Joist Hangers

Joists should be attached to ledger and flush girders with joist hangers. The manufacturer must approve joist hangers for use with ACQ treated lumber. Simpson designates their hangers for use with ACQ with the "Z-max" trade name, USP (United Steel Products) uses the name "Triple Zinc". Make sure to follow manufactures instructions on nailing hangers. Special nails are made for joist hangers, roofing nails or deck screws are not acceptable. (Figure 2)

(Figure 2)



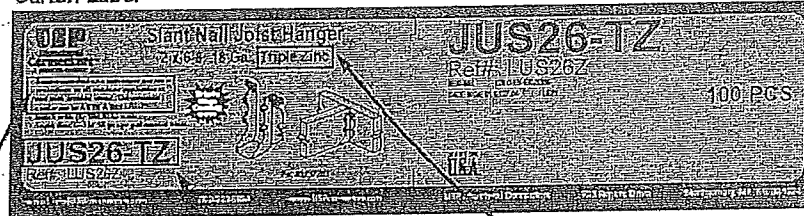
Typical Joist Hanger
(Simpson Strongtie)



Sample Nailing Details
(Simpson Strongtie)



Carton Label



USP recommendation and standards that are met with the Triple Zinc coating.

Part number is referenced with a TZ at the end for Triple Zinc products.

Triple Zinc is called out after product description.

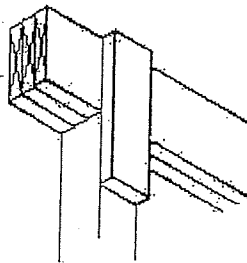
Sample Joist Hanger Product Labels
(Simpson Strongtie & USP)

Posts and Girders

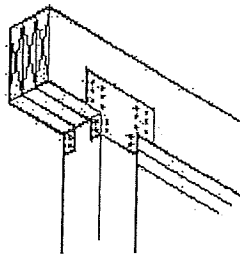
Posts to girder attachment should be braced to prevent girder from "rolling". (Figure 3). Any seams or splices in the girder must be over the posts. (Figure 4)

Post to girder Attachment Detail

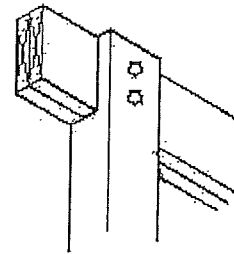
(Figure 3)



2x6 Gusset attached to side of post and girder

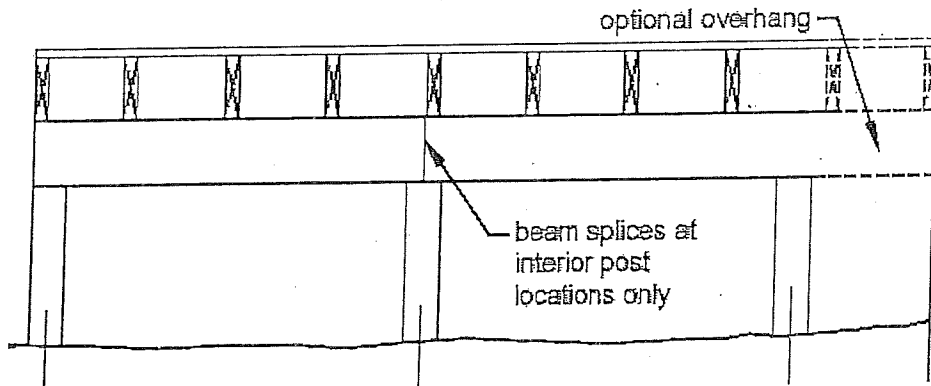


Mechanical fasteners install as per manufactures instructions



Post notched and bolted to girder

(Figure 4)

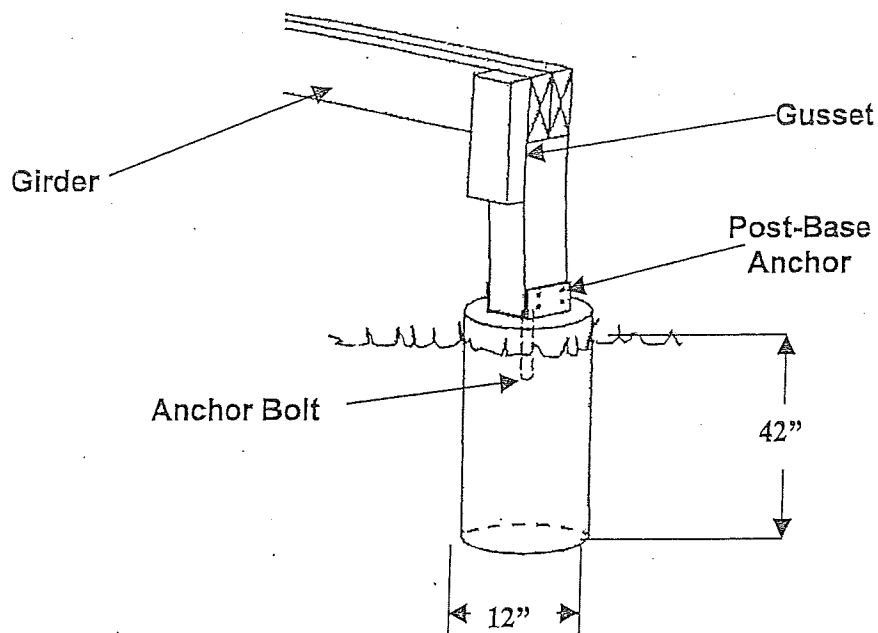


Footings

Footings should be at least 42" below grade and a least 12" in diameter. Larger decks or decks with hot tubs on them may require a larger diameter to distribute the weight over a larger area. Base of post should be attached to the footing with an appropriate anchor. (Figure 5) Note: If while digging your footings you encounter ledge rock, your footings must be "pinned" to the rock, by drilling into the rock 6" and inserting a 12" length of reinforcing rod into the hole to prevent the footing from shifting or being lifted by frost.

Footing and Post Base Detail

(Figure 5)

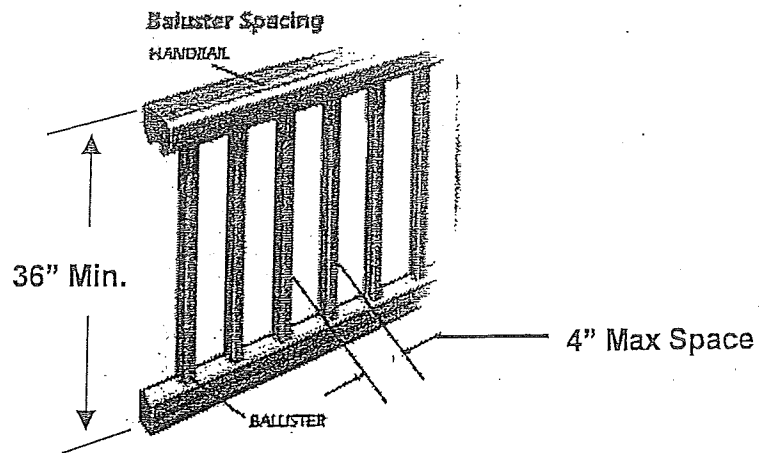


Guardrails (Railings)

Decks that are more than 30" above the adjacent grade must have a guardrail. The guardrails must 36" high (unless the deck is more than 20' above grade then 42" is required) and have no space greater than 4" (Figure 6)

Railing requirements

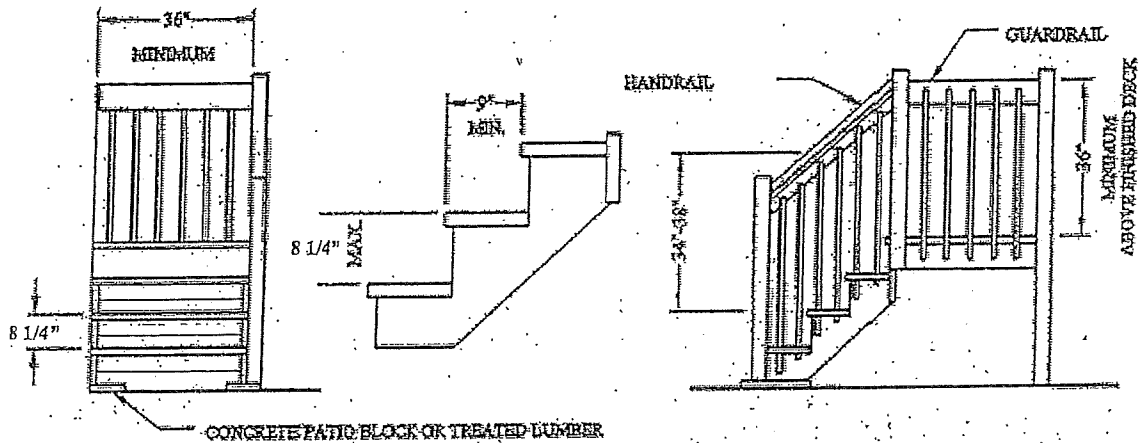
(Figure 6)



Stairs

Stairs must be 36" wide, steps are to have a maximum rise of 8 1/4" and a minimum run of 9". Stairs should not have any opening in the risers greater than 4". (Figure 7). Stairs must be equal in rise and tread depth to within 3/16" between adjacent stairs and no more than 3/8" difference between all stairs. (Figure 8)

Stair requirements



(Figure 7)

Tolerance for Difference Between Stairs

(Figure 8)

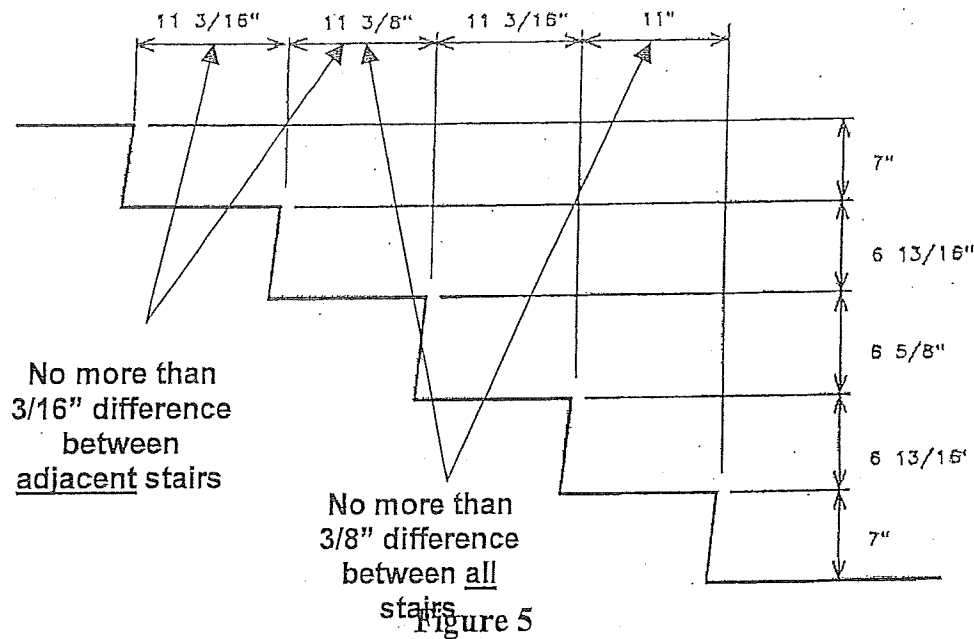


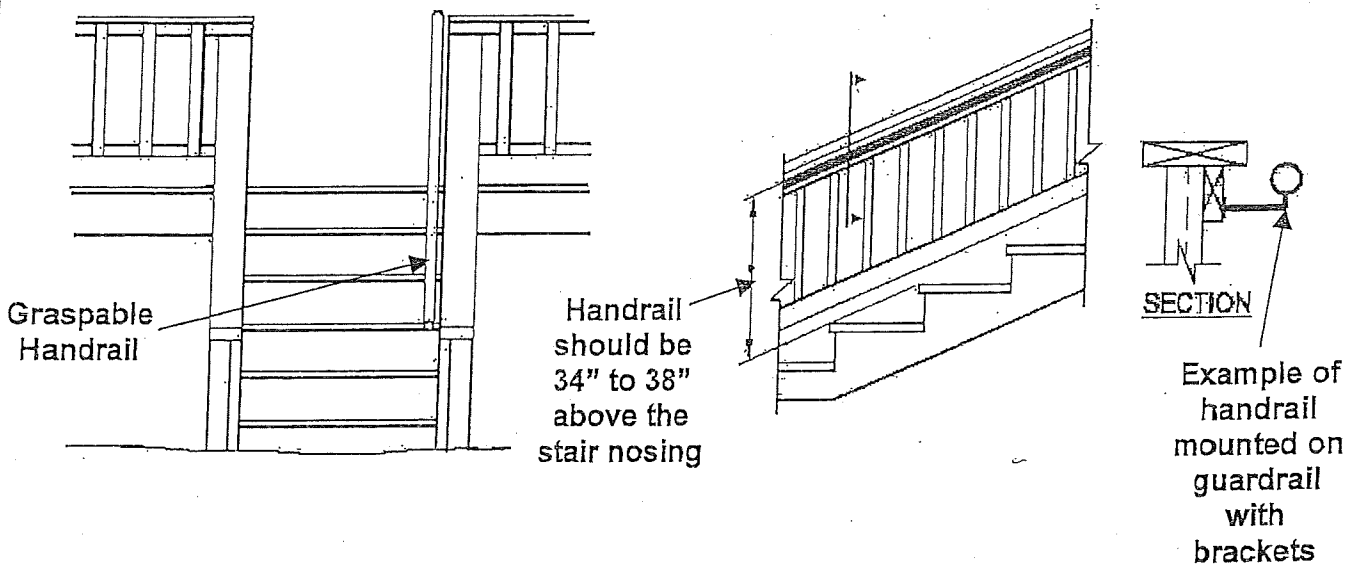
Figure 5

Graspable Handrails

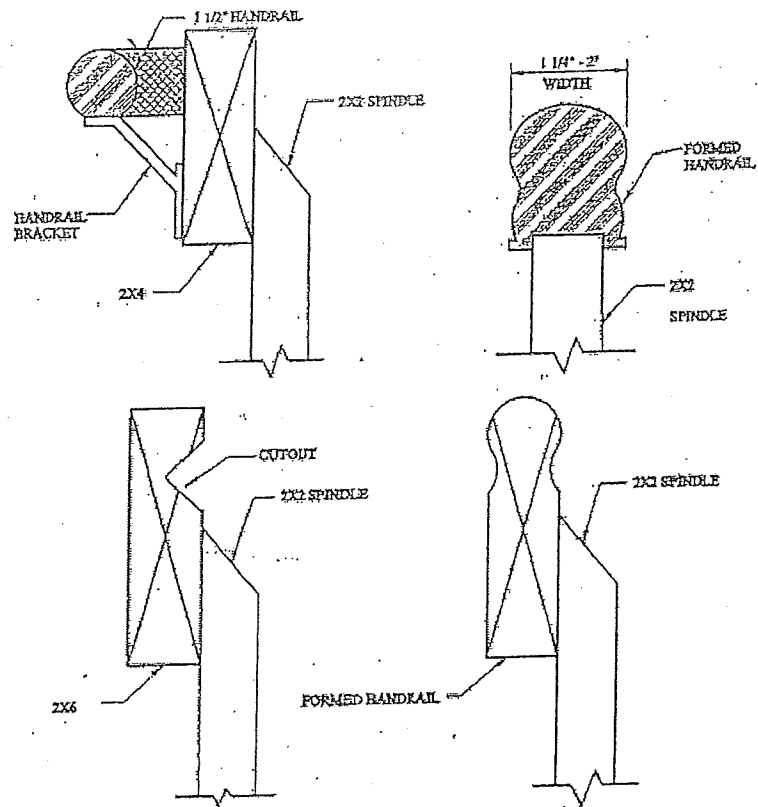
A graspable handrail must be provided on all stairs. The handrail must be mounted 34" to 38" above the stair nosing. (Figure 9)

Graspable Handrail

(Figure 9)



RETTORRUPPDS



Note: A 2x4 or 2x6 mounted on top of the guard is not considered graspable.

Sample drawing

