



Douglass Township

Berks County

1068 Douglass Drive, Boyertown, PA 19512

Phone (610) 367-8500 • Fax (610) 367-0360

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www.co.berks.pa.us/douglass

BUILDING PERMIT APPLICATION PACKET

This packet includes:

1. Instruction & information for obtaining a building permit
2. Application Checklist
3. Certification of owner
4. Inspection Requirements
5. Contractors Registration
6. Workman's Compensation Information
7. Building Code Permit Application
8. Zoning Permit Application if applicable
9. Electrical Permit Application, if applicable
10. Plumbing permit application, if applicable
11. Residential Addition Documentation requirements
12. DEP Disposal Regulations
13. Location Map, please mark your property location on this map

Any questions regarding the application process, or for inspections;
call the Inspection Department at Systems Designs Engineering
610-916-8522

APPLICATION CHECKLIST

The following checklist is to be used to assist the applicant with the building permit process. If any items are missing or incomplete, the building permit application may be denied.

A. PERMITS REQUIRED (Check Appropriate Boxes)

- Zoning Permit Yes No N/A
 Zoning Permit No.: _____ (Fill out enclosed application form.)
- Sewage Permit Yes No N/A
 Sewage Permit No.: _____
 Type of Sewage: A. On Site (Private) B. Public
- Water Permit Yes No N/A
 Water Permit No.: _____
 Type of Water Service: A. Well (Private) B. Public
- Driveway Permit Yes No N/A
 Driveway Permit No.: _____
 Driveway Access: A. Municipal road B. State highway
- Erosion & Sediment Control (E&SC) Plan Yes No N/A
 (Required for earth disturbance greater than 5000 sq. ft. Attach compliance letter from County Conservation District.)
- Worker's Compensation Insurance Coverage Information (Fill out enclosed application form.)
 Yes No N/A
- Building Permit Yes No N/A
 Building Permit No.: _____
 (Fill out enclosed application form.)

B. REQUIRED DOCUMENTS

- Site Plans* Yes No N/A
 Construction documents* Yes No N/A
 Specification sheet for engineered materials (Trusses, I-beams, etc)*
 Yes No N/A
 Certificate of Insurance Yes No N/A

*Two (2) copies of all construction documents are required. Building plans shall be sealed by a registered architect and/or professional engineer.

C. FEES

- Building Permit Fees enclosed per attached fee schedule: Yes No N/A

D. INFORMATION SHEETS

"Instructions & Information for Obtaining a Building Permit"

"Residential Building Permit Exemptions"

(Identifies residential projects which are exempt from building permits per PA Act 45.)

"Commercial Building Permit Exemptions"

(Identifies commercial projects which are exempt from building permits per PA Act 45.)

BUILDING CODE PERMIT APPLICATION

A. LOCATION OF PROPOSED WORK OR IMPROVEMENT

Site Address: _____ Tax Parcel #: _____
Lot No.: _____ Sub-Division: _____ Phase: _____ Section: _____
Owner: _____ Phone #: _____ Fax #: _____
Mailing Address: _____ E-Mail: _____
Contractor: _____ Phone #: _____ Fax #: _____
Mailing Address: _____ E-Mail: _____
Contractor Registration Number: _____
Architect: _____ Phone #: _____ Fax #: _____
Mailing Address: _____ E-Mail: _____

B. TYPE OF WORK OR IMPROVEMENT (Check One)

- New Construction Addition Alteration Repair
 Demolition Relocation Foundation Only
 Plumbing Electrical Mechanical

Describe proposed work: _____

C. DESCRIPTION OF BUILDING USE

RESIDENTIAL

- One-Family Dwelling Two-Family Dwelling Townhouse
 Accessory Structure Carport Deck
 Other - Specify: _____

NON-RESIDENTIAL

Specific Use: _____ Use Group: _____
Change in Use: Yes No. If yes, indicate former use.: _____
Maximum Occupancy Load: _____ Maximum Live Load: _____

D. ESTIMATED COST OF CONSTRUCTION (reasonable fair market value):

Building: \$ _____
HVAC: \$ _____
Plumbing: \$ _____
Electrical: \$ _____
TOTAL: \$ _____

E. BUILDING DIMENSIONS

Existing Building Area: _____ sq. ft. Number of Stories: _____
Proposed Building Area: _____ sq. ft. Height of Structure Above Grade: _____ ft.
Total Building Area: _____ sq. ft. Area of Largest Floor: _____ sq. ft.

F. BUILDING/SITE CHARACTERISTICS

Number of Residential Dwelling Units: _____ Existing, _____ Proposed
Mechanical: Indicate Type of Heating/Ventilating/Air Conditioning (i.e. electric, gas, oil, etc.): _____
Water Service (Check one): Public Private
Sewer Service (Check one): Public Private (Septic Permit # _____)
Distance from Project: To Well To Septic Tank To Drain Field
Fireplace(s): Quantity _____ Type of Fuel _____ Type of Vent _____
Elevators/Escalators/Lifts/Moving walks (Check one): Yes No
Sprinkler System: Yes No
Pressure Vessels (e.g. water heater): Yes No
Refrigeration Systems (e.g. air conditioning): Yes No

All Building Permit Applications
must be accompanied by a drawing
and specifications

Building Permit Approval

Code Enforcement Officer

G. HISTORIC DISTRICT

Is the site located within a Historic District? Yes No

If construction is proposed within a Historic District, the Municipality may require a certificate of appropriateness.

H. FLOOD PLAIN

Is the site located within an identified flood hazard area? (Check one): Yes No N/A

Will any portion of the flood hazard area be developed? (Check one): Yes No N/A

Owner/Agent shall verify that any proposed construction and/or development activity complies with the requirements of the National Flood Insurance Program and the Pennsylvania Flood Plain Management Act (Act 166-1978), specifically Section 60.3.

Lowest Floor Level: _____

I. CONSTRUCTION PLANS AND SPECIFICATIONS (3-Copies Required)

Construction plans and specifications must be attached illustrating elevations, floorplans, electrical, plumbing, mechanical layouts, energy code compliance data, design loads and calculations, window and door schedule, typical cross sections, typical footer and foundation details.

J. SITE PLAN

Site plans must be attached, showing the size and location of the new construction and existing structures on the site and the structure's distance from the property lines.

K. WORKER'S COMPENSATION INSURANCE COVERAGE

All applicants are required to submit evidence of Worker's Compensation Insurance Coverage as directed by PA ACT 44.

L. CERTIFICATION AND/OR ACKNOWLEDGMENT

Application for a permit shall be made by the *owner* or lessee of the building or structure, or *agent* of either, or by the *registered design professional* employed in connection with the proposed work.

The applicant certifies that all information on this application is correct and the work will be completed in accordance with the "approved" construction documents and PA Act 45 (Uniform Construction Code) and any additional approved building code requirements adopted by the Municipality. Issuance of a permit and approval of construction documents shall not be construed as authority to violate, cancel or set aside any provisions of the codes or ordinances or the Municipality or any other governing body. The applicant certifies he/she understands all the applicable codes, ordinances and regulations.

The property owner and applicant assumes the responsibility of locating all property lines, setback lines, easements, rights-of-way, flood areas, etc. Property owner and applicant shall not construct or erect structures or encroach into the Municipality's right-of-ways.

Authorized Agent Acknowledgment – I hereby certify that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as an authorized agent and agree to conform to all applicable regulations set forth by PA ACT 45.

I certify that the code administrator or the code administrator's authorized representative shall have the authority to enter areas covered by such permit at any reasonable hour to enforce the provisions of the code(s) applicable to such permit.

Signature of Owner or Authorized Agent

Print Name of Owner or Authorized Agent

Address

Date

Municipality: _____ County: _____ Permit No.: _____

Version 01

ZONING PERMIT APPLICATION

A. LOCATION AND OWNERSHIP OF PROPOSED WORK OR IMPROVEMENT

Street and Number: _____ UPI #: _____
Deed Owner: _____ Deed Reference: _____
Owner's Address: _____ Phone #: _____
Zoning District (as shown on ZONING MAP): _____
Present Tenant: _____
Has owner consented to proposed work?: Yes No

B. PRESENT USE OF LAND

RESIDENTIAL

COMMERCIAL

Present use of structure: _____
Number of Families: _____
Present Building (Description): _____
Present Use of Land: _____
Is any portion of the property located in a FEMA Flood Plain? Yes No
Is the site located within a Historic District? Yes No

C. PROPOSED WORK OR IMPROVEMENT (Check One)

New Construction Addition Interior Alteration Exterior Alteration
 Fence Accessory Structure Deck
 Sign (Sign application and drawing of sign must be submitted with this application.)
 Change in Use. Present Use: _____ Proposed Use: _____

Describe proposed work: _____

Is the proposed structure or use located in FEMA designated flood plain? Yes No

D. PROJECT DIMENSIONS

PLOT DIMENSIONS

Frontage _____ ft.
Depth _____ ft.
Area _____ sq. ft.
Irregular plot _____

BUILDING SETBACKS

Front _____ ft.
Side A _____ ft.
Side B _____ ft.
Rear _____ ft.

BUILDING DIMENSIONS

Width _____ ft.
Depth _____ ft.
Height _____ ft.
Stories _____

SIGNAGE:

Type: _____
Number: _____ Size: _____ sq. ft.

E. APPLICATION

Application is hereby made for a permit to erect or alter a structure which shall be located as shown on diagram on reverse side of this sheet and/or to use the premises for the purposes described herewith. The information which follows, together with location diagram, is made part of this application by the undersigned. It is understood and agreed by this applicant that any error, misstatement or misrepresentation of material fact, either with or without intention on the part of this applicant, such as might or would operate to cause a refusal of this application, or any change in the location, size or use of structure or land made subsequent to the issuance of this permit, without approval of the Zoning Office, shall constitute sufficient grounds for the revocation of this permit.

Name of Applicant: _____
Address of Applicant: _____
Owner, Lessee or authorized agent for owner of subject property: _____

Applicant's Signature: _____ Date: _____

Fee attached: Yes No Check No.: _____

F. PLOT PLAN SKETCH

NOTE: The property owner and applicant assumes the responsibility of locating all property lines, setback lines, easements, rights-of-way, flood areas, etc. Property owner and applicant shall not construct or erect structures or encroach into the Municipality's right-of-ways.

G. REFERENCES (OFFICIAL USE ONLY)

Block Plan No.: _____ Certificate of Occupancy No.: _____ Issued: _____
Plan is attached.: Yes No Diagram is shown on reverse side of this sheet.: Yes No

H. APPLICATION AND DATES OF ACTION TAKEN (OFFICIAL USE ONLY)

Application approved: Yes No Date: _____ Zoning Official Signature: _____

If denied, Reason for Denial of Application: _____

NOTE: The applicant has the right to appeal the denial of this application to the Municipality's Zoning Board within 30 days from the date of denial pursuant to procedures set forth in the Pennsylvania Municipalities Planning Code, as amended.

Applied to Board of Adjustment: _____ Date: _____ Appeal: Yes No Hearing No.: _____

Special Use of Application: Yes No

Board's Decision: Granted Denied Date: _____

Order: _____

INSTRUCTIONS & INFORMATION FOR OBTAINING A BUILDING PERMIT

1. A building permit application must be fully completed, dated, signed and appropriate fee(s) enclosed. The applicant for a permit may be the property owner or the property owner's agent.
2. For a new home construction, a copy of a permit to install a sewage system must be included with the application. In cases of additions, this may be required to insure adequate flow capacity of the existing septic system.
3. Architectural style plans of the proposed improvements must be included with the application. In some cases these permits will be required to be signed and sealed by a registered architect or engineer. These prints should be the same type which the builder will use to do the construction.
4. All projects involving earthmoving are required to be approved by the County Soil Conservation Service. An approval letter from the County Soil Conservation Service should be included with the application. The Conservation Service upon receipt of an acceptable erosion and sedimentation control plan will send out this approval letter. Copies of these county applications are available at the County Office Building.
5. Copies of any other state and/or local permits that are required should accompany the application.
6. If the applicant is a contractor, an original Certificate of Workman's Compensation Insurance must be submitted with the application. The certificate holder must be listed with the Municipality, with the correct address. If the contractor claims exemption, the enclosed waiver form will have to be completed.
7. Upon receipt of the completed permit application and **all other supplementary information** (see Application Checklist, Sections A & B), the permit application will be reviewed. The building code official shall grant or deny a permit application, in whole or in part, within fifteen (15) business days of the filing date or the application is deemed approved. Reasons for the denial must be in writing and sent to the permit applicant. The building code official and the applicant may agree in writing to extend the deadline by a specific number of days.
8. At any time during the application process, should there be any questions or help needed in completion of the application, feel free to contact the Code Enforcement Officer for assistance.
9. Upon issuance of the permit, the applicant shall have six (6) months to start the work. Should no work be started within this time, the permit shall be declared null and void.
10. It is both the responsibility of the homeowner and the contractor to insure that all inspections are scheduled and conducted. Failure to have the proper inspections done could result in fines and removal of completed work.

BUILDING INSPECTION REQUIREMENTS
(For Detached Single Family Residential Construction)

All inspections require at least 48 hours notice. To schedule any inspection, call Systems Design Engineering, Inc. Inspection Department at (610) 916-8522. Leave your name, phone number, job site location and type of inspection requested. An inspector will contact you.

SPECIAL NOTES

1. The contractor should verify all building dimensions and zoning setbacks before excavation begins.
2. The following Water Conservation Fixtures are required and will be verified at the time of the Final Inspection: 1.6 gallon water closets, 3.0 gallon/minute shower heads.
3. Smoke detectors shall be hard wired with a battery back-up and installed in each sleeping room, outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling, including basement and cellar.
4. All bedrooms shall have at least one "means of egress" window. All "means of egress" windows shall meet the following requirements: the maximum sill height shall be 44"; first floor windows shall have a minimum 5.0 sq. ft. net opening and second floor windows shall have a minimum 5.7 sq. ft. net opening.

INSPECTIONS REQUIRED

FOOTING INSPECTION

This inspection is made after the trenches or basement areas are excavated and forms erected, but prior to placing on concrete.

FOUNDATION INSPECTION

This inspection is made after the foundation walls are in place and properly moisture protected. The foundation/footer drains will also be inspected at this time.

ROUGH INSPECTION

This inspection is made after the roof, masonry, all framing, fire stopping and draft stopping materials and bracing are in place and after the plumbing, mechanical and electrical systems are routed, but prior to installation of insulation, drywall or plaster. A rough electrical inspection should also be performed by the fire underwriter prior to this inspection.

FINAL INSPECTION

This inspection is made after the building is completed and ready for occupancy. Final electrical inspection (performed by the fire underwriter) should be completed prior to this inspection. A final inspection certificate will be issued only after all Local and Building Code requirements are met.

IMPORTANT NOTICE

It is both the responsibility of the property owner and the contractor to insure that all required inspections are conducted and approved. Failure to adhere to the above requirements or failure in adhering to the adopted Building Code could result in a STOP WORK order, re-work of construction or non-issuance of a final inspection certificate. The use of a structure without a final inspection certificate or working on a structure while a STOP WORK order is in effect will result in fines or other legal action.

CONTRACTOR'S SIGNATURE

OWNER'S SIGNATURE

Certification of Owner

I, _____, of _____
(Name)

_____, HEREBY CERTIFY THAT ALL THE
INFORMATION I HAVE GIVEN IN BUILDING PERMIT NO. _____ IS

TRUE AND CORRECT.

I UNDERSTAND THAT I AM REQUIRED TO NOTIFY THE MUNICIPALITY ZONING OFFICER: (1) IMMEDIATELY AS TO ANY CHANGES IN THE INFORMATION PROVIDED ON THE BUILDING PERMIT, AND (1) ONE WEEK BEFORE THE BUILDING WILL BE OCCUPIED SO THE ZONING OFFICER CAN MAKE A FINAL INSPECTION IN ORDER TO ISSUE AN OCCUPANCY CERTIFICATE.

I ALSO UNDERSTAND THAT IF I GIVE FALSE INFORMATION REGARDING THE BUILDING OR OCCUPANCY PERMITS THAT THOSE PERMITS ARE THEREBY INVALID AND THE MUNICIPALITY COULD THEREBY INITIATE LEGAL PROCEEDING AGAINST ME WHICH COULD RESULT IN MY BEING FINED OR IMPRISONED, OR IN MY BUILDING BEING REMOVED AT MY EXPENSE OR ANY OTHER LEGAL REMEDY APPROPRIATE UNDER THE CIRCUMSTANCES.

DATE: _____

(Signature)



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APPLICATION FOR CONTRACTORS LICENSE

The Pennsylvania Home Improvement Consumer Protection Act along with Douglass Township Ordinance 2009-4 requires that any project that is home improvement only, requires a State Registration number, but not a Township Registration.

If the work to be done is of a commercial nature, or the construction of a new home, registration with Douglass Township and payment of applicable fees is required.

Date: _____ State Registration # _____

Applicant: _____

Trade Name: _____

Street: _____

City: _____ State: _____ Zip: _____

Office Phone: _____ Mobile Phone: _____

FAX Number: _____ Years in Business: _____

Type of Business: _____

Name(s) of Job Supervisor(s) with Phone Numbers:

Indemnification Agreement:

The Applicant hereby Indemnifies and holds Douglass Township, Berks County, its officials, agents and employees harmless from any and all damages caused by any negligence of the applicant in its performance of his duties or any negligence in protecting his work or by any unlawful, imperfect or inadequate work done.

Signature of Applicant: _____ Date: _____

Attach copy of Certificate of Insurance with statutory limits for workers compensation naming Douglass Township as additional insured.

Township Use Only

New Application Renewal (license held previous year)

\$50 Fee Date Paid: _____ Check Number: _____

Township Representative Signature: _____ Date: _____

Workers' Compensation Insurance Information

- A. Is the applicant a contractor within the meaning of the Pennsylvania Workers' Compensation Law?
 Yes No

If the answer is "yes", complete Sections B, C, and D below, as appropriate.

B. Insurance Information

Name of Applicant _____

Federal or State Employer Identification No. _____

Applicant is a qualified self-insurer for workers' compensation.
Check if Certificate is attached

Name of Workers' Compensation Insurer _____

Workers' Compensation Insurance Policy No. _____
Check if Certificate is attached

Policy Expiration Date _____

- C. Is the applicant using any subcontractors on this project?
 Yes No

If the answer is "yes", the applicant hereby certifies that any and all subcontractors have presented proof to the applicant of insurance under the Pennsylvania Workers' Compensation Act.

D. Exemption

Complete Section D if the applicant is a contractor claiming exemption from providing workers' compensation insurance.

The undersigned swears or affirms that he/she is not required to provide workers' compensation insurance under the provisions of the Pennsylvania Workers' Compensation Law for one of the following reasons, as indicated:

- Contractor with no employees. Contractor is prohibited by law from employing any individual to perform work pursuant to this building permit unless contractor provides proof of insurance to the Township.
- Religious Exemption under the Workers' Compensation Law.

Signature required for all applicants

Signature of applicant _____
Address _____

County of _____
Municipality of _____

ELECTRICAL PERMIT APPLICATION

| | |
|-------------------------------|------------------------|
| Property Owner _____ | Phone No. _____ |
| Address _____ | |
| Property Location _____ | |
| Subdivision/Development _____ | |
| Mechanical Contractor _____ | Registration No. _____ |
| Address _____ | Phone No. _____ |

NEW
 ALTERATION
 ADDITION
 REPAIR

Use of Property:
 Residential
 Commercial
 Industrial

| TYPE OF EQUIPMENT | | NUMBER |
|---|----------------|--------|
| Receptacle | Total Outlets | |
| Switch | | |
| Lighting Fixtures | Total Fixtures | |
| Ranges | | |
| Clothes Dryer | | |
| Water Heater | | |
| Garbage Disposal | | |
| Sta. Cook Top | | |
| Dishwasher | | |
| Clothes Washer | | |
| Space Heater | | |
| Sta. Appl. ½ H.P. Max | | |
| Motors: | HP | |
| | | |
| | | |
| Signs: | No. Trans. | |
| | No. Lamps | |
| Temp. Power <input type="checkbox"/> Pole <input type="checkbox"/> Undgd. | | |
| <input type="checkbox"/> New <input type="checkbox"/> Change | 0-200A | |
| | 201-400A | |
| | 401-600A | |
| | Over 600A | |
| Permit Issuing Fee | | |
| Total Fee | | |

NOTE:

This permit is issued contingent upon all work being in compliance with the 2009 IRC or International Mechanical Code including all supplements and other applicable Township regulations.

Applicant certifies that all information given is correct and that all Township ordinances will be complied with in performing the work for which this permit is issued.

Signature of Applicant

Cost of Improvement

Application Date

Approved _____

Denied _____

MECHANICAL PERMIT APPLICATION

| | |
|-------------------------------|------------------------|
| Property Owner _____ | Phone No. _____ |
| Address _____ | |
| Property Location _____ | |
| Subdivision/Development _____ | |
| Mechanical Contractor _____ | Registration No. _____ |
| Address _____ | Phone No. _____ |

NEW ALTERATION ADDITION REPAIR

Use of Property: Residential Commercial Industrial

| TYPE OF EQUIPMENT | NUMBER |
|--|--------|
| Air Cond. Units H.P. ea. | |
| Refrigeration Units H.P. ea. | |
| Boilers H.P. ea. | |
| Forced Air Systems | |
| Gravity Systems | |
| Floor Furnaces | |
| Wall Heaters | |
| Unit Heaters | |
| Conversion Burner | |
| Clothes Dryers | |
| Ventilation Fan | |
| Range Hood | |
| Air Handling cfm | |
| Incinerator | |
| Gas Piping | |
| Range Com. <input type="checkbox"/> Res. <input type="checkbox"/> | |
| Fire Suppression System | |
| NFIPA13 <input type="checkbox"/> NFIPA13R <input type="checkbox"/> | |
| NFIPA13D <input type="checkbox"/> | |

NOTE:

This permit is issued contingent upon all work being in compliance with the 2009 IRC or International Mechanical Code including all supplements and other applicable Township regulations.

Applicant certifies that all information given is correct and that all Township ordinances will be complied with in performing the work for which this permit is issued.

Signature of Applicant

Cost of Improvement

Application Date

Approved

Denied

PLUMBING PERMIT APPLICATION

| | |
|-------------------------------|------------------------|
| Property Owner _____ | Phone No. _____ |
| Address _____ | |
| Property Location _____ | |
| Subdivision/Development _____ | |
| Mechanical Contractor _____ | Registration No. _____ |
| Address _____ | Phone No. _____ |

NEW
 ALTERATION
 ADDITION
 REPAIR

Use of Property:
 Residential
 Commercial
 Industrial

| TYPE OF EQUIPMENT | NUMBER |
|--------------------------------|--------|
| Water Closet (Toilet) | |
| Bathtub | |
| Lavatory (Wash Basin) | |
| Shower | |
| Kitchen Sink & Disp. | |
| Dishwasher | |
| Laundry Tray | |
| Clothes Washer | |
| Water Heater | |
| Urinal | |
| Drinking Fountain | |
| Floor Sink or Drain | |
| Slop Sink | |
| Gas Systems: No. Outlets | |
| Water Piping & Treating Equip. | |
| Waste Interceptor | |
| Vacuum Breakers | |
| Lawn Sprinkler System | |
| Sewer | |
| Cesspool | |
| Septic Tank & Pit | |

NOTE:

This permit is issued contingent upon all work being in compliance with the 2009 IRC or International Mechanical Code including all supplements and other applicable Township regulations.

Applicant certifies that all information given is correct and that all Township ordinances will be complied with in performing the work for which this permit is issued.

Signature of Applicant

Cost of Improvement

Application Date

Approved

Denied



Systems Design Engineering, Inc.

Engineers • Surveyors • Planners • Construction Managers

NOTICE

Dear Applicant/Permittee:

Please find attached for your information a copy of a Pennsylvania Department of Environmental Protection (DEP) letter, dated June 19, 2007, regarding "Illegal Disposal of Municipal Waste Demolition of Buildings/Structures Floodways, Watercourses & Wetlands". As Borough Code Enforcement Officers, and in cooperation with DEP, we hereby request that you please review this information for any involvement your project may have with DEP, and to contact DEP accordingly.

We remind you that the property owner is ultimately the responsible party for any work performed; and request that if you are acting on behalf of the property owner, as the applicant/permittee, you should make sure the property owner reviews all project plans for his responsibility/involvement in activities on his property.

Very truly yours,
SYSTEMS DESIGN ENGINEERING, INC.

A handwritten signature in cursive script that reads "James Bainbridge".

James Bainbridge
Code Enforcement Officer

Projects New Ringgold Borough 07-0341-0705 Notice Zoning Bldg Appl Permittee 7.6.07



HELPFUL GUIDELINES TO ENVIRONMENTAL ACTIVITIES IN YOUR NEIGHBORHOOD

- CLEAN FILL
- WASTE BURNING
- WASTE TRANSPORTATION
- WORKING IN WETLANDS, WATERWAYS

WHAT IS SOLID WASTE?

Solid Waste—“Garbage, refuse, construction and demolition waste, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from the operation of a residential, municipal, commercial or institutional establishment and from community services.”

What does all that mean? If it is man-made and it has served its originally intended purpose or if it is to be discarded, it is now most likely a “waste” that is regulated.

WHAT IS CLEAN FILL?

The following materials may be used to level an area or bring an area to grade, provided they are separate from other waste and not placed into or on waters of the Commonwealth of Pennsylvania: **uncontaminated, non-water soluble, non-decomposable inert solid material including soil, rock, stone, dredged material, gravel, used chunks of asphalt and brick, block and concrete from construction and demolition activities.**

Clean fill cannot contain the following: processed and unprocessed construction/demolition waste (including, but not limited to, lumber, siding, insulation, flooring, wallboard, roofing material, glass, plastic, and metal); historic fill; and, regulated fill. **These materials need to be disposed of at a permitted facility. PLEASE NOTE:** A person using a material as clean fill has the burden of proof to demonstrate that a material is clean fill. This can be accomplished by generator knowledge or by environmental testing.

HOW DO I HANDLE TREE STUMPS AND VEGETATIVE WASTE?

The “waste” from Land Clearing, Grubbing and Excavation (LCGE), including trees, brush, stumps and vegetative material should not be used as clean fill. An occasional tree stump or limb dumped at a clean fill site does not pose an environmental threat, but dump sites with mostly vegetative material can create public nuisances, health hazards, safety and environmental problems. Anybody that generates LCGE waste should be following the Department’s manual titled **“Best Management Practices (BMP) for the Management of Waste From Land Clearing, Grubbing, and Excavation”** (Department Document ID# 254-5400-001). Tree waste is 100% recyclable.

CAN I BURN WASTE?

No, you should not burn waste. Pennsylvania’s Solid Waste Management Act and many local municipalities prohibit the open burning of waste. There are many recycling opportunities and alternative disposal methods that can be used in lieu of burning.

CAN I BURN A DEMOLISHED BUILDING?

No, it is illegal! Waste resulting from the razing or remodeling of a building is called “demolition waste” and it is illegal to burn this waste. **PLEASE NOTE:** Even if your local municipality or fire department grants you a “burning permit”, it is still unlawful to burn construction and demolition waste for disposal purposes.

WHAT DO I NEED TO DO TO DEMOLISH A BUILDING?

- The Department's Air Quality Program requires that a written notification be submitted to the Department at least 10 days prior to the demolition of any commercial structure or residential building with five or more housing units. This form is called "ASBESTOS ABATEMENT AND DEMOLITION/RENOVATION NOTIFICATION FORM" (2700-FM-AQ0021)
- All recyclable materials should be separated at the site where the structure is being demolished. Mixed loads should not be brought to other properties for separation and any waste generated needs to be properly disposed of.

CAN I TRANSPORT WASTE?

Act 90, passed by the Legislature and signed into law by the Governor on June 29, 2002, contains provisions for the establishment of a Waste Transportation Safety Program (WTSP). The WTSP requires waste haulers to obtain written authorization in order to transport and dispose of waste at Pennsylvania disposal or processing facilities. The definition of a waste hauler may include contractors generating wastes from construction and demolition activities. **PLEASE NOTE:** Any waste hauling vehicle over 17,000 pounds needs to be authorized.

CAN I WORK IN A WATERWAY, FLOODWAY OR WETLAND?

Most activities in Pennsylvania water courses, water bodies or wetlands such as earth moving, filling, encroachments require some type of authorization or permit from the Department to protect public health, safety and the environment. Activities that change, expand or diminish the course, current or cross section of a watercourse, floodway or waterbody are termed encroachments (obstructions in certain cases) and are regulated by Chapter 105 regulations. Many of these projects qualify for a simple general permit if they are designed and implemented in accordance with the criteria in the general permit. The applicant needs to complete and submit a registration form available from delegated county conservation districts or the Northeast Regional Office. The local municipality and county must be notified of the applicant's intent to use the general permit. There is no fee for registering a general permit.

There are 12 different general permits, each corresponding to a particular activity. Prior to registration, an applicant must review the appropriate general permit and determine if the proposed project can be constructed in accordance with the conditions, restrictions and performance criteria identified for that specific permit.

Most projects in Commonwealth waters and wetlands also require federal authorization that is usually granted in the form of a Pennsylvania State Programmatic General Permit (PASPGP-3). In most instances, PASPGP-3 is attached by the DEP or a county conservation district along with a registered general permit. When applicable, PASPGP-3 eliminates the need for redundant federal reviews and processing for projects.

CAN I CONDUCT MAINTENANCE, TESTING, OR REPLACEMENT OF WATER OBSTRUCTIONS & ENCROACHMENTS?

To encourage smart growth through the revitalization of existing infrastructure, the DEP has developed a General Permit 11 that will allow for the maintenance, testing, repair, rehabilitation and replacement of existing water obstructions and encroachments.

The proposed user of a GP-11 should carefully review all of its requirements to determine if the project can qualify for authorization. If you are unsure if your project qualifies for GP-11, you should contact the Northeast Regional Office to discuss permitting requirements.

FOR FURTHER INFORMATION:

Look for the Department of Environmental Protection Fact Sheets concerning Solid Waste Regulations, Dam Safety & Encroachments Act and related Air Quality topics found at the Department's Website: <http://www.depweb.state.pa.us>. To help you find more information on our Web page, you can search under the Keywords of "Solid Waste", "Demolition", "Asbestos" "Wetland" or "Open Burning".

These enclosed guidelines do not contain all of the regulations or examples that may apply to the activities you maybe conducting. Other information may be obtained by contacting the Department at:

Northeast Regional Office

2 Public Square

Wilkes-Barre, PA 18711-0790

Phone: 1-866-255-5158 then press "2"

Covering: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Pike, Northampton, Schuylkill, Susquehanna, Wayne and Wyoming Counties



Pennsylvania Department of Environmental Protection

2 Public Square
Wilkes-Barre, PA 18711-0790
June 19, 2007

Northeast Regional Office

1-866-255-5158 ext. 2
Fax 570-830-3051

Re: Illegal Disposal of Municipal Waste
Demolition of Buildings/Structures
Floodways, Watercourses & Wetlands

To Whom It May Concern:

The Department of Environmental Protection (Department) has been increasingly receiving complaints of persons illegally disposing of municipal and demolition waste by dumping, burning or burying. We have also seen an increase in the number of complaints regarding the demolition of commercial buildings/structures without notifying the Department as well as illegal activities pertaining to floodways, watercourses and wetlands.

The documents being provided to you contain information on the Department's Rules and Regulations as well as enforcement actions that may result against the responsible party. You are receiving these documents because your project may have involvement with some of these activities and you may need to contact the Department for further information.

1. **Municipal Waste:** Municipal waste is required to be disposed of at a permitted solid waste landfill or delivered to a permitted transfer/processing facility. Burning, burying, dumping, and stockpiling of wastes is illegal and should not be conducted. All waste materials generated by your project should be placed in a container for transport to a permitted landfill or transfer station. Transportation of waste in a vehicle weighing greater than 17,000 pounds requires a license from the Department. Improper and inadequate solid waste disposal and storage practices may create public health hazards, environmental pollution, economic loss, attraction of vectors and cause lasting harm to the public health, safety and welfare and the environment.
2. **Demolition:** The Department has noticed an increase in the number of structure demolitions and fire training exercises being conducted without the proper notifications or approvals. The Department's Bureau of Air Quality enforces a Federal Regulation pertaining to asbestos abatement projects and demolitions. The demolition of any structure used for commercial reasons or any residential structure containing five or more dwelling units cannot commence prior to the submittal of a notification to the Department. This notification must be postmarked at least 10 days prior to the start of the demolition and contains among other things proof that an asbestos inspection of the structure was conducted.

Purposely burning a structure or debris from the demolition of a structure is illegal. Should you be involved in a fire training exercise, your local fire department is required to obtain approval for the fire training exercise from the Department and the State Fire Academy.

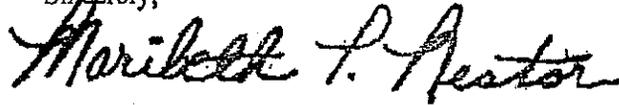


June 19, 2007

3. **Floodway, Watercourses and Wetlands:** Activities within a floodway, watercourse or wetlands almost always need a permit or approval from the Department. In some cases no approval would be given because the activity being conducted would be protected according to the Department's Rules and Regulations. Improper work being done has the potential to cause immeasurable damage to public property and the safety and welfare of the environment. Prior to any earth moving activities or earth disturbances you should contact the Department to see what type of permit may be required.

If you have any questions please feel free to contact me at toll free telephone number 1-866-255-5158 extension "2".

Sincerely,



Maribeth T. Nestor
Service Representative
Northeast Regional Office



Before you do any work,
do you know you could
be in violation of the
Department of
Environmental
Protection's Regulations?

If you are unsure whether you need a permit, approval or if your activity would be in violation of the Department's Regulations, STOP and contact the Northeast Regional Office for assistance at 1-866-255-5158 ext 2.

Don't Fill in Floodway

Don't Burn

Don't Demo

Don't Bury

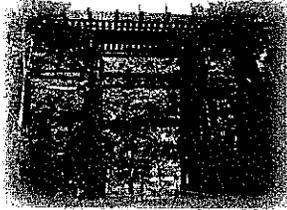
Don't Dump

Don't Fill in Wetlands

These are just some issues that you need to know about.

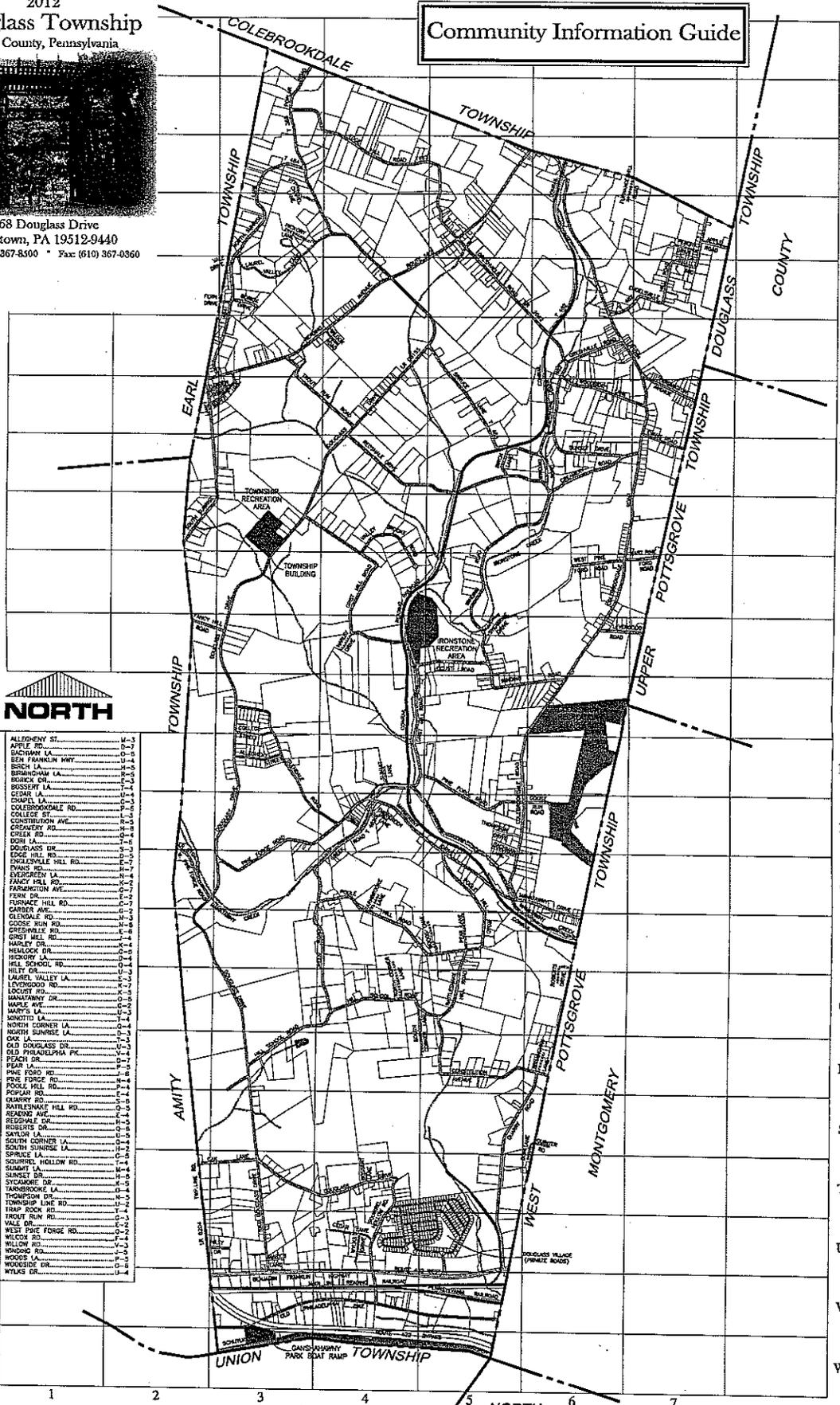
DEP - Northeast Regional Office

2012
Douglass Township
 Berks County, Pennsylvania



1068 Douglass Drive
 Boyertown, PA 19512-9440
 Phone: (610) 367-8300 • Fax: (610) 367-0360

Community Information Guide



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NORTH COVENTRY TOWNSHIP
 CHESTER COUNTY

Residential Addition Documentation Requirements

These example pages illustrate acceptable submission documents for a residential addition.

Complete the construction worksheet and draw your existing building diagram, site plan and foundation.

For two story additions, a drawn plan must be submitted in place of the construction worksheet.

This handout was developed by the Colorado Chapter of the International Conference of Building Officials as a basic plan submittal under the Uniform Codes. It is not intended to cover all circumstances. Check with your Building Department for additional requirements.

CONSTRUCTION WORKSHEET

NOTE: Roof not to exceed 24 foot span

2x _____ rafters spaced _____ " O.C. or
Manufactured Trusses spaced _____ " O.C.
(example: 2 x 10 Rafters Spaced 24" O.C.)

Minimum 1x _____ ridge board
(example: 1 x 12)

12 _____
 pitch _____

Sheathing _____
(example: 1/2" exterior plywood)

Roof covering _____
(example: Class A 3 tab shingles)

Underlayment _____
(example: 2 layers 15# felt)

Ceiling Insulation _____
(example: R-30)

Wall Insulation _____
(example: R-13 fiberglass batts)

2x _____ ceiling joists @ _____ O.C.
(example: 2 x 8 @ 24" O.C.)

Double 2x _____ top plate
(example: 2 x 4)

Span _____
(example: 23' 0")

Ceiling height _____
(example: 8')

Siding _____
(example: 1/2" of F-111)

Wall sheathing _____
(example: 1/2" exterior plywood)

2x _____ studs @ _____ O.C.
(example: 2 x 4 @ 24" O.C.)

Cont. 2x _____ sill plate
(example: 2 x 4)

2x _____ Joists @ _____ O.C.
(example: 2x10 @ 24" O.C.)

Wall width _____ "
(example: 8')

Footing size _____ " x _____ "
(example: 8" x 18")

Building Section

Note: Attic ventilation and access may be required.

Provide solid 2x blocking between rafters or trusses.

Note: Pre-engineered roof trusses, whruss clips and hardened nails may be used in lieu of roof structure shown.

Diagonal wind bracing or plywood shear panels @ corners and each 25' of wall.

Note: Pre-engineered floor systems may be used and should be installed according to the manufacturers installation instructions.

18" minimum from the interior grade level to the bottom of the floor joists.

Engineered Design: Cassions may be required if your site has swelling soils. A foundation designed by a Colorado licensed architect or engineer may be required.

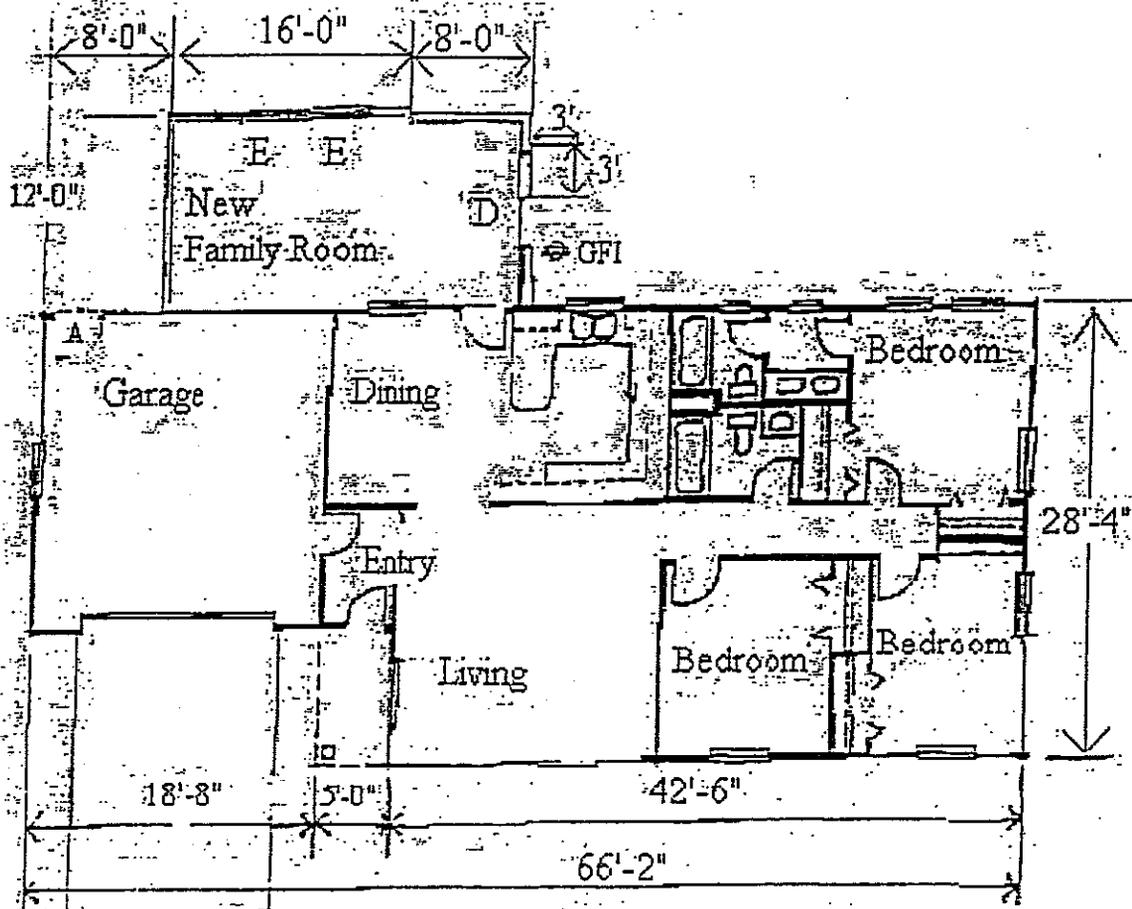
Check one

Foundation: Engineered Design

Foundation: Detail A
(see page 3)

Property Address: _____ Permit #: _____

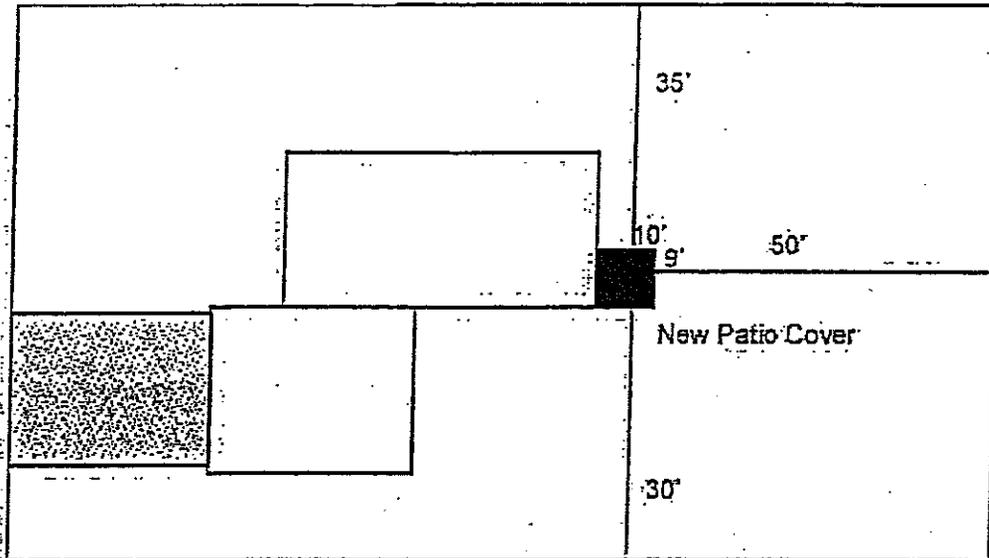
Existing Building Diagram



Site Plan

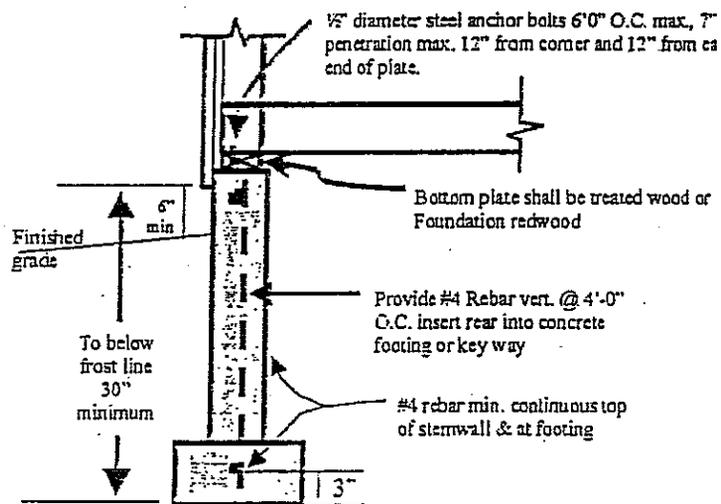
Deck Framing Plan

1600 Main Street



Simple Site Plan Scale 1" = 20'

Crawlspace Foundation Detail A

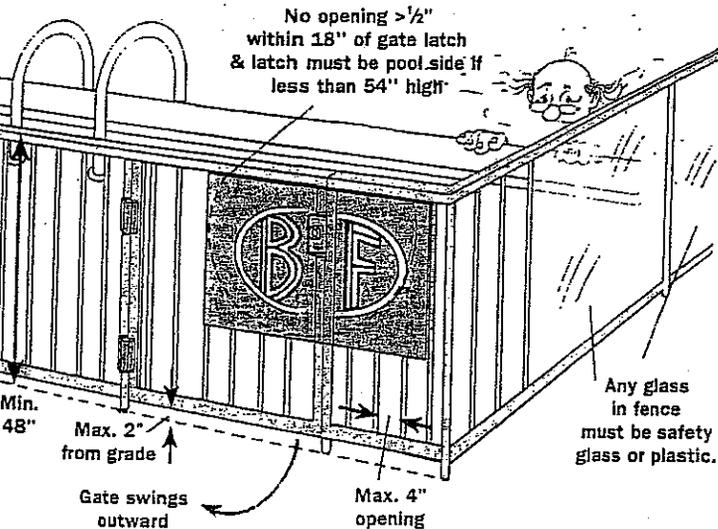


Swimming Pool Barriers

The Consumer Product Safety Commission has reported that drowning is the leading cause of accidental death in and around the home for children under the age of 5 years in California, Arizona, and Florida. Seventy five percent of the children involved in swimming pool submersion or drowning accidents are between 1 and 3 years old. Victims had been missing for five minutes or less when they were found in the pool drowned or submerged. Other bodies of water, such as fish ponds and fountains, have the same potential drowning hazards as pools.

| General | IRC | UBC |
|---|----------------|------------|
| <input type="checkbox"/> Applies to all pools or spas >24in deep | [AG102.1] | (420) |
| <input type="checkbox"/> Fence min 48in high | .F80 [AG105.2] | (421.1#1) |
| <input type="checkbox"/> Gap under fence max 2in above grade (4in if concrete) F80 | [AG105.2] | (421.1#1) |
| <input type="checkbox"/> Bottom max 4in above pool structure when mounted on top of pool | [AG105.2] | (421.1#1) |
| <input type="checkbox"/> Max opening size must prevent passage of 4in sphere | .F80 [AG105.2] | (421.1#1) |
| <input type="checkbox"/> Difficult to climb over (no ladder type rails) | .F80 [AG105.2] | (421.1#1) |
| <input type="checkbox"/> Chain link max 1 1/4sq.in mesh unless filled with slats | [AG105.2] | (n/a) |
| <input type="checkbox"/> Gate lockable, self-closing, open away from pool | .F30 [AG105.2] | (421.1#4) |
| <input type="checkbox"/> If latch <54in high: Must be poolside & min 3in below top | .F80 [AG105.2] | (421.1#4) |
| <input type="checkbox"/> No openings >1/2in within 18in of latch | [AG105.2] | (421.1#4) |
| <input type="checkbox"/> Doors & screens with direct pool access req. alarm audible for 30 seconds throughout house | [AG105.2] | (421.1#5X) |
| <input type="checkbox"/> Alarm control min 54in high, must reset automatically EXC | [AG105.2] | (421.1#5X) |
| <input type="checkbox"/> Doors from interior w/self close and release ≥54in above floor | [AG105.2] | (421.1#5X) |
| <input type="checkbox"/> If above ground pool ladder or steps must be lockable or barrier | [AG105.2] | (421.1#6) |
| <input type="checkbox"/> Safety glazing req'd for glass enclosing pool | .F80 [308.4] | (2406.4) |

Fig. 80 • Pool Barriers



Smoke Detectors

The building codes provide occupants with minimum requirements for escape from fire. Included in these requirements is installation of smoke detectors. Smoke detectors should be tested often to check proper operation.

| | | |
|---|--------------|-------------|
| <input type="checkbox"/> Hard wired power req'd plus battery backup | [313.2] | (310.9.1.3) |
| <input type="checkbox"/> Req'd in each sleeping room & adjoining area | .F81 [313.1] | (310.9.1.4) |
| <input type="checkbox"/> Min' one detector each story & basement | .F81 [313.1] | (310.9.1.4) |
| <input type="checkbox"/> Must be interconnected & audible from sleeping rooms | [313.1] | (310.9.1.4) |
| <input type="checkbox"/> Battery powered OK for remodel | [313.2] | (310.9.1.3) |
| <input type="checkbox"/> Compliance req'd for work (>\$1,000) requiring permit or when alterations create an additional bedroom | [313.1.1] | (310.9.1.2) |

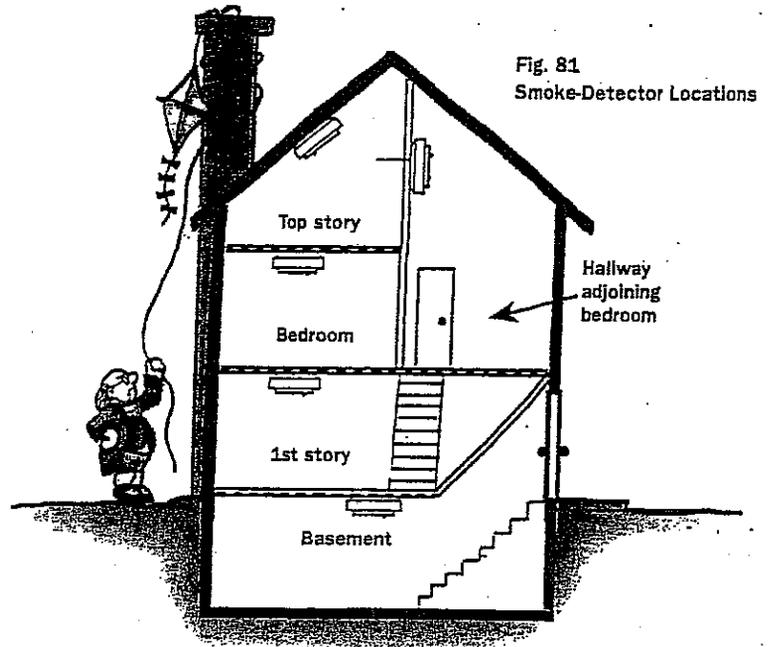


Fig. 81
Smoke-Detector Locations

Final Inspection

| | | |
|---|--------------|-------------|
| <input type="checkbox"/> Paperwork—special inspection reports on file | .T19 [109.2] | (1701.3) |
| <input type="checkbox"/> Floor finishes that affect stairs or landings must be complete | [109.1.6] | (108.5.6) |
| <input type="checkbox"/> Appliances and fixtures must be in place | [109.1.6] | (108.5.6) |
| <input type="checkbox"/> Exterior pipe penetrations must be caulked | [2606.1] | (1402.2) |
| <input type="checkbox"/> Wood siding and trim min 6in from earth | [323.1] | (2306.8) |
| <input type="checkbox"/> Smoke detectors installed and operational | .F81 [313.1] | (310.9.1.1) |
| <input type="checkbox"/> Exterior doors and windows must be weather tight | [1102.1.10] | (1402.2) |
| <input type="checkbox"/> Building address numbers legible from street | [321.1] | (502) |

Table 22 • Special Inspection Reports

| S.I. reports due before final inspection | Required | Received |
|--|----------|----------|
| Concrete > 2,500 cfs | | |
| Pillings, drilled piers & caissons | | |
| Structural Masonry | | |
| Bolts in concrete | | |
| Structural Welding (Steel Moment Frames) | | |
| Glu-Lam certificate | | |
| Shear Walling | | |
| High-strength bolting | | |
| Prestressed concrete rebar & tendons | | |
| EIFS | | |
| Special case | | |

General Habitability Requirements

| | | |
|---|-----------|-------------|
| <input type="checkbox"/> Heat req'd in habitable rooms 68° (70°) 3ft above floor | [303.8] | (310.11) |
| <input type="checkbox"/> Min one room ≥120sq ft | [304.1] | (310.6.2) |
| <input type="checkbox"/> Habitable rooms exc kitchens min 70sq ft & min dimension 7ft | [304.2.3] | (310.6.2.3) |
| <input type="checkbox"/> Ceiling height habitable spaces min 7ft (7ft 6in) | [305.1] | (310.6.1) |
| <input type="checkbox"/> Kitchens, baths, & hallways min ceiling height 7ft EXC | [305.1] | (310.6.1) |
| <input type="checkbox"/> 6ft 8in OK in baths over fixture & front clearance area | [305.1] | (0) |
| <input type="checkbox"/> Ceiling height unfinished basements min 6ft 8in | [305.1] | (n/a) |

Appendix G: Swimming Pools, Spas and Hot Tubs

General Comments

Drowning is the second leading cause of accidental death in the home for children under five years of age. It has been the number one cause of accidental deaths in the home for that age group in a number of states, including Arizona, California, Florida, and Texas. The use of effective residential swimming pool barriers is the best way to reduce these tragic losses.

This appendix chapter sets forth the regulations for swimming pools, hot tubs, and spas. The primary focus of the provisions is the need for an effective barrier surrounding the water area to reduce the potential for young children to gain uncontrolled access.

Section AG101 establishes the scope of the chapter. Section AG102 defines those terms specific to this appendix chapter. Section AG103 identifies specification standards for the design and construction of swimming pools. Section AG104 identifies specification standards for the design and construction of spas and hot tubs. Section AG105 discusses barrier requirements for swimming pools, hot tubs, and spas. Section AG106 contains provisions for entrapment protection for suction outlets. Sec-

tion AG107 indicates the abbreviations for three standards-writing organizations, and Section AG108 specifies the various standards used in this appendix chapter.

Purpose

According to the Consumer Product Safety Commission (CPSC), approximately 350 children under 5 years of age drown each year in residential swimming pools, spas, and hot tubs. A CPSC study, *Child Drowning Study: A Report on the Epidemiology of Drownings in Residential Pools of Children Under Age Five*, found that the majority of the victims lived in or were visiting the residence where the accident happened. Less than 2 percent of the drowning incidents occurred when a child trespassed on the property. For these reasons, this appendix chapter states that all swimming pools, spas, and hot tubs must be enclosed to prevent young children from gaining unsupervised access to pool areas. This chapter provides prescriptive details for the construction of enclosures around swimming pools, spas, and hot tubs to make it more difficult for children, particularly those 5 years old and younger, to enter such areas unsupervised.

SECTION AG101 GENERAL

AG101.1 General. The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs installed in or on the lot of a one- and two-family dwelling.

- ❖ This section provides the scope of the appendix chapter on swimming pools, spas, and hot tubs. It regulates the design and construction of such facilities where they are located inside a dwelling unit or on the lot of a one- or two-family dwelling.

SECTION AG102 DEFINITIONS

AG102.1 General. For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

- ❖ This section clarifies the terminology used in this appendix chapter. The terms take on specific meanings, often different from the way they are typically used.

ABOVE-GROUND/ON-GROUND POOL. See "Swimming pool."

- ❖ These two terms have essentially the same meaning. If a side of a swimming pool projects above the adjacent ground level, the pool is referred to as an above-ground pool. If the bottom of the pool rests on the ground with no portion recessed except for leveling purposes, it is referred to as an on-ground pool. The important factor in both situations is that access to the pool surface is elevated and requires a vertical ascent (from at least one side) to gain access to the water.

A swimming pool situated on the ground or located above the ground is in the same category as other similar facilities such as spas, hot tubs, and in-ground pools. All such facilities are simply regulated as swimming pools.

BARRIER. A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

- ❖ Any system of components that encloses a swimming pool to the degree that access is obstructed is a barrier. Enclosure components include the exterior wall of the dwelling unit, a fence, and any doors or gates included as a portion of the enclosure. Any construction or natural element that does not surround the pool will allow access at some point. The vast majority of provisions in this appendix chapter relate to the installation

SECTION AG105 BARRIER REQUIREMENTS

AG105.1 Application. The provisions of this chapter shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas and hot tubs.

❖ This section describes the provisions for barriers around residential swimming pools, hot tubs, and spas. A swimming pool or similar facility creates an attractive temptation to children, including very young children and infants who do not know how to swim. The installation of an effective barrier can help reduce the number of children who die or are injured as the result of open access to a swimming pool, spa, or hot tub.

AG105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, aboveground or on-ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).
2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.
6. Maximum mesh size for chain link fences shall be 4 inches (102 mm) unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44 mm).
7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches (44 mm).
8. Access gates shall comply with the requirements of Section AG105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:
 - 8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and
 - 8.2. The gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.
9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:
 - 9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346; or
 - 9.2. All doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or
 - 9.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.
10. Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then:
 - 10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or
 - 10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section AG105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch-diameter (102 mm) sphere.

reliable barrier to the pool. In Item 9.2, the alarm is configured to allow adults who are accessing the house to open the door, enter the house, and deactivate the system to prevent a false alarm. The touchpad permitted to deactivate the system is required to be mounted 54 inches (1372 mm) above the floor, which is presumed to be beyond the reach of small children.

Item 9.3 permits doors to pool areas to be protected by devices that render the door self-closing and self-latching. Any other requirements would be performance based, as the code only requires equivalency with Items 9.1 or 9.2. One possible criterion could require the release mechanism for the latching device to be located a minimum of 54 inches (1372 mm) above the floor, which is presumed to be beyond the reach of small children. In addition, doors protected by the method specified in Item 9.3 should probably open away from the pool area. This is so that if the door failed to latch, a child outside the pool area pushing against the door would cause it to close and not swing to an open position.

10. The code permits the wall of the pool itself to serve as the barrier to the pool, provided that the wall extends at least 48 inches (1219 mm) above the finished ground level around the perimeter of the pool. Unless capable of being secured, locked, or removed, the ladder must be surrounded by a complying barrier to limit access to the ladder.

AG105.3 Indoor swimming pool. All walls surrounding an indoor swimming pool shall comply with Section AG105.2, Item 9.

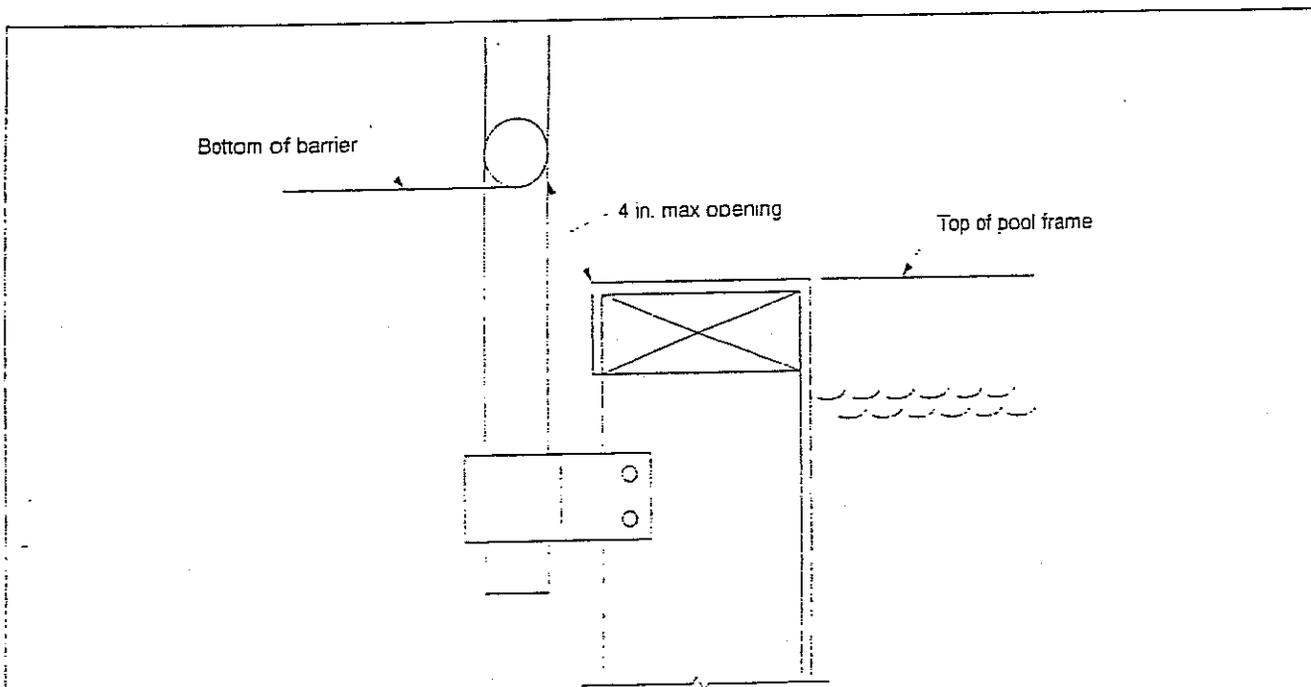
- ❖ Indoor pools represent the same hazards as outdoor pools. For this reason, the walls and doors surrounding an indoor swimming pool are regulated in the same manner as an exterior wall of a dwelling where the wall is used as a barrier for an outdoor pool. The provisions of Section AG105.2, Item 9 apply in their entirety.

AG105.4 Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

- ❖ The purpose of a swimming pool barrier would be defeated if children could climb on benches, planters, pumps, and similar permanent features adjacent to the barrier and gain access to the pool area. Therefore, the area adjacent to the barrier must be carefully designed and constructed to avoid such a condition. This provision is performance in character and must be reviewed on a case-by-case basis.

AG105.5 Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section AG108, shall be exempt from the provisions of this appendix.

- ❖ The provisions of this appendix chapter are not applicable to spas and hot tubs where an approved safety cover serves as the protective barrier. The requirements of ASTM F 1346 contain a number of criteria so that the safety cover can provide an equivalent level of



For SI: 1 inch = 25.4 mm.

Figure AG105.2(1)
OPENING LIMITATIONS

the transfer of information to second owners and temporary users.

3. The cover should have been tested to demonstrate that it is capable of supporting the weight of one child [50 pounds (23 kg)] and one adult [225 pounds (102 kg)] so an adult and a child can be supported during a rescue operation.
4. There should be no openings in the cover itself or at any point where the cover joins the surface of the hot tub or spa that would allow a child's head to pass through. The 4-inch (102 mm) spacing for guards in Section R312 and openings in pool enclosures of Section AG105.2 are also applicable.
5. Safety covers are to be installed in accordance with the manufacturer's instructions.

SECTION AG106 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

AG106.1 General. Suction outlets shall be designed to produce circulation throughout the pool or spa. Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise shall be protected against user entrapment.

- ❖ Vacuum devices for suction inlet systems in pool water circulation are a safety hazard. Body entrapment or hair entrapment can cause drowning and evisceration. Therefore it is important that protection be provided against possible entrapment at the pool entrances to suction inlets and that vacuum relief be provided for the vacuum system. Sections AG106.2 through AG106.5 contain requirements for the various types of safety devices.

AG106.2 Suction fittings. All Pool and Spa suction outlets shall be provided with a cover that conforms with ANSI/ASME A112.19.8M, or a 12" × 12" drain grate or larger, or an approved channel drain system.

Exception: Surface skimmers

- ❖ ANSI/ASME A112.19.8M requires cover material for pool and spa suction outlets to be tested for structural integrity and for entrapment/entanglement potential. It also requires the cover to be marked with the maximum flow rate for which the cover has been tested. Exceeding the maximum flow rate will increase the potential for a child or small adult being entrapped due to the increased suction. The code also allows 12-inch by 12-inch (305 mm by 305 mm) drain grates or approved channel drain systems as alternative protection methods. Both of these will provide larger surface areas to maintain the desired flow and will minimize the entrapment hazard because it will be difficult to seal off the entire one-foot-square area.

AG106.3 Atmospheric vacuum relief system required. All pool and spa single or multiple outlet circulation systems shall be equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to ASME A112.19.17, or
 2. An approved gravity drainage system
- ❖ Safety Vacuum Relief Systems (SRVS) are required for all pool and spa circulating systems to serve as a backup safety system in case the suction outlet cover or grate is removed or becomes broken. If the outlet becomes sealed off, the SRVS will activate and eliminate the high vacuum forces at the drain, avoiding body entrapment. An SRVS is not required if the pool or spa has a gravity drain system instead of a pumped circulation system.

AG106.4 Dual drain separation. Single or multiple pump circulation systems shall be provided with a minimum of two (2) suction outlets of the approved type. A minimum horizontal or vertical distance of three (3) feet shall separate such outlets. These suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum relief-protected line to the pump or pumps.

- ❖ The principle for installing dual or multiple drain systems is to prevent a single drain opening from being the sole inlet to the suction side of the pump. The installation of additional drains effectively divides the suction between the drains, provided the interconnecting piping configuration produces hydraulic balance.

AG106.5 Pool cleaner fittings. Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least (6) inches and not greater than twelve (12) inches below the minimum operational water level or as an attachment to the skimmer(s).

- ❖ Pool cleaner fittings are not required for all pools and spas, but where they are provided, they need to be located below the normal water surface but not more than 12 inches (305 mm) below the surface. This location provides ease of access to the fittings for cleaning and prevents them from contributing to an entrapment situation at the bottom of the pool.

SECTION AG107 ABBREVIATIONS

AG107.1 General.

ANSI—American National Standards Institute
11 West 42nd Street, New York, NY 10036

ASTM—ASTM International
100 Bar Harbor Drive, West Conshohocken, PA 19428

NSPI—National Spa and Pool Institute
2111 Eisenhower Avenue, Alexandria, VA 22314

- 2.7 Connection detail of rail post to deck support structure (Example 2.7a) for both wood and plastic railing systems that utilize a sleeve which slides over a solid-sawn 4 x 4 post. (Note: some Evaluation Reports rely on a professional to design the guardrail post to deck connection in accordance with state law, regulations and local codes.)
- 2.8 Detail of the lateral bracing system if the deck construction does not provide adequate support against lateral loads. (Note: the IRC does not give values for lateral loads for decks, so the designer must address the issue based on assumed loads and analysis, experience and judgment.)
- 2.9 Footing size and depth to bottom of footer. 36" DEPTH
- 2.10 Post size, species or species group and grade, and preservative pressure treatment type and retention.
- 2.11 Connection detail of girders to posts.
- 2.12 Connection detail of posts to footings.
- 2.13 Stair details showing riser heights, tread widths, openings between treads, illumination and graspable handrail.

Summary

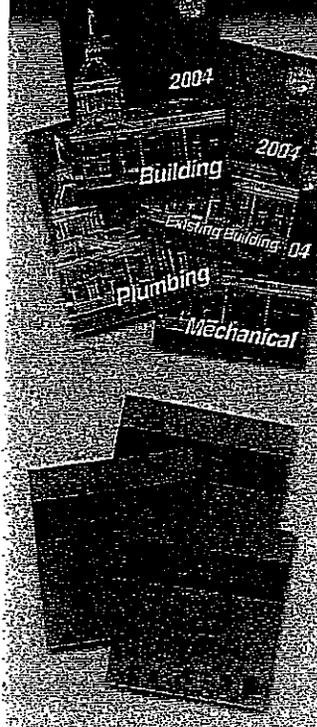
While based on our professional experience and the input of several building officials, these proposed details and specifications for obtaining a residential deck permit should only be viewed as a starting point for local jurisdictions in formulating their requirements for deck construction. Deck designers should also be aware that in addition to the requirements for permitting established by the local authority, they should address all possible loads (hot tubs, planters, wind and seismic loads) in addition to the minimum occupancy live load of 40 pounds per square foot. ♦

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Questions, comments and suggestions for future "Wood Bits" topics are welcome and may be sent to Dr. Woeste via e-mail at fwoeste@vt.edu.

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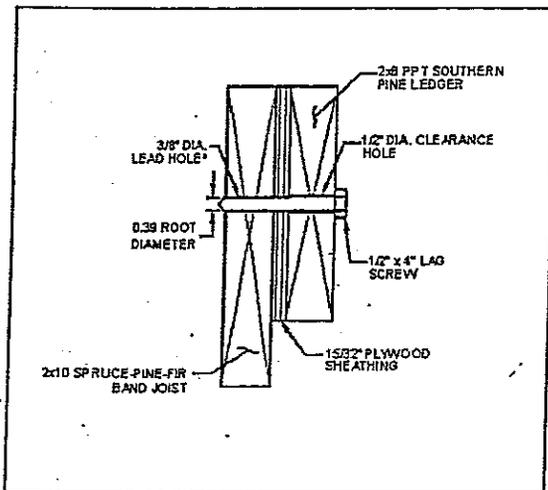
| | |
|--|------------|
| 2004 Florida Building Code - Building Volume | #5601B04 |
| 2004 Florida Building Code - Test Protocol for HMFV | #5602B04 |
| 2004 Florida Plumbing Code | #5621B04 |
| 2004 Florida Mechanical Code | #5641B04 |
| 2004 Florida Fuel Gas Code | #5661B04 |
| 2004 Florida Residential Code | #5610B04 |
| 2004 Florida Existing Building Code | #5650B04 |
| 2004 Florida Codes - The Complete Collection | #5600B04 |
| 2004 Florida Codes - Building, Test Protocol, Plumbing, Mechanical and Fuel Gas Collection | #5601B04 |
| 2004 Florida Residential Code and SFSP 10-99 | #5600B04 |
| 2004 Florida Building Code - Chapter 11 - Accessibility | #5603B04 |
| 2004 Florida Building Code - Chapter 13 - Energy | #5681B04 |
| 2005 Ohio Building Code | #2000B05OH |
| 2005 Ohio Mechanical Code | #2001B05OH |
| 2005 Ohio Plumbing Code | #2002B05OH |
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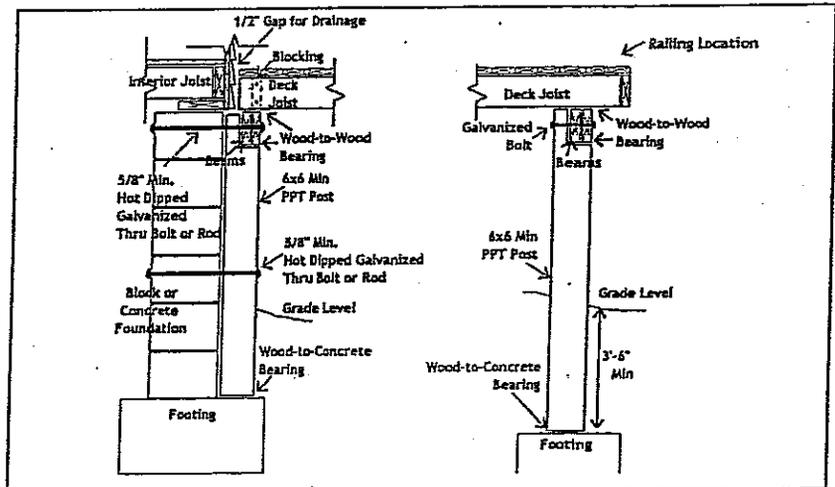


Proposed Minimum Details and Specifications for Permitting Residential Decks

- 1.0 The owner, homebuilder or deck contractor, hereafter referred to as the contractor, shall submit plans, specifications and other documents as required by the jurisdiction having authority; obtain a permit; and schedule the required inspections of the residential deck. Decks shall not be used or occupied until a final inspection approval is obtained. As a minimum, deck plans shall contain all elements of Section 2.0.
- 2.0 The contractor shall submit deck plans that include the intended use and loading (40 pounds-per-square-foot live load plus 10 pounds-per-square-foot dead load), and details and specifications that address the structural issues listed in Section 2.1 through 2.13.
- 2.1 Plan view of deck and residence, including post locations.
- 2.2 Joist spans, size, species or species group, grade, and preservative pressure treatment and retention (or heartwood of decay-resistant species per 2000 *International Residential Code*® Section R323.1 or 2003 IRC® Section R319.1). The ledger board should be treated to a ground contact preservative retention level because it creates a water trapping joint when placed against the house and is likely to collect debris and soil. Ground contact preservative retentions are 0.21 pounds per cubic foot for CA-B treatment and 0.40 pounds per cubic foot for ACQ-C or ACQ-D treatment.
- 2.3 Ledger to house band joist connection detail that includes the band and ledger joist material and thicknesses (Example 2.3a) or detail of connection of deck joists to girder and girder to posts (Example 2.3b). The details should include fastener specifications (type, size and number or spacing). Decks should not be attached to brick veneer. (Note that some communities have banned direct connection of the deck to the house to eliminate the possibility of complete collapse due to future decay or inadequate fasteners.)



Example 2.3a. Detail illustrating 1/2 x 4 lag screws at 15" o.c., staggered, 15/32" plywood wall sheathing. (Flashing is not shown in this connection specification and detail, but is always required to protect the wall sheathing and house band from decay.)



Example 2.3b. Detail illustrating load path and connections from the deck joists to the footings.

- 2.4 Flashing at ledger detail and flashing material (Example 2.4a).
- 2.5 Protection of fasteners and connectors against corrosion (for example: "fasteners hot dip per ASTM A153" or "316 series stainless steel").
- 2.6 Guardrail and stair handrail details showing spacing of pickets and sizes of openings. Connections between top rail and posts shall be specified. For plastic, vinyl or wood-plastic composite railing systems, a copy of the ICC-ES Evaluation Report for the specific product to be used—available from the manufacturer or at www.icc-es.org/ Evaluation Report should be included as part of the deck plan submittal.

2. Type II. Handrails with a perimeter greater than 6 1/4 inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 3/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 3/4 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 1/4 inches (32 mm) to a maximum of 2 3/4 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

❖ To be effective, a handrail must be of a size that can easily be grasped by the vast majority of users. If it is too large, it is difficult for a user to get a strong enough grip to provide the needed support. Because of the

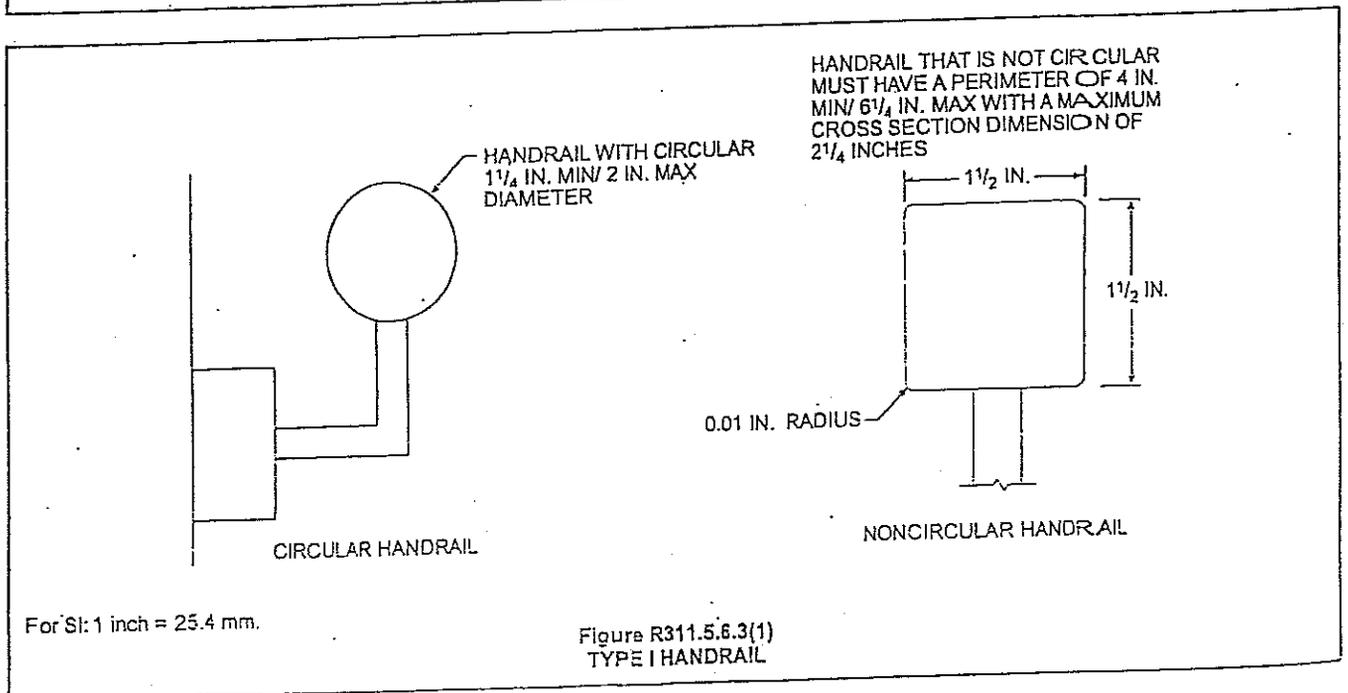
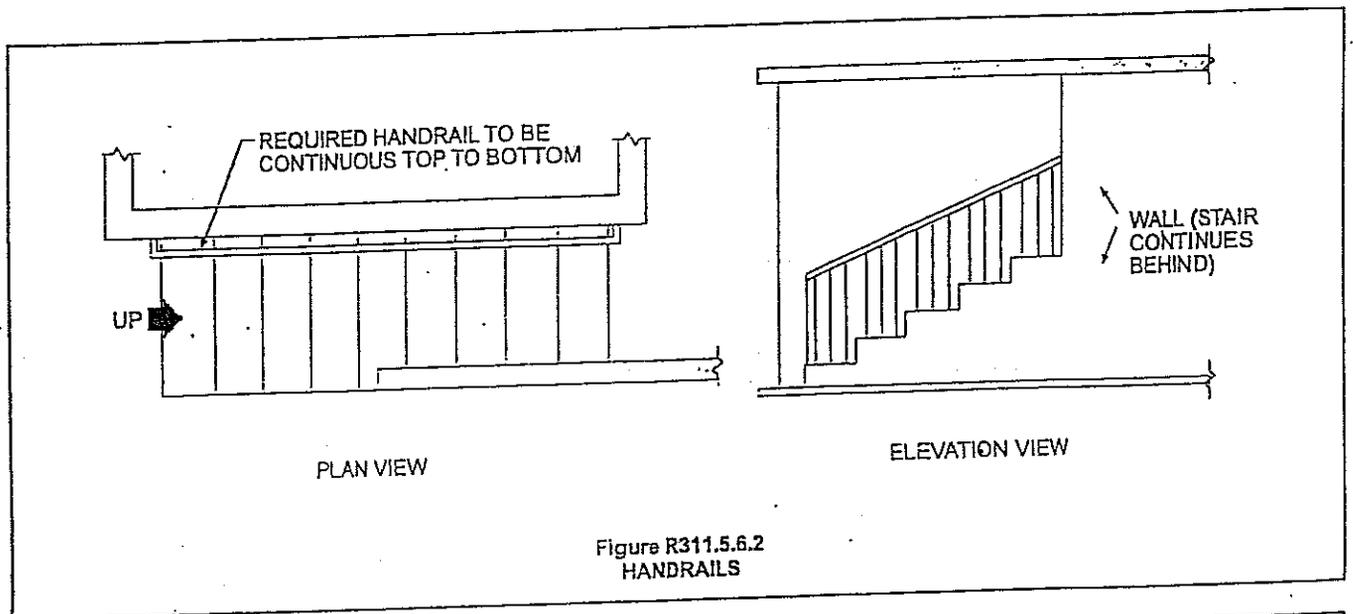
variations in people's sizes and physical conditions, it is often very difficult to determine which types of commonly used handrails fall into this acceptable range.

The code specifies that the handrail be either a Type I or Type II. A type I can be either circular or noncircular in shape. See Commentary Figure R311.5.6.3(1) for examples of Type I handrails.

A Type II handrail has a perimeter larger than 6 1/4 inches (160 mm) with graspable finger recess area on both sides of the profile. See Commentary Figure R311.5.6.3(2) for the limitations of a Type II handrail.

R311.5.7 Illumination. All stairs shall be provided with illumination in accordance with Section R303.6.

❖ This section contains a reference to the illumination provisions of Section R303.6. The proper illumination of stairways is an important part of stairway safety. This lighting can assist users by making sure the level



FLOORS

TABLE R502.3.1(2)
FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES
(Residential living areas, live load = 40 psf. L/Δ = 360)^b

| JOIST SPACING (inches) | SPECIES AND GRADE | DEAD LOAD = 10 psf | | | | DEAD LOAD = 20 psf | | | |
|------------------------|----------------------|---------------------------|-------------|-------------|-------------|--------------------|-------------|-------------|--------------------|
| | | 2x6 | 2x8 | 2x10 | 2x12 | 2x6 | 2x8 | 2x10 | 2x12 |
| | | Maximum floor joist spans | | | | | | | |
| | | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) |
| 12 | Douglas fir-larch SS | 11-4 | 15-0 | 19-1 | 23-3 | 11-4 | 15-0 | 19-1 | 23-3 |
| | Douglas fir-larch #1 | 10-11 | 14-5 | 18-5 | 22-0 | 10-11 | 14-2 | 17-4 | 20-1 |
| | Douglas fir-larch #2 | 10-9 | 14-2 | 17-9 | 20-7 | 10-6 | 13-3 | 16-5 | 18-10 |
| | Douglas fir-larch #3 | 8-8 | 11-0 | 13-5 | 15-7 | 7-11 | 10-0 | 12-3 | 14-3 |
| | Douglas fir-larch SS | 10-9 | 14-2 | 18-0 | 21-11 | 10-9 | 14-2 | 17-8 | 21-11 |
| | Hem-fir #1 | 10-6 | 13-10 | 17-8 | 21-6 | 10-6 | 13-10 | 16-11 | 19-7 |
| | Hem-fir #2 | 10-0 | 13-2 | 16-10 | 20-4 | 10-0 | 13-1 | 16-0 | 18-6 |
| | Hem-fir #3 | 8-8 | 11-0 | 13-5 | 15-7 | 7-11 | 10-0 | 12-3 | 14-3 |
| | Hem-fir SS | 11-2 | 14-8 | 18-9 | 22-10 | 11-2 | 14-8 | 18-9 | 22-10 |
| | Southern pine #1 | 10-11 | 14-5 | 18-5 | 22-5 | 10-11 | 14-5 | 18-5 | 22-5 |
| | Southern pine #2 | 10-9 | 14-2 | 18-0 | 21-9 | 10-9 | 14-2 | 16-11 | 19-10 |
| | Southern pine #3 | 9-4 | 11-11 | 14-0 | 16-8 | 8-6 | 10-10 | 12-10 | 15-3 |
| | Southern pine SS | 10-6 | 13-10 | 17-8 | 21-6 | 10-6 | 13-10 | 16-3 | 18-10 |
| | Spruce-pine-fir #1 | 10-3 | 13-6 | 17-3 | 20-7 | 10-3 | 13-3 | 16-3 | 18-10 |
| | Spruce-pine-fir #2 | 10-3 | 13-6 | 17-3 | 20-7 | 10-3 | 13-3 | 16-3 | 18-10 |
| | Spruce-pine-fir #3 | 8-8 | 11-0 | 13-5 | 15-7 | 7-11 | 10-0 | 12-3 | 14-3 |
| 16 | Douglas fir-larch SS | 10-4 | 13-7 | 17-4 | 21-1 | 10-4 | 13-7 | 17-4 | 21-0 |
| | Douglas fir-larch #1 | 9-11 | 13-1 | 16-5 | 19-1 | 9-8 | 12-4 | 15-0 | 17-5 |
| | Douglas fir-larch #2 | 9-9 | 12-7 | 15-5 | 17-10 | 9-1 | 11-6 | 14-1 | 16-3 |
| | Douglas fir-larch #3 | 7-6 | 9-6 | 11-8 | 13-6 | 6-10 | 8-8 | 10-7 | 12-4 |
| | Douglas fir-larch SS | 9-9 | 12-10 | 16-5 | 19-11 | 9-9 | 12-10 | 16-5 | 19-11 |
| | Hem-fir #1 | 9-6 | 12-7 | 16-0 | 18-7 | 9-6 | 12-0 | 14-8 | 17-0 |
| | Hem-fir #2 | 9-1 | 12-0 | 15-2 | 17-7 | 8-11 | 11-4 | 13-10 | 16-1 |
| | Hem-fir #3 | 7-6 | 9-6 | 11-8 | 13-6 | 6-10 | 8-8 | 10-7 | 12-4 |
| | Hem-fir SS | 10-2 | 13-4 | 17-0 | 20-9 | 10-2 | 13-4 | 17-0 | 20-9 |
| | Southern pine #1 | 9-11 | 13-1 | 16-9 | 20-4 | 9-11 | 13-1 | 16-4 | 19-6 |
| | Southern pine #2 | 9-9 | 12-10 | 16-1 | 18-10 | 9-6 | 12-4 | 14-8 | 17-2 |
| | Southern pine #3 | 8-1 | 10-3 | 12-2 | 14-6 | 7-4 | 9-5 | 11-1 | 13-2 |
| | Southern pine SS | 9-6 | 12-7 | 16-0 | 19-6 | 9-6 | 12-7 | 16-0 | 19-6 |
| | Spruce-pine-fir #1 | 9-4 | 12-3 | 15-5 | 17-10 | 9-1 | 11-6 | 14-1 | 16-3 |
| | Spruce-pine-fir #2 | 9-4 | 12-3 | 15-5 | 17-10 | 9-1 | 11-6 | 14-1 | 16-3 |
| | Spruce-pine-fir #3 | 7-6 | 9-6 | 11-8 | 13-6 | 6-10 | 8-8 | 10-7 | 12-4 |
| 19.2 | Douglas fir-larch SS | 9-8 | 12-10 | 16-4 | 19-10 | 9-8 | 12-10 | 16-4 | 19-2 |
| | Douglas fir-larch #1 | 9-4 | 12-4 | 15-0 | 17-5 | 8-10 | 11-3 | 13-8 | 15-11 |
| | Douglas fir-larch #2 | 9-1 | 11-6 | 14-1 | 16-3 | 8-3 | 10-6 | 12-10 | 14-10 |
| | Douglas fir-larch #3 | 6-10 | 8-8 | 10-7 | 12-4 | 6-3 | 7-11 | 9-8 | 11-3 |
| | Douglas fir-larch SS | 9-2 | 12-1 | 15-5 | 18-9 | 9-2 | 12-1 | 15-5 | 18-9 |
| | Hem-fir #1 | 9-0 | 11-10 | 14-8 | 17-0 | 8-8 | 10-11 | 13-4 | 15-6 |
| | Hem-fir #2 | 8-7 | 11-3 | 13-10 | 16-1 | 8-2 | 10-4 | 12-8 | 14-8 |
| | Hem-fir #3 | 6-10 | 8-8 | 10-7 | 12-4 | 6-3 | 7-11 | 9-8 | 11-3 |
| | Hem-fir SS | 9-6 | 12-7 | 16-0 | 19-6 | 9-6 | 12-7 | 16-0 | 19-6 |
| | Southern pine #1 | 9-4 | 12-4 | 15-9 | 19-2 | 9-4 | 12-4 | 14-11 | 17-9 |
| | Southern pine #2 | 9-2 | 12-1 | 14-8 | 17-2 | 8-8 | 11-3 | 13-5 | 15-8 |
| | Southern pine #3 | 7-4 | 9-5 | 11-1 | 13-2 | 6-9 | 8-7 | 10-1 | 12-1 |
| | Southern pine SS | 9-0 | 11-10 | 15-1 | 18-4 | 9-0 | 11-10 | 15-1 | 17-9 |
| | Spruce-pine-fir #1 | 8-9 | 11-6 | 14-1 | 16-3 | 8-3 | 10-6 | 12-10 | 14-10 |
| | Spruce-pine-fir #2 | 8-9 | 11-6 | 14-1 | 16-3 | 8-3 | 10-6 | 12-10 | 14-10 |
| | Spruce-pine-fir #3 | 6-10 | 8-8 | 10-7 | 12-4 | 6-3 | 7-11 | 9-8 | 11-3 |
| 24 | Douglas fir-larch SS | 9-0 | 11-11 | 15-2 | 18-5 | 9-0 | 11-11 | 14-9 | 17-1 |
| | Douglas fir-larch #1 | 8-8 | 11-0 | 13-5 | 15-7 | 7-11 | 10-0 | 12-3 | 14-3 |
| | Douglas fir-larch #2 | 8-1 | 10-3 | 12-7 | 14-7 | 7-5 | 9-5 | 11-6 | 13-4 |
| | Douglas fir-larch #3 | 6-2 | 7-9 | 9-6 | 11-6 | 5-7 | 7-1 | 8-8 | 10-1 |
| | Douglas fir-larch SS | 8-6 | 11-3 | 14-4 | 17-5 | 8-6 | 11-3 | 14-4 | 16-10 ^a |
| | Hem-fir #1 | 8-4 | 10-9 | 13-1 | 15-2 | 7-9 | 9-9 | 11-11 | 13-10 |
| | Hem-fir #2 | 7-11 | 10-2 | 12-5 | 14-4 | 7-4 | 9-3 | 11-4 | 13-1 |
| | Hem-fir #3 | 6-2 | 7-9 | 9-6 | 11-0 | 5-7 | 7-1 | 8-8 | 10-1 |
| | Hem-fir SS | 8-10 | 11-8 | 14-11 | 18-1 | 8-10 | 11-8 | 14-11 | 18-1 |
| | Southern pine #1 | 8-8 | 11-5 | 14-7 | 17-8 | 8-8 | 11-3 | 13-4 | 15-11 |
| | Southern pine #2 | 8-6 | 11-0 | 13-1 | 15-5 | 7-9 | 10-0 | 12-0 | 14-0 |
| | Southern pine #3 | 6-7 | 8-5 | 9-11 | 11-10 | 6-0 | 7-8 | 9-1 | 10-0 |
| | Southern pine SS | 8-4 | 11-0 | 14-0 | 17-6 | 8-2 | 11-0 | 13-8 | 15-11 |
| | Spruce-pine-fir #1 | 8-1 | 10-3 | 12-7 | 14-7 | 7-5 | 9-5 | 11-6 | 13-4 |
| | Spruce-pine-fir #2 | 8-1 | 10-3 | 12-7 | 14-7 | 7-5 | 9-5 | 11-6 | 13-4 |
| | Spruce-pine-fir #3 | 6-2 | 7-9 | 9-6 | 11-0 | 5-7 | 7-1 | 8-8 | 10-1 |

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

NOTE: Check sources for availability of lumber in lengths greater than 20 feet.

a. End bearing length shall be increased to 2 inches.

b. Dead load limits for townhouses in Seismic Design Category C and all structures in Seismic Design Categories D₁, D₂, and D₃ shall be determined in accordance with ASCE 7-16, Section 5.3.2.

to assist ramp users. This provision differs from that of the IBC, where a slope of one unit vertical in 20 units horizontal (5-percent slope) and a ramp rise of 6 inches (152 mm) establishes the limits.

R311.6.3.1 Height. Handrail height, measured above the finished surface of the ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

❖ Where handrails are required, they must be installed at a height of at least 34 inches (864 mm) and not more than 38 inches (965 mm), measured vertically from the finished surface of the ramp slope. This height should be measured to the top of the handrail.

R311.6.3.2 Handrail grip size. Handrails on ramps shall comply with Section R311.5.6.3.

❖ See the commentary for Section R311.5.6.3.

R311.6.3.3 Continuity. Handrails where required on ramps shall be continuous for the full length of the ramp. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1.5 inches (38 mm) between the wall and the handrails.

❖ The continuity requirement for the ramp handrail is similar to the continuity requirement for the stair handrail. See the commentary for Section R311.5.6.2

guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.

Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

❖ The guard provisions of the IRC address the issue of protecting occupants from falling from any type of elevated walking surface. The provisions in Section R312 provide the scoping requirements as well as the general construction requirements for the guards. Besides this section, code users should be aware that Section R301.5 contains the design load criteria for guards.

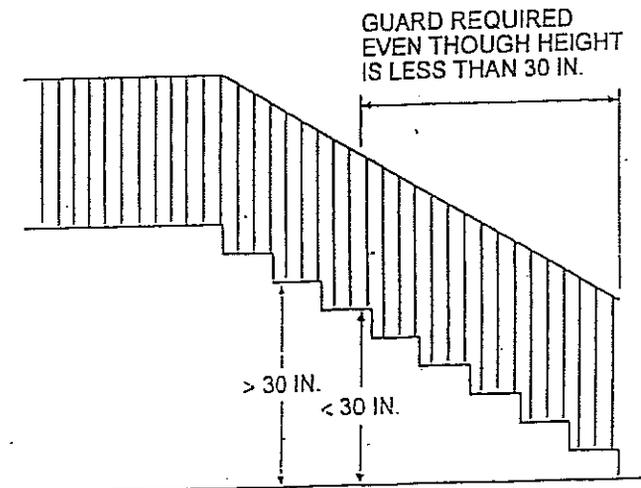
Section R312.1 of the code establishes the requirement for and the minimum height requirements for guards. The code provides for guard protection at open sides along raised floor or walking surfaces such as those at balconies, mezzanines, stairways, ramps, porches and landings that are more than 30 inches (762 mm) above the grade or floor surface below.

The requirements for guards on stairs are different from other guard requirements in two ways. The first is the scoping requirements that establish the need for the guard, and the second is the required height of the guard. The scoping requirement for guards along open sides of stairs not only applies to the portion of a stairway that is more than 30 inches (762 mm) above the adjacent floor, but it will also apply to the entire open side of the stair, including the parts that are less than 30 inches (762 mm) above the floor. This requirement applies to the entire "open side" of the stairway, if any point of the open side is more than 30 inches (762 mm) high. See Commentary Figures R312.1(1) and (2) for examples of how this provision is applied.

SECTION R312 GUARDS

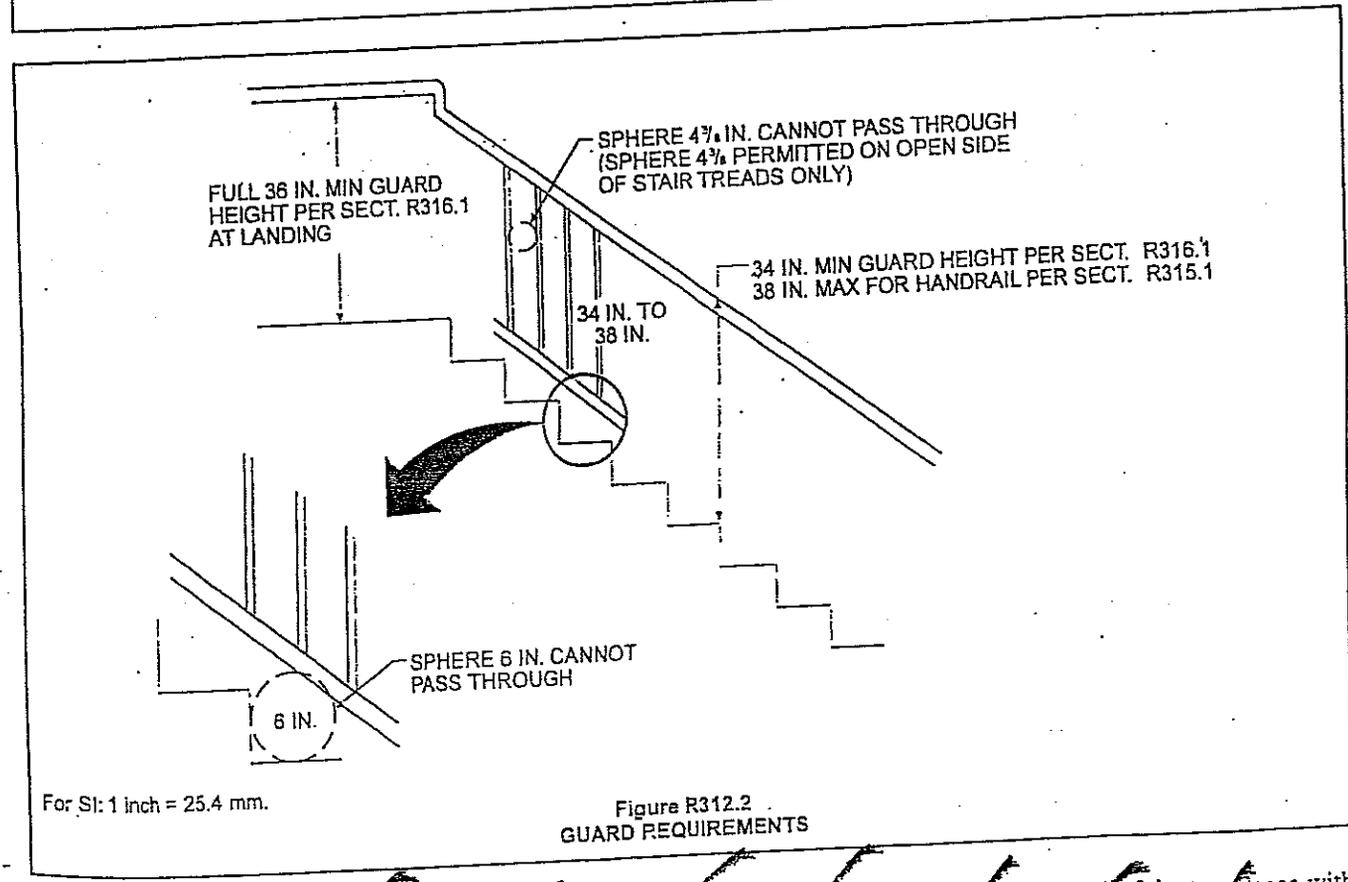
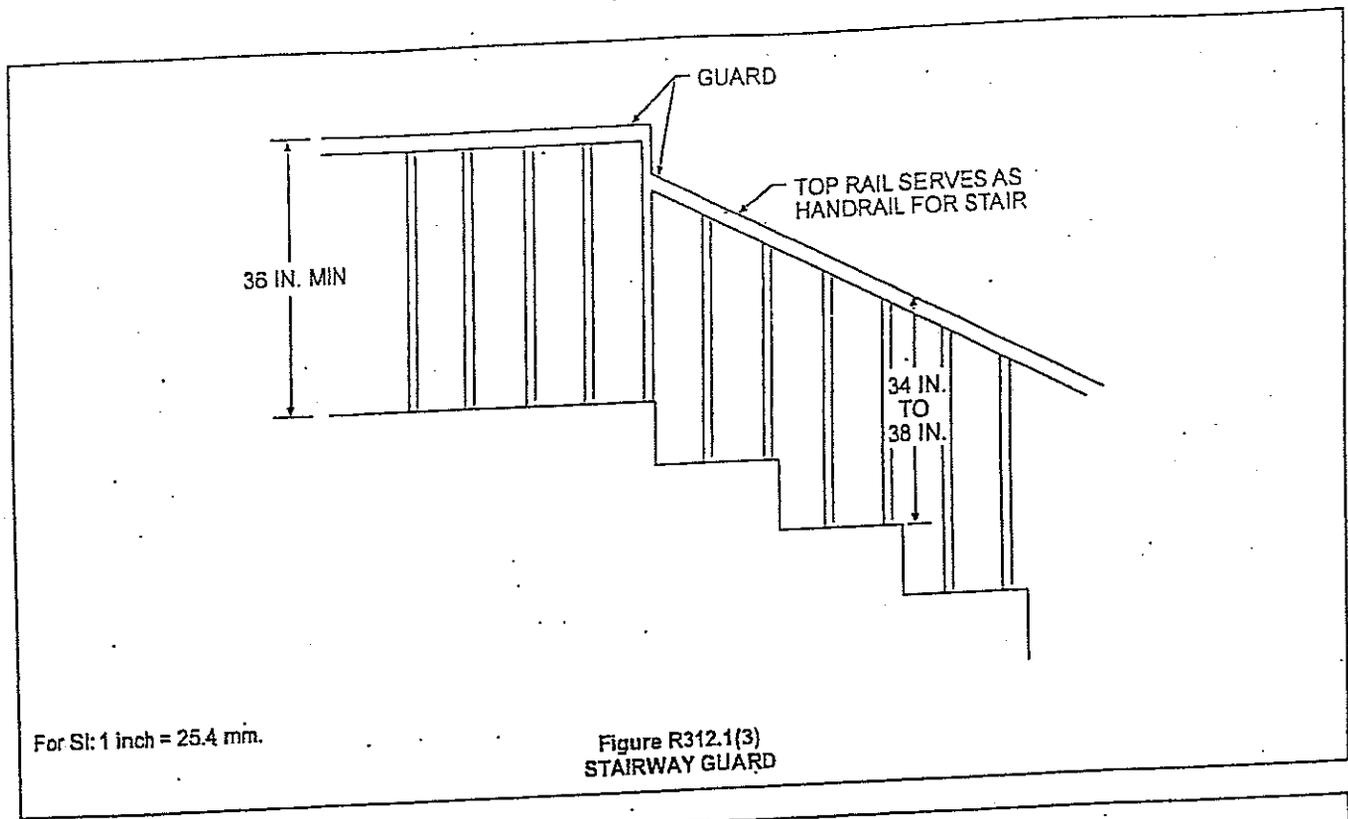
R312.1 Guards. Porches, balconies, ramps or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 36 inches (914 mm) in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below shall have

IF STAIR IS MORE THAN 30 IN. ABOVE THE FLOOR BELOW AT ANY POINT OF THE STAIR'S FLIGHT, A GUARD IS REQUIRED ALONG THE OPEN SIDE.



For SI: 1 inch = 25.4 mm.

Figure R312.1(1)
STAIRWAY GUARD



**SECTION R313
SMOKE ALARMS**

R313.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for