



City of Northglenn  
2010 Building Department Activity Report

September 1, 2010

Dear Council Members:

Attached is a Performance Measurement Report consisting of all new building permits issued, plan review completions, and inspection activity performed by SAFEbuilt from January 1, 2010 to August 31, 2010. Also included are some of the changes we have incorporated such as; copies of new building guides, handouts on what inspections are required for their project, and a survey.

**Performance Measure Report;**

Permits:

- 1491 issued
- \$9,092,548.00 total valuation

Inspections performed:

- 2205 inspections
- 88.98% approval rate

Plan Reviews:

- Residential reviews—reviewed and approved within a week
- Commercial plans—reviewed and comments sent out to the applicant within the first week

**Rapid Review Thursday's;**

We initiated Rapid Review Thursday's in order for contractors and homeowners to be able to come in and get a permit issued right over the counter for smaller projects like basement finishes, decks, garages, and patio covers. By doing this, we have stream-lined the process of obtaining permits for the simple projects. We implemented this in April and it has been very successful working with the applicant and other departments in the City. We will continue to perform Rapid Review Thursday's in order to better serve the community.

### **Building Guides and Handouts;**

We went through all the building guides and handouts to make them more simplified so there is no confusion on what is required for permit submittal, or what inspections are required to be performed during the inspection process. All handouts state the minimum code requirements that guide them along in their planning and building stages of their project.

### **Surveys;**

SAFEbuilt will send out surveys to reach out to all city employees who interact with SAFEbuilt and the building department including City Clerks, Community Development Directors, Mayors, or any other departments that are appropriate. When surveys come back from the community, we like to share these with the team we serve and use the responses to see where we can make any of our services better and/ or more efficient.

### **Staff:**

- Monica—Currently working on her certification to become a Certified Residential Plans Examiner
- Jeff—Recently passed his Commercial Mechanical Certification; He is now a Certified Combination Inspector in both Residential and Commercial buildings
- David “Chad” Johnson—Master Code Professional
- David Goodman—Plans Examiner

Thank you for allowing SAFEbuilt to work alongside the City of Northglenn. If you have any questions before the meeting, please feel free to contact me at any time.

Thank you,

Eric Pendley  
Chief Building Official  
City of Northglenn  
Cell: (970) 977-6270  
ependley@northglenn.org  
eric.pendley@safebuilt.com

<b>Performance Measurement Report for Northglenn</b>									
For Dates: 01/01/2010 to 08/31/2010									
	Residential			Commercial					
	New	Alteration	Other	New	Alteration	Other	Misc.	One-Stop	Total
<b>Permits</b>	29	283	0	6	26	0	64	1083	1491
<b>Valuation</b>	\$247,601	\$2,289,806	\$0	\$125,000	\$1,000,096	\$0	\$583,262	\$4,846,783	\$9,092,548
<b>Inspections</b>	57	753	0	9	135	0	14	1237	2205

% of Permits Issued Same Day	72.64%
Avg. Days from Submitted to Issued	0.62
Res. Permits Issued Within 2 Days	295
% of Plan Reviews Completed Within 14 Days (New)	98.51%
% of Plan Reviews Completed Within 14 Days (Alt)	98.42%
Total Fees Assessed	\$386,632.04
Average Fees Per Permit	\$257.24
% of Inspections Completed On Time	
Standard Time Allowed to Complete Inspection	Next Business Day
Number of Filed Inspections Completed Same Day	0
% of Inspections Completed Within 4 Days	100%



# Building Department

## RAPID REVIEW THURSDAYS!

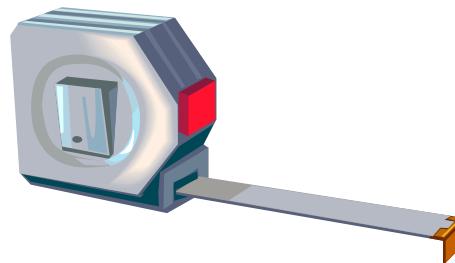
Over-the-counter permits for the Do-It-Yourself Projects on the run!

- Garages
- Uncovered Decks
- Patio Covers
- Egress Windows
- Basement Finishes



**Available on Thursdays ONLY!**

**Starting April 1st from 10:00AM to 3:00PM at the Building  
Department**



Flip flyer over for important information required to process the permit. Permits are required before work is performed.

**Please Contact Us for Questions** ▶▶▶

**City of Northglenn  
Building Division**

11701 Community Center Drive  
Northglenn, CO 80233

(303) 450-8745

[www.northglenn.org](http://www.northglenn.org)

# Building Department

## REQUIREMENTS NEEDED TO PROCESS YOUR RAPID REVIEW PERMIT

- A completed Building Permit Application - available to download from the City's Web site at [www.northglenn.org](http://www.northglenn.org) OR available at the Building Department's counter
- Two (2) sets of Construction Drawings for ALL permit types
- A completed Building Guide according to permit type - available to download from the City's Web site at [www.northglenn.org](http://www.northglenn.org) OR available at the Building Department's counter
- Two (2) sets of a site plan showing the location of the project that will be constructed and the distance to the property lines (not applicable for egress windows and basement finishes)
- Two (2) wet stamped engineer letters for basement egress windows that are being widened

**Application fees are due upon submittal of application**

## RESTRICTIONS

The Building Department reserves the right to not issue a "Rapid Review Permit" if Staff sees unusual circumstances.

## Default Report

Displaying 17 of 19 respondents

**Response Type:**

Normal Response

**Collector:**New Link  
(Web Link)**Custom Value:**

empty

**IP Address:**

24.8.188.245

**Response Started:**

Tuesday, July 13, 2010 2:57:41 PM

**Response Modified:**

Tuesday, July 13, 2010 3:00:23 PM

**1. Jurisdiction:**

Northglenn CO

**2. Name (optional):**

Joe Hebert

**3. Company (optional):**

Bison Electric

**4. Title (optional):**

President

**1. Please rank our services below:**

	Do not agree (1)	Somewhat agree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	N/A (0)
1. The application process was clearly defined and easy to follow.				X		
2. The Permit Technician I worked with was professional, courteous, and helpful through the process.					X	
3. The permit was issued in a timely manner.					X	
4. The Plans Examiner I worked with was professional, courteous, and explained matters to me in a clear way.						X
5. The plan review was completed in a timely manner.						X
6. The Building Inspector(s) I worked with were professional, courteous, and explained matters to me in a clear way.					X	
7. I was happy with the inspection request process and response time.				X		
8. The forms, building guides and other materials available to me through the Building Department are helpful.				X		
9. The overall customer service I received during the process was good.				X		
10. I am satisfied with the services provided by the Building Department.				X		

**1. What advice would you offer as a way to improve our services?**

none

**2. Are there specific examples of interaction with the Building Department staff or the community that you would like to share?**

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Monica Bordash was very professional and helpful during the permit process.

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**3. Additional Comments:**

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No Response

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### What you need to apply for a building permit:



<input type="checkbox"/>	Floor Plan	Page 2
<input type="checkbox"/>	Construction Details	Page 2
<input type="checkbox"/>	Permit Application	Page 2
	Additional Requirements	Page 2



### DIRECTIONS

1. Submit 2 complete sets of required information.
2. Draw a floor plan with dimensions to scale, showing the layout of the entire basement. Label the use for all of the rooms. Distinguish existing from new and finished from unfinished.
3. Show electrical outlets, smoke detectors, lighting, fans, plumbing modifications, cleanouts, furnace and water heater. Indicate whether equipment is electric or gas.
4. List window sizes and types, identify emergency escape and rescue windows.
5. Identify modifications to the existing structure such as posts, beams and floor joists.
6. Indicate where dropped ceiling areas are less than 7 feet.
7. Show clearance around the tub and fixtures.

### Why Do I need a Permit?

There are many important reasons to obtain building permits and to have inspections performed for your construction project.

#### Protects property values

Your home is typically your largest investment. If your construction project does not comply with the building codes, your investment could lose value. If others in your neighborhood make unsafe or substandard changes to their homes, it could lower the resale values for the entire community.

#### Saves Money

Homeowners insurance policies may not pay for damages caused by work done without permits and inspections.

#### Makes Selling Property Easier

Listing associations require owners to disclose any home improvements or repairs and whether permits were obtained. Many financial institutions will not finance a purchase without proof of a final inspection. If you decide to sell a home or building that has had modifications without a permit, you may be required to tear down the addition, leave it unoccupied or do costly repairs.

#### Improves safety

Your permit allows the building department to inspect for potential hazards and unsafe construction. By ensuring your project meets the minimum building code standards of safety, the building department can reduce the risk of fire, structural collapse and other issues that might result in costly repairs, injuries and even death. Inspections complement the contractor's experience and act as a system of checks and balances that can result in a safer project.

#### It's the Law

Permits are required by Ordinance. Work without a permit may be subject to removal or other costly remedies.

### Tips on hiring contractors

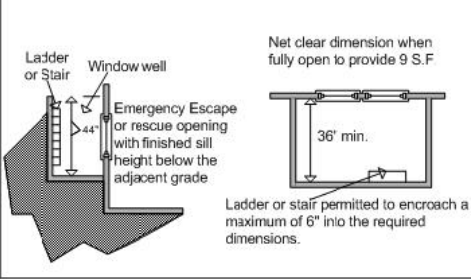
- ◆ Get at least 3 bids.
- ◆ Get 3 references, and ask to see a project.
- ◆ Get it in writing, but before you sign the contract, make sure you completely understand.
- ◆ Do not make final payment until you have received a Certificate of Occupancy (CO) or until final inspections have passed
- ◆ **Have the contractor apply for the required permits.**



## Basement Finish Requirements

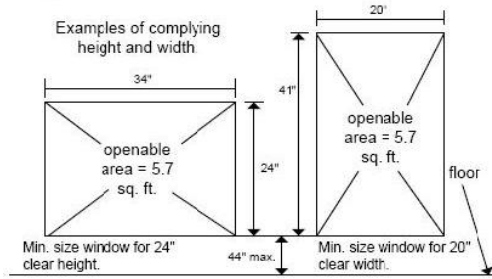
### EGRESS WINDOW WELL

Egress window wells must provide a minimum area of 9 S.F. with a minimum dimension of 36" and shall enable the window to open fully. If the depth of the window well exceeds 44", a permanently affixed ladder must be provided. The ladder must not interfere with the window.



Emergency Escape and Rescue Windows must meet the Following criteria:

- A minimum total openable area of not less than 5.7 S.F.
- A minimum clear openable height of 24"
- A minimum clear openable width of not less than 20"
- A finished sill height of not more than 44" above the floor and should be openable from the inside without the use of a key, tools special knowledge or effort.



### Emergency Escapes:

All basements and sleeping rooms must have an emergency escape window or exterior door. Emergency escape windows with a sill height below grade must be provided with an emergency escape window as well as ladder. For details on Emergency escape windows, see Section R310 of the International Residential Code.

### Ceiling Heights:

If the finished ceiling will be less than 7', please consult your Building Department.

### Smoke Alarms:

Smoke alarms are required in all basements. If the finished basement contains a sleeping room, a smoke alarm must be installed on the ceiling or wall in the sleeping room and in the hallway or area immediately outside of the sleeping room. Smoke alarms added to satisfy the above requirements must be hard-wired with a battery backup and interconnected with existing smoke alarms. Smoke alarms are required to be hardwired and interconnected in new AND existing bedrooms, halls and on each level.

**CO Detectors:** C/O detectors shall be placed within 15' of entrances of all bedrooms including all floors. Detectors may be battery operated, plug in type or combination smoke/co detectors hard wired into the houses electrical system.

### Insulation: R-13

### Fuel Burning Appliances:

Furnaces and water heaters cannot be located in a bed-room or bathroom unless appliances are installed in a dedicated enclosure in which all combustion air is taken directly from outdoors and a weather stripped solid door equipped with an approved self closing device is installed. If the furnace and water heater are being enclosed, adequate combustion air must be provided for these appliances

to operate properly. A minimum of 30" clear working space must be provided in front of furnaces and water heaters. Maintenance or removal of each appliance must be possible without removing the other or disturbing walls, piping, valves, wiring and junction boxes.

### Fire Blocking:

Fire Blocking must be installed in concealed spaces of wood-furred walls at the ceiling level, at 10' intervals along the length of the wall and at all interconnections of concealed vertical and horizontal spaces such as intersection of stud walls and soffits or dropped ceilings. A detail of typical fire blocking is included in this handout. Fire blocks may be constructed of 1-1/2" lumber, 3/4" plywood or particle board, 1/2" gypsum board or fiberglass insulation 16" minimum in height, securely fastened.

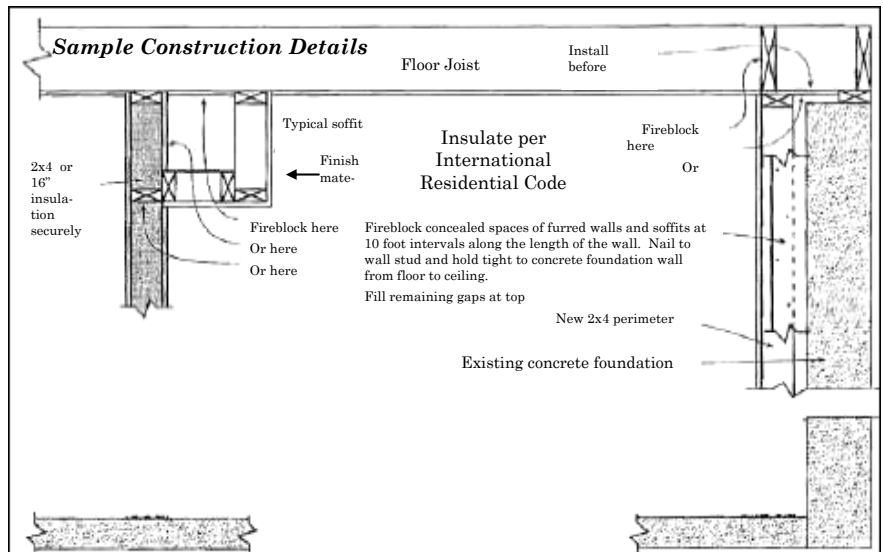
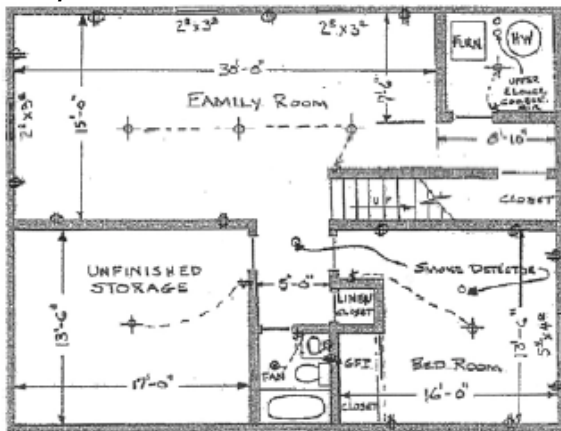
### Space under Stairs:

If the area under the stairs is enclosed useable space, protect the walls and ceiling with 1/2" gypsum board.

### Bathrooms:

Toilets must be provided with a minimum of 21" in front of the toilet and 15" from the center of the toilet and any sidewall or other obstruction. Showers shall have a minimum inside dimension of 900 square inches. A ventilation fan is required in toilet rooms and bathrooms with unopenable windows. The fan must be vented to the exterior of the building and not to terminate within 3' of an opening.

### Sample Floor





### DID YOU KNOW?

- As “owner-builder” you are the responsible party of record on such a permit. If your work is being performed by a contractor, you may protect yourself from possible liability if the contractor applies for the proper permit in his or her name
- If you plan to do your own work, with the exception of various trades that you plan to subcontract, the subcontractors must apply for trade permits
- If you plan to do your own work, including all of the trade work then you may apply for the permit
- Frequent practices of unlicensed contractors is to secure an “owner-builder” building and trades permits, erroneously implying that the property owner is providing his or her own labor and material personally
- It would benefit you to hire a licensed contractor to perform the trade work
- Permits are valid for work to begin within six months

### Why Do I need a Permit?

There are many important reasons to obtain building permits and to have inspections performed for your construction project.

#### Protects property values

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#### It’s the Law

Permits are required by Ordinance. Work without a permit may be subject to removal or other costly remedies.

The purpose of this guide is to assist you in the permitting process. This handout is intended to cover information for a basic plan submittal and typical project under the building codes. It is not intended to cover all circumstances. Depending on the scope and complexity of your project, additional information may be required. Discuss your project with city staff to determine if it is subject to additional requirements.

### What do I need in order to apply for a building permit?

The following must be submitted:

<input type="checkbox"/>	Site Plan	Page 2
<input type="checkbox"/>	Construction Details	Page 2
<input type="checkbox"/>	House Attachment	Page 3
<input type="checkbox"/>	Guardrails	Page 4
<input type="checkbox"/>	Footings	Page 4
<input type="checkbox"/>	Permit Application	



## What is a Site Plan?

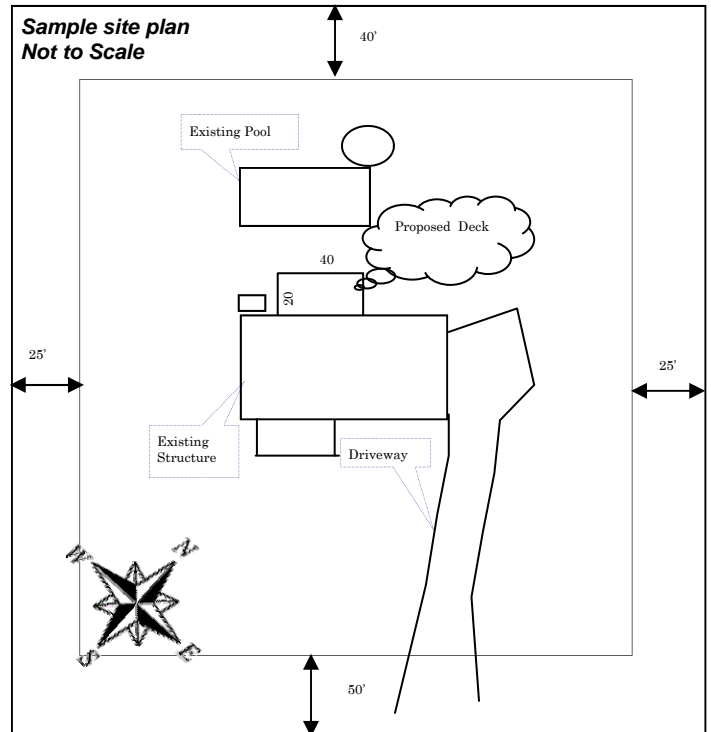
A site plan is a detailed drawing of your property, also known as a survey of your land. These are usually drawn by a land surveyor. The site plan will show the dimensions of your project and its relationship to existing setbacks, easements, utilities, other structures on the property, and distance to your property lines. If your project will require moving any utilities (gas, water, sewer/septic, electric, etc.), show where those meters will be relocated.

### What is REQUIRED for a Permit?

- Provide copies of the SITE PLAN

#### Notes:

1. Structures must meet zoning requirements and may not be permitted to be built over setback lines, easements, or property lines
2. A survey from a registered land surveyor will be required if your project is located in a protected area
3. An as-built survey may be required if the structure is proposed within 12" of a required minimum setback
4. If you are on a septic tank, you will be required to have approval from the county health department prior to issuance of a permit
5. If you do not know the location of your utilities, contact the Utility Notification Center. Remember to ask them about the cost of this service. Call 811 or [www.uncc2.org](http://www.uncc2.org)



## Construction Details

### What is REQUIRED for a Permit?

- Provide copies of a DECK PLAN (cross-sectional drawing showing):
  - footing dimensions
  - column dimensions
  - attachment details
  - Spans of joists, beams, decking, footings and dimensions of all material

#### NOTES:

1. Unless noted otherwise, all lumber shall be grade #2 or better and shall be pressure treated ACQ or CA-B
2. All lumber in contact with the ground shall be rated as "ground contact"
3. All screws or nails shall be hot dipped galvanized or stainless steel, and nails shall be ring shanked or annular grooved
4. All connectors shall use nails for attachment
5. All hardware shall be galvanized with a G-185 coating or shall be stainless steel
6. Stairways shall be not less than 36" in width
7. Conditions which do not meet these details will require a plan submission

### Tips on hiring contractors

- ◆ Hire only licensed contractors
- ◆ Get at least 3 bids
- ◆ Get 3 references, and ask to see a project
- ◆ Get it in writing - but before you sign the contract, make sure you completely understand
- ◆ Don't make final payment until you have a Certificate of Completion (CC) and you are satisfied
- ◆ **Have the contractor apply for the required permits**



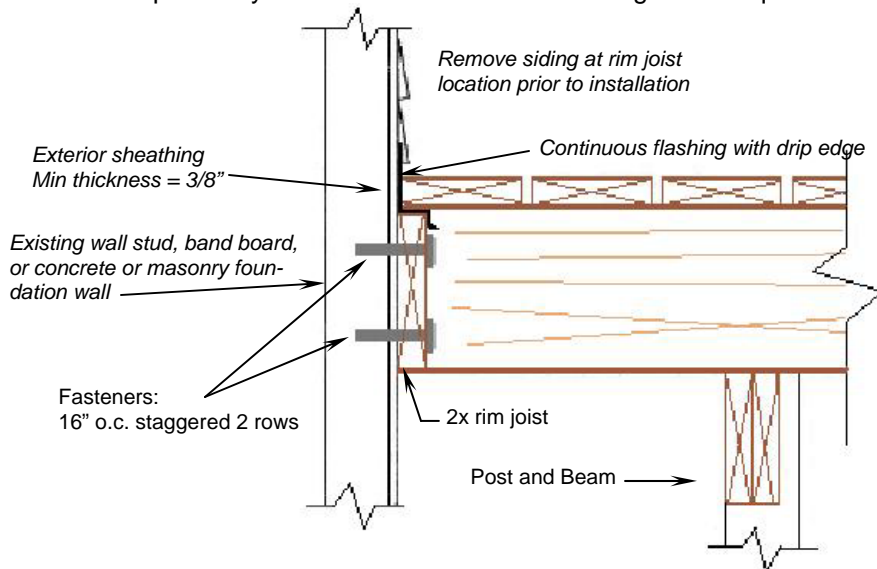


# Construction Details: Attaching to the House

Correctly attaching your new deck to your existing home is critical to preventing collapses. A common issue that can cause deck failures and loss of life are decks that pull away from homes because of missing or inadequate house attachments.

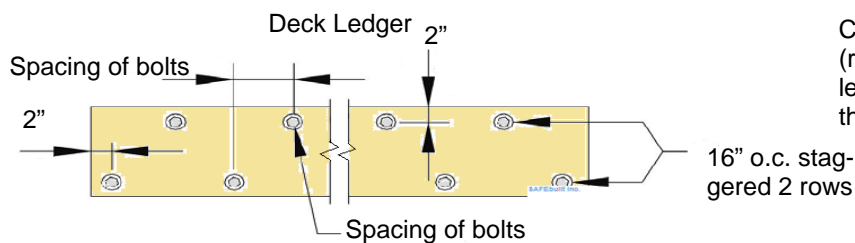
## Cross-Section

Attach the deck rim joist to the existing house exterior wall as shown. The wall must be sheathed with a minimum 3/8" structural panel sheathing. Use non-corrosive lag screws or through-bolts when fastening to an existing band board or wall stud; use expansion band anchors or epoxy anchors when fastening to concrete or masonry. Fasteners shall be 16" on center (o.c.) and staggered in 2 rows. Note: place spacers (washers) behind rim joist to prevent trapping water.



Sample attachment detail

## Positive Connections: Fastener Spacing



Correct placement of fasteners in deck ledgers (rim joists). Bolts must be placed in the deck ledgers as shown with spacing determined by the below table.

Joist Span (feet)	6' and Less	6'-1" to 8'	8'-1" to 10'	10'-1" to 12'	12'-1" to 14'	14'-1" to 16"	16'-1" to 18"
Spacing (1/2" bolt with washers)	36"	36"	34"	29"	24"	21"	19"

*On-Center Spacing of Fasteners*

### Notes:

1. The maximum gap between the face of the ledger board and face of the house band joist shall be 1/2-inch (13mm)
2. Ledgers shall be flashed to prevent water from contacting the house band joist
3. Bolts shall be staggered as depicted above
4. Deck ledger shall be 2x8 PPT No. 2 Douglas fir-larch (minimum) or other approved method and material as established by standard engineering practice

Decks shall be constructed in accordance with the International Residential Code.

**For residential applications using the following methods a total design load of 40 psf is required:**

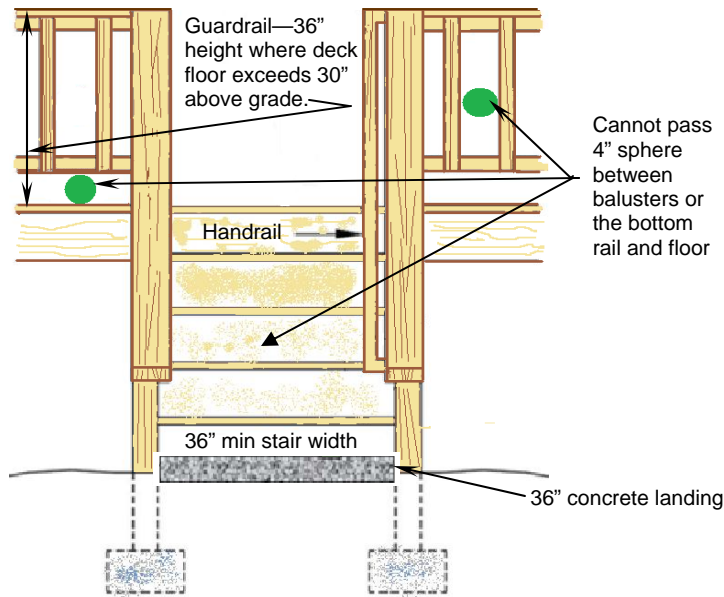
- Conventional framing
- Wood I-joist with rim board may require registered design professional.
- The deck ledger connection to floor truss system shall be designed & approved by the truss manufacturer's design professional.



### REMINDER:

Permits are only issued after plan review. The time required to conduct this review will depend on the completeness of the information received in the plans.

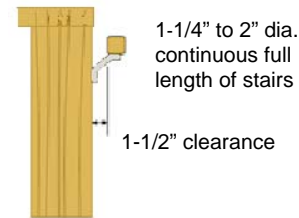
# Construction Details: Guardrails • Stairs • Handrail



All decks 30" high or more above finished grade, are required to have a guardrail. Note: If you are providing a guardrail where the deck is 29" or less the guardrail must meet the same requirements.

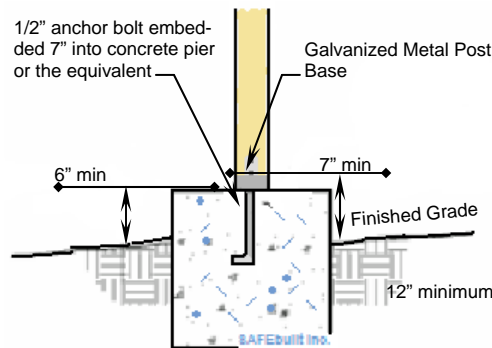
Handrails are required on one side of the stairs with 4 or more risers 34" to 38" above stair nosing.

**Handrail cross-section**



# Construction Details: Footing Requirements

The building code lists several requirements for footings based on use of the deck (loads) and soil conditions. At a minimum, footings shall be at least down to the frost depth for your location. Check with the building department for specific depths required. Additionally, the deck posts must be attached to the footing according to code to prevent lateral movement and uplift (wind and cantilevered forces). Deck posts must also be either a natural decay-resistant or preservative-treated wood and supported by a metal pedestal projecting 1" above the concrete and 6" above exposed earth to prevent moisture rot.



**Sample footing detail**

# Additional Information

## What will the building inspector look at?

**A typical deck project will require the following inspections:**

1. **Footings:** Foundation inspections shall be made after trenches are excavated, reinforcement steel is in place, forms erected, and PRIOR to placing of concrete
2. **Framing Inspection:** Inspection of the rim board attachment, floor joist, beams and hangers prior to finished flooring being applied.
3. **Final:** Inspection made AFTER the deck is completed

The permit technician will let you know the required inspections for your project when the permit is issued.

## Want to know more? Need more help?

We hope you found the information in this guide useful. If you have any questions, please feel free to contact us.

## How do I schedule a required inspection?

Please call the inspection line and leave all information requested in the message. Inspection requests received before 7am will be performed that day.

### What you need to apply for a building permit:



Permit Application



### PREP CHECKLIST

For the successful installation and longevity of your new roof:

#### Roof Sheathing Preparation (for complete tear offs):

- The roof sheathing must provide a rigid surface.
- Repair or replace all boards or sheathing which are warped, cracked or delaminated between supports.

#### Underlayment (for complete tear offs):

- Apply new, minimum 15# asphalt saturated felt underlayment of a Dry Deck.
- For roofs with slopes of 4:12 or greater, one layer of underlayment is required. For roofs with slopes between 2:12 and 4:12, 19" laps of underlayment is required, starting with a 19" strip, then full sheets.

#### Fasteners (for all roofs):

- Fasteners must be long enough to penetrate through the total thickness of the roofing and a minimum of 3/4" into the decking material.
- For open soffits, contact the building department.
- Nails must not be over or under driven, the head must be flush with the shingle surface and located per the packet instructions. Nails must be driven in perpendicular to the roof surface.

### Frequently Asked Questions:

#### 1. Why do I need a permit to re-roof my house?

Your permit allows the building department to inspect for potential hazards and unsafe construction. By ensuring that your project meets the minimum building code standards of safety, the building department can reduce the risk of fire, structural collapse and other issues that might result in costly repairs, injuries and even death. Inspections complement the contractor's experience and act as a system of checks and balances that can result in a safer project.

#### 2. May I, as the owner, do the re-roof myself?

Yes.

#### 3. Will my roof be inspected?

Yes, the permit holder must call for a Final Roof inspection. There may be a mid-roof inspection required, please consult the Building Department when you receive your permit.

#### 4. How many layers of roofing are allowed?

All existing layers must be removed

#### 5. May nail guns be used?

If properly adjusted and used correctly, a nail gun is allowed.

#### 6. What should be done with existing roof jacks and vents?

These must be replaced if they are in poor condition, badly rusted or otherwise deteriorated.

#### 7. Are there other requirements?

If your neighborhood has a Homeowners Association, we advise you contact them prior to making any changes to your roof covering materials.

### Tips on hiring contractors

- ◆ Hire only licensed contractors
- ◆ Get at least 3 bids.
- ◆ Get 3 references, and ask to see a project.
- ◆ Get it in writing, but before you sign the contract, make sure you completely understand.
- ◆ Do not make final payment until you have received a Certificate of Completion (CC) or until final inspection has passed.
- ◆ **Have the contractor apply for the required permits.**

## Residential Codes

### SECTION R806: ROOF VENTILATION

**R806.1 Ventilation Required.** Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion resistant wire mesh with 1/8" (3.2 mm) minimum to 1/4" (6 mm) maximum openings.

**R806.2 Minimum Area.** The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted, provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a vapor barrier having a transmission rate not exceeding 1 perm ( $5.7 \times 10^{-11}$  kg/s - m<sup>2</sup> - Pa) is installed on the warm-in-winter side of the ceiling.

**R806.3 Vent and Insulation Clearance.** Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1" (25 mm) space shall be provided between the insulation and the roof sheathing and the location of the vent.

### SECTION R907: REROOFING

**R907.3 Re-covering versus Replacement.** New roof coverings shall not be installed without first removing existing roof coverings where any of the following conditions occur: (Some exceptions may apply to your situation)

1. Where the existing roof or roof covering is water-soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.
4. Asphalt shingles subject to moderate or severe hail exposure.

If re-roofing over wood shingle, or wood shake roofs, additional code requirements may apply. Please see IRC Sections R905 and R907, or ask your building department for details.

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## Additional Information

The purpose of this guide is to assist you in the permitting process. This handout is intended to cover information for a basic plan submittal and typical project under the building codes. It is not intended to cover all circumstances. Depending on the scope and complexity of your project, additional information may be required. Discuss your project with building department staff to determine if it is subject to additional requirements.

### How do I schedule a required inspection?

Please call **the inspection line** and leave all information requested in the message. Inspection requests received before 7:00 am will be performed on the same business day. Contractors shall provide access to the roof for inspection.

### Want to know more? Need more help?

We hope you found the information in this guide useful. If you have any questions, please contact us.

## Roofing Materials & Requirements

### Shakes and Wood Shingles

- Felt interlace on shakes shall be 18" type 30 installed at twice the weather exposure of the material.
- Install type 30 felt under hip and ridge.
- Replace any damaged or rusted metal.
- Starter course at eaves shall be doubled.
- Minimum shake width of 4" required.
- Offset gaps from course to course with a minimum of 1 1/2" side lap.
- Provide a 1/4" to 3/8" gap for shingles.
- Provide a 3/8" to 5/8" gap for shakes.
- Step flashing must be interlaced at roof to sidewall junctions.
- Raise flashing at jacks vents and sidewall junctions.
- For hip and ridge caps double the first cap and alternate the overlaps. 10" exposure for 24" shakes and 7 1/2" for 18".
- A minimum 1 1/2" edge and 1" eave overhand is required. Two fasteners per shake/shingle 1" in from edge 2" up from exposure line.
- Shakes/shingles in valleys must be angle cut.
- Limit the number of exposed fasteners.
- Defective shakes, i.e. bark, knots, curling and thin areas are not permitted.



### 3 Tab or Laminate Shingles

- A cricket or saddle shall be installed on the ridge side of any chimney greater than 3" wide.
- A starter course with factory adhesive at the eave line or a manufactured starter with a tar sealant is required.
- Fasten with 4 nails per strip shingle and 6 nails in high wind areas. Do not nail into the factory applied adhesive. Locate fasteners per manufacturer's instructions.
- Drip edge is required around entire perimeter of roof.

- A 5" maximum exposure is allowed.
- There should be no tab offset joints closer than 4" between adjacent rows.
- A maximum 5" exposure for hip and ridge caps is allowed.
- Raise all roof jacks and vents so that shingles are underneath the lower edge of the flange—shingle over the top and sides at least past the point of roof penetration. Fasten down the lower edge.
- At roof to vertical junctions, shingle under the flashing.
- At sidewall junctions, provide sealant unless the re-roof is a tear off, then re-interlace with step flashing.

- An edge and eave overhang of 3/8" - 1/2" is required.
- Closed, woven or open valleys must be properly installed.
- Replace any damaged or rusted metal.
- Nail heads must be flush with shingle surface, not penetrating the shingles or above shingle surface.

### Interlocking

- A starter course is required.
- Nails and nail placement must be per manufacturer's specifications.
- Raise flashing at all jacks, vents and roof to vertical junctions.
- Hand seal with roofing adhesive or face nail gable and rake edges.

- Hand seal loose tabs at valleys. Closed valleys are not allowed.
- A maximum 5" exposure for hip and ridge caps is allowed.
- An edge and eave overhang of 3/8" - 1/2" is required.

### Tile, Metal & Special Roofs

- An engineered analysis of the roof structure is required if the roofing material type exceeds 7.5 pounds per square foot.
- These roofs must be applied as per manufacturer's specifications.
- A mid roof inspection may be required.
- A complete copy of the manufacturer's specifications and installation instructions must be on site and available for the installers and the building inspector.

### Rolled Roofing

- Some rolled roofing is allowed for low slope roofs with a pitch as low as 2:12.
- Some rolled roofing may be used on a slope as low as 1:12 if it is installed using the concealed nail method or the double coverage methods as per the manufacturer's installation instructions.
- An edge and eave overhang of 3/8" - 1/2" is required.
- For low slope applications, please contact your Building Department.





## REQUIRED INSPECTIONS FOR RESIDENTIAL ADDITIONS

- ❑ Setbacks (property lines must be identifiable or an ILC certificate may be required.)
- ❑ Footing and Foundation inspection, prior to concrete pour when all reinforcing is in place. (If you choose, these inspections can be performed by the engineer of record with a report indicating that the footing and foundation meet all code requirements provided to SAFEbuilt Colorado for review and approval.) <sup>1</sup>
- ❑ Underground plumbing (Applicable if new plumbing ran under slab)
- ❑ Underground Electrical
- ❑ Rough-in plumbing (Applicable if new plumbing added)
- ❑ Rough-in electrical
- ❑ Rough-in mechanical (Applicable if new duct work or heating appliances added)
- ❑ Rough-in framing <sup>3</sup>
- ❑ Gas piping (Applicable if new gas line added)
- ❑ Insulation Inspection
- ❑ Final plumbing (Applicable if new plumbing added)
- ❑ Final electrical
- ❑ Final mechanical (Applicable if new duct work or heating appliances added)
- ❑ Final building <sup>3</sup>

<sup>1</sup> **Note: Final Building will not be signed off until all engineers' inspection reports have been received.**

<sup>2</sup> **Check with local jurisdiction**

<sup>3</sup> **Note: Rough-in framing and final building will not be signed off until the plumbing, electrical, and mechanical work has been approved.**



## REQUIRED INSPECTIONS FOR RESIDENTIAL BASEMENT FINISH

- ❑ Underground plumbing (Applicable if plumbing under slab added or moved)
- ❑ Rough-in plumbing (Applicable if new plumbing added)
- ❑ Rough-in electrical
- ❑ Rough-in mechanical (Applicable if new duct work or heating appliances added)
- ❑ Rough-in framing <sup>1</sup>
- ❑ Gas piping ( Applicable if new gas line ran for an appliance)
- ❑ Insulation
- ❑ Final plumbing (Applicable if new plumbing added)
- ❑ Final electrical
- ❑ Final mechanical (Applicable if new duct work or heating appliances added)
- ❑ Final building <sup>1</sup>

<sup>1</sup> **Note: Rough-in framing and final building will not be signed off until the plumbing, electrical, and mechanical work has been approved.**



## REQUIRED INSPECTIONS FOR RESIDENTIAL DECKS <sup>1</sup>

- ❑ Setbacks (property lines must be identifiable or an ILC certificate may be required.)
- ❑ Footing/Piers (Open hole inspection required prior to placing concrete)
- ❑ Rough-in framing <sup>2</sup>
- ❑ Final building <sup>2</sup>

<sup>1</sup> Owners don't have to be at home for the inspections but structure must be accessible without going through gates. Inspectors don't know when dogs may be in the yard. Have all necessary paper work available for the inspectors.

<sup>2</sup> Final Building and framing may be requested at the same time if the deck is elevated enough to see all framing members from below (Min 48")