Residential Basement Finish Guide

Basement finish permits are typically issued same-day, however standard review times may apply if: There is structural work (foundation, beams, etc.), or if the entire unit/house is fire sprinkled.

Checklist for permit submittal

(Revised 12/14/2018)

	Floor Plan with measurements, showing the proposed layout **(2 copies)**
	Engineer's letter for foundation modifications, such as new openings etc. (if applicable).
	Permit application
	Fee Payment: Contact Building Services for an estimate 970-416-2740.

Contact Zoning for the following scenarios: 970-416-2745 zoning @fcgov.com

1. Creation of a second kitchen (cooking appliance) may constitute a second dwelling unit, (not allowed in certain zones).
2. Adding bedrooms in a townhome or multi-family basement will need to be approved by Zoning for adequate parking
3. If you plan to use the basement as a short-term-rental check feasibility: https://www.fcgov.com/shorttermrentals/

Basement FAQ's

Are floating walls required in Fort Collins, and what are those guidelines?

Floating walls are allowed, but not required. There are no building code requirements or local guidelines for floating walls within City Limits.

Only my basement is sprinkled in my new single family detached house, what should I do?

Homes permitted after 2/17/2012 require ½" drywall on bottom of *engineered floor joists* for fire protection. As an alternative, code allows for a partial sprinkler system in accordance with the plumbing code. When finishing a basement with a sprinkler system, you may modify the existing sprinkler system, and provide a design in accordance with P2904 for the new layout, or you may remove the system in areas where the ceiling will be finished with ½" min. drywall.

My entire unit/house is sprinkled, what should I do?

If the entire space is sprinkled, contact building services, we can help you determine what type of sprinkler system you have, and who can modify the system. Typically, a new sprinkler design layout will be required at the time of submittal.

Can I finish my own basement?

If you own the house, and live there as your primary residence, and plan to do the work yourself, you may finish your own basement, and must be present for all inspections. You will need to fill out a homeowner affidavit when you submit for permit. Rental properties may require a licensed contractor (contact us for more info).

Can I hire a friend or handyman to help me or remodel my basement for me?

No, anyone you hire, and pay needs to be locally licensed for the type of work they are doing, however unpaid, supervised volunteer labor is allowed. (City Ordinance Article V)

I own a unit in a duplex/townhouse/condo, can I finish the basement of my unit myself?

1. Townhouses and Duplex structures contain fire rated construction and penetrations, because of that we required licensed professionals for all plumbing, mechanical, electrical, and structural work. You may act as a job site supervisor, do non-structural framing, drywall, finishes and cabinet work.
2. If you live in condo of a multi-family building (3 or more units on a single lot), you will need to hire an appropriate licensed general contractor, due to the technical complexity of fire protective features that may impact adjacent units.

I just bought a house and discovered that the basement was finished without a permit. How do I correct this?

Work started or completed without a permit is in violation of Building and Municipal Codes and typically subject penalties, however, if you purchased a property with unpermitted work, we are happy to work with you to permit and bring your space into compliance without fines. Please contact us for more information on this process.

What is fire blocking?

Fire blocking is a material used to reduce the spread of fire by breaking up large connected air spaces concealed within walls and floors, to prevent fire from spreading between levels. This is required where there is a gap between the foundation wall and wall framing (such as basements that are finished with blanket insulation attached to the concrete foundation wall). Attached are (2) examples for different material applications and methods (page 4).

Planning, Development & Transportation Services
Community Development & Neighborhood Services
281 North College Avenue, Fort Collins, CO 80522.0580
970.416.2740 www.fcgov.com/building

Basement Finish Requirements

The following items are code requirements, which will be verified at inspection.

Life Safety and Fire Prevention

1. Basement finishes in attached units (ie: townhomes, apartments, or condos) with P2904 fire sprinkler systems must include a sprinkler plan. Sprinklers shall not be removed, capped, or covered.
2. Basements and each sleeping room require an egress opening. (See page 5)
3. Smoke detectors are required inside and outside all sleeping areas, on each level, and shall be connected to the existing detection system if present. If no interconnected smoke detector system is currently present, battery-operated, and wireless smoke detectors are acceptable.
4. A carbon monoxide alarm is required outside, and within 15 feet of the bedroom, and inside bedrooms with fireplaces.
5. Enclosed useable space under the stairs shall be fully protected by min ½" gypsum board (drywall).
6. Provide fire blocking in framed walls at ceilings, and furred walls at 10' intervals. (See Page 4)
7. Access to mechanical rooms **shall not** be located within, or open into a bedroom or bathroom. Exceptions:
   a. Access door is solid (i.e.: no louvres), gasketed, self-closing door, and combustion air is taken directly from the outdoors into the mechanical room.
   b. All appliances are direct vent and sealed combustion, direct vent appliances.
   c. Home is all electric (no gas appliances).

Space and Technical Requirements

8. Minimum ceiling height is: 7'-0" for bedrooms, living areas and hallways. 6'-8" for showers, storage rooms, and laundry rooms. 6'-4" min is allowed in all spaces at locations of beams and ductwork.
9. Minimum bedroom size is 70sf and not less than 7ft in width/length.
10. Exterior insulation options: **A.** Between studs - R15 min. or R13 + R15 spray foam at rim joists. **B.** Existing blanket insulation on foundation walls at time of construction is acceptable to remain. **C.** R10 continuous + R15 spray foam at rim joists.
11. Altering the foundation (windows, etc.), will require a letter/plan stamped by a Colorado Licensed Engineer or Architect.
12. Separate permits shall be required for solid fuel (wood or pellet) burning appliances.

Electric Requirements

13. All new and unpermitted after-the-fact electric work must comply with the electric provisions of the **current** National Electric Code (NEC). Arc fault protection and tamper resistant receptacles are required.
14. Electric outlets in habitable rooms shall be installed at any wall space 2ft wide or more, within 6ft of any door/ opening in the wall. Receptacles shall be installed at intervals not to exceed 12ft, distance between receptacles is measured horizontally along the floor/wall line.
15. Electrical outlets at bathroom, and wet bar counters shall be GFCI protected.
16. Bathroom outlets require a dedicated 20 Amp GFCI circuit.

Mechanical and Ventilation Requirements

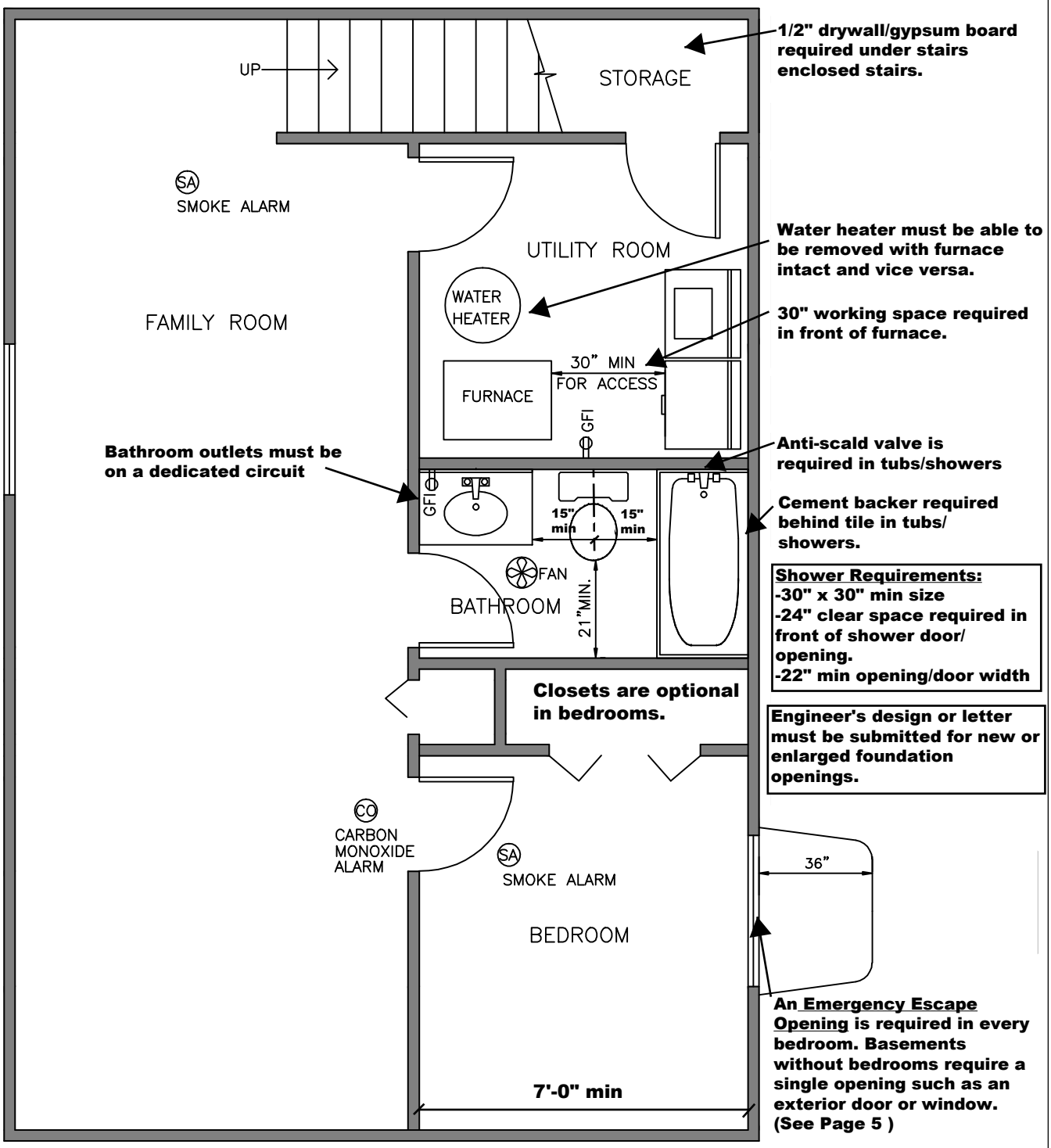
17. Provide mechanical room with combustion air. See attached **Combustion Air Chart** on page 5 of this handout.
18. Bathrooms shall be provided with an exhaust fan ducted to the exterior of the house or an operable window.
19. Natural ventilation is required for all habitable rooms (windows, doors, etc.) The openable area shall be 4% min of the floor area of that room.
20. Homes with forced air heating/cooling requires a supply and return air path from each habitable room (no door undercuts).
21. Any fireplace or heating equipment shall be installed in accordance with the manufacturer's specifications.

Plumbing Requirements

22. New plumbing fixtures in basements that require under slab work, shall be protected by an approved backwater valve.
23. Low flow plumbing fixtures are required (i.e.: 1.28 gpf toilet; 2.0 gpm shower head; 1.5 gpm faucet).

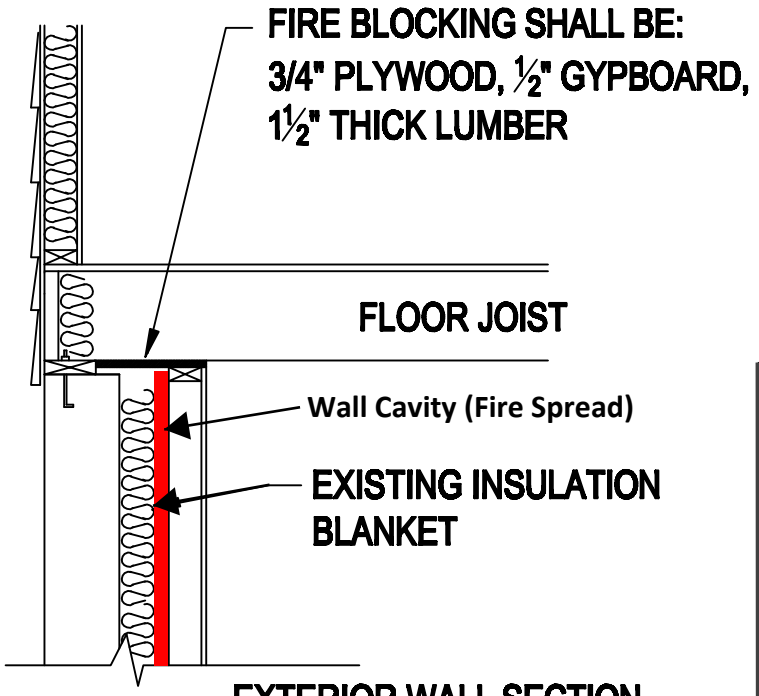
Example Floor Plan

1. Plans can be hand drawn with measurements/dimensions.
2. Provide (2) copies of plans.

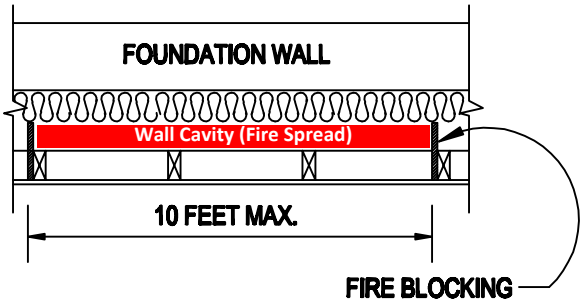


Fire Blocking Methods

Wall Method 1: Fire Blocking with wood or drywall

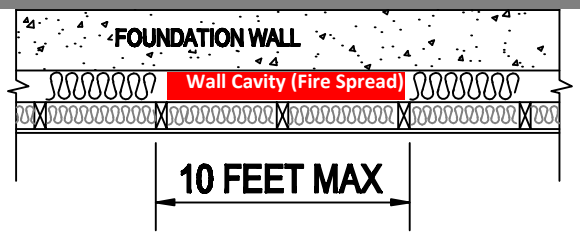


EXTERIOR WALL SECTION

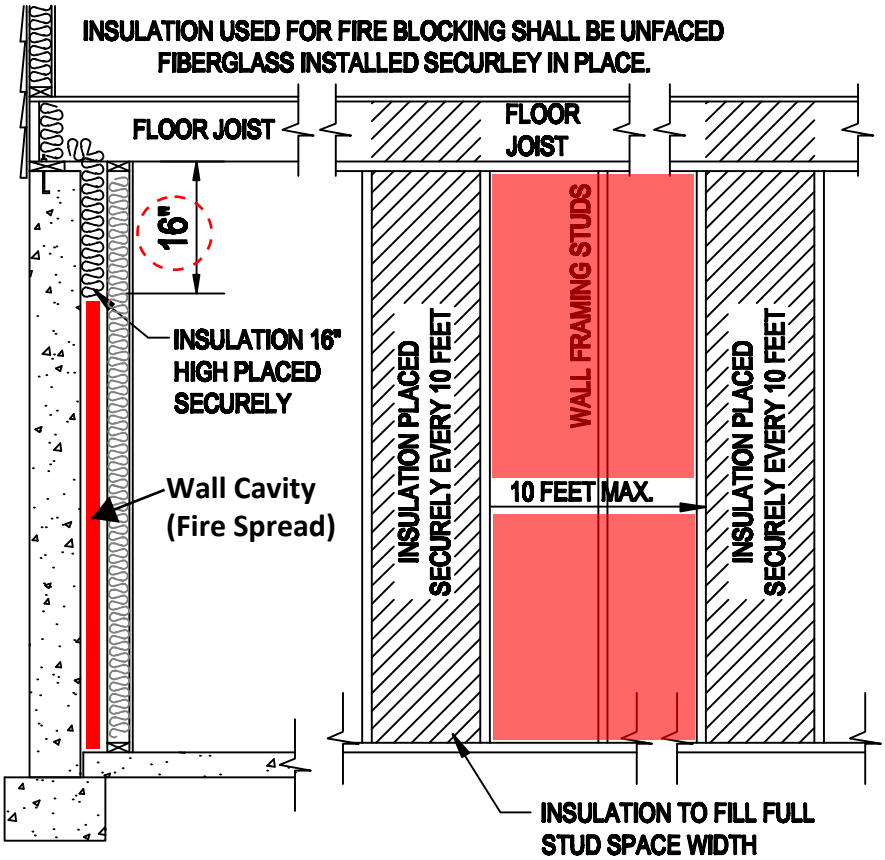


WALL PLAN VIEW WITH EXISTING INSUL BLANKET

Wall Method 2: Fire Blocking with insulation

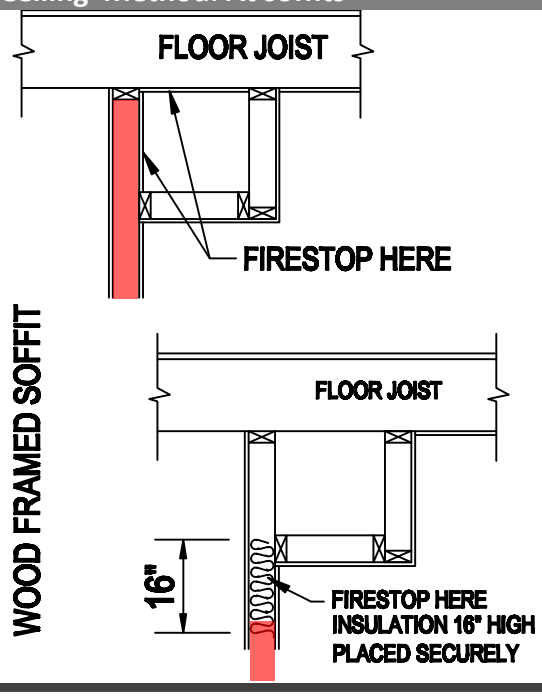


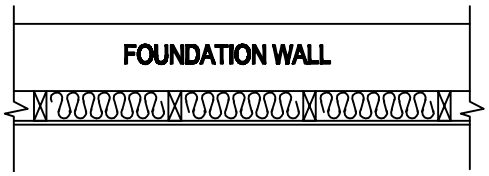
WALL PLAN VIEW WITH INSULATION FILLING ONE STUD CAVITY IN WIDTH EVERY 10 FEET MIN.



EXTERIOR WALL SECTION ELEVATION VIEW OF WALL

Ceiling Method: At soffits

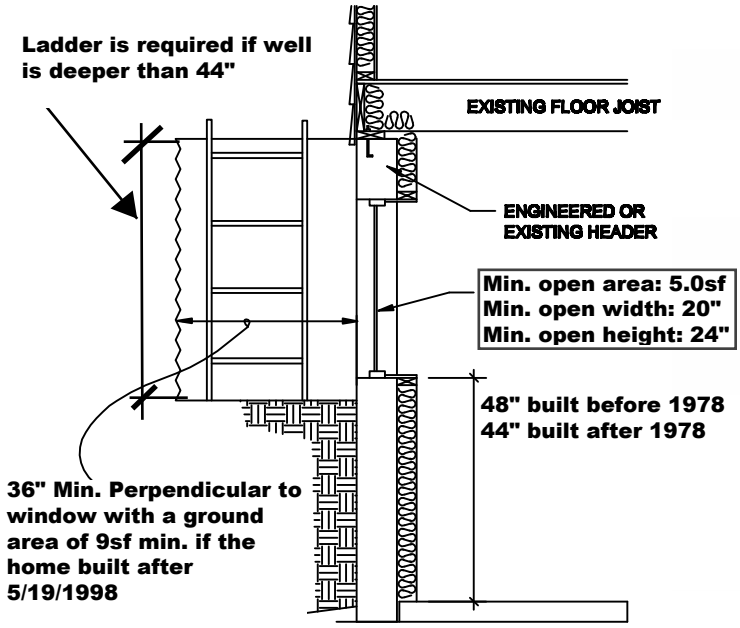


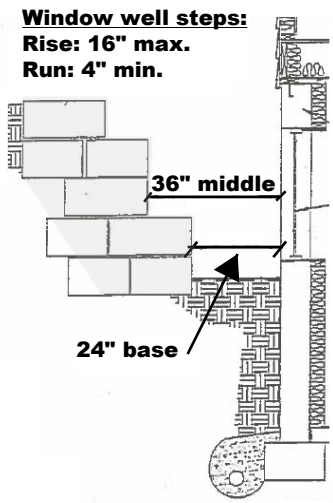


No Fire Blocking Required:

When wall is framed flush to foundation

Emergency Escape Windows





Stepped window well option

BSMT FINISH GAS APPLIANCE (FURNACE) COMBUSTION AIR CHART			
METHOD	CODE	DESCRIPTION	REQUIREMENTS
I	G2407.5	INDOOR COMBUSTION AIR	Standard Method (Older/existing houses, pre 1975) - 50 cu.ft. per 1000 btu.
II	G2407.8	ENGINEERED SYSTEM	Per submitted and engineered.
III	G2407.9	MECHANICAL COMBUSTION AIR	.35 cu.ft. per min/1000 btu
IV	G2407.6.1	OUTDOOR COMBUSTION AIR, 2 ROUND SUPPLY DUCTS	2 permanent opening method: 1 high & 1 low; vertical ducts provide 1 sq. in. per 4000 btu; horizontal ducts provide 1 sq. in. per 2000 btu.
V	G2407.6.2	OUTDOOR COMBUSTION AIR, 1 ROUND SUPPLY DUCT	One permanent opening method: provide 1 sq.in. per 3000 btu. See below. 34,000=4" DUCT , 55,000=5" DUCT, 80,000=6" DUCT, 110,000=7" DUCT, 145,000=8" DUCT, 185,000=9" DUCT, 230,000=10" DUCT.
VI		ALL APPLIANCES ARE DIRECT VENT	All combustion air taken directly to appliance therefore no duct into appliance location necessary.

Basement Finish Inspection Guide		
Underground Plumbing (only for under slab plumbing/no rough-ins present)		
Rough Inspections	Gas line air test (if new/altered)	Can be scheduled at the same time
	Plumbing top out and water test	
	Rough mechanical (ductwork)	
	Rough electrical (wiring)	
	Fireplace (if applicable)	
	Rough Frame (fire blocking should be in place)	
Insulation Inspection		
Finals	Final Inspections (schedule each) : Plumbing, Electric, Mechanical, Final Building.	Can be scheduled at the same time