

Basement Finish

This handout is intended only as a guide in the design for the intended building project. Complete design and installation shall be in accordance with the 2020 Minnesota Residential Building Code, Chapter 1309 (MRC). For complete code requirements refer to code at: <https://codes.iccsafe.org/content/document/1581>.

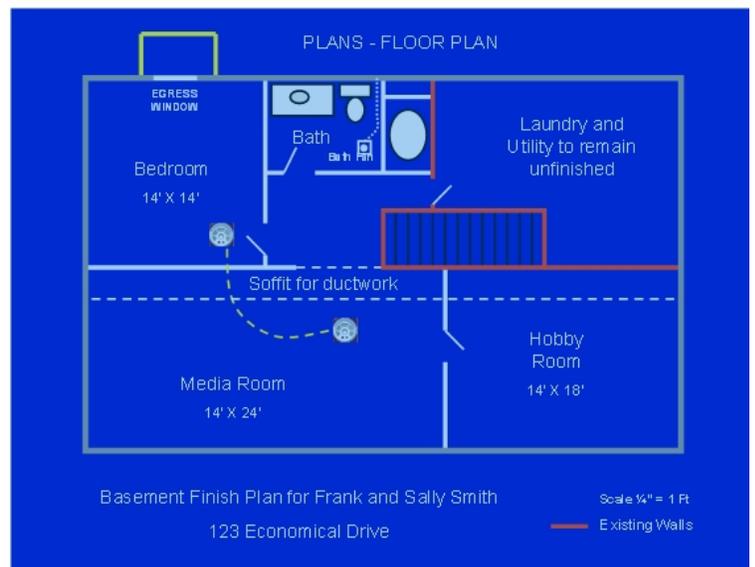
ePermits Prior to applying for a permit, see ePermit how-to documents for specific requirements to registering and applying for an ePermit through the Scott County ePermit Portal.

Required Submittals for Basement Finish Permit Application

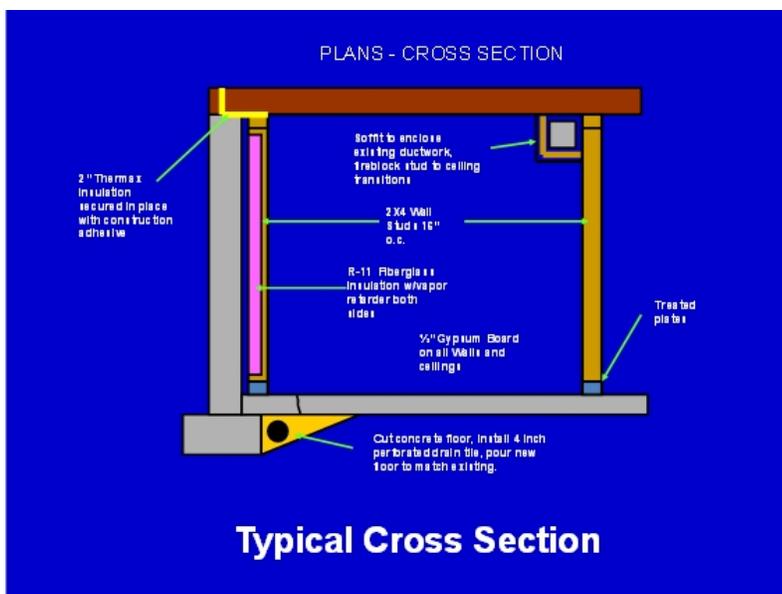
Township Approval Form - Use form to determine if township approval is required for project location. Submit completed form with township approval signature if applicable.

Contact & Contractors Form - Upload completed contact and contractor form as applicable for your project.

Building Plans - including floor layout, cross sections, elevations, energy, and design details of any structural changes. Plans shall include: All dimensions and elevations, rooms and unfinished areas shall be labeled. Plumbing and other mechanical equipment shall be labeled. Identify if plumbing rough in is existing or additions/alterations to the drain, waste, vent system are proposed. Alterations to bearing and exterior walls require all loading and beam details in those.



Specifications – product installation specifications if any materials or fasteners requiring specific installation specs. Example: Mechanical Equipment make and model details



Did you know.....

The most common reason for permit delays is due to missing or incomplete submittal documents

Permits applications with missing or incomplete submittals will be rejected.

TO AVOID DELAYS, ensure all required submittals are included with application for permit.

Basement Finish Permits General Requirements

Permits and Plans

- Building permits are required if you are finishing unfinished space in your basement, changing the use of space such as converting a recreation room to a bedroom, and for some repairs.
- Plans are required and should be neat scale drawings that include a floor plan with rooms labeled and dimensioned, window sizes and locations, cross sections, and any notes that would help explain the nature and extent of your project.
- Inspections are required of all work. Upon permit issuance, an inspection record card is provided. Inspections are made by appointment.
- If you have any questions on the permit process, contact Scott County Building Inspections.

Required Inspections

1. **Electrical Rough-in:** by State Electrical Inspector
2. **Plumbing Underground:** 5 psi air test if permit includes alteration to existing drain, waste, vent system
3. **Plumbing, Mechanical, Gas line and Fireplace Rough-in**
4. **Framing:** May be combined with Plumbing, Mechanical, and Fireplace rough Inspections
5. **Insulation:** May be combined with the Framing inspection if not altering existing exterior walls
6. **Electrical Final:** by State Electrical Inspector
7. **Plumbing, Mechanical, Fireplace, and Building Final:** Electrical Final must be approved first

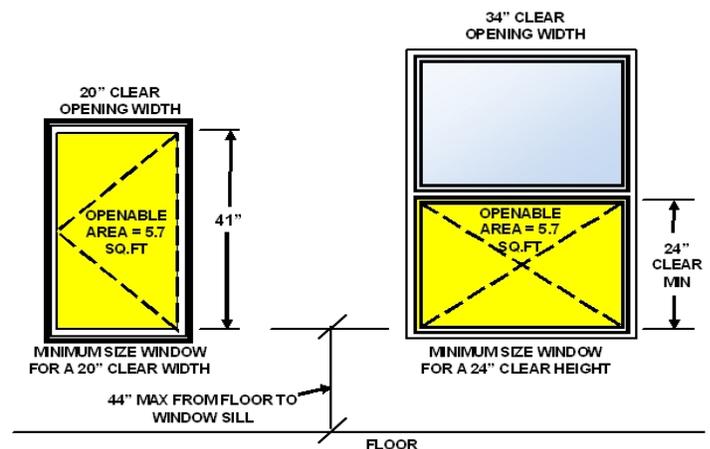
General Information

- Ceiling heights in basements should be a minimum of 7 feet in height, see R305 for exceptions.
- Bathrooms must be provided with ventilation via a window with at least 1.5 square feet of open area or a mechanical exhaust fan with a minimum rating of 50 cfm. The ducting must be installed with approved materials.
- Minimum 15" finished clear space to each side from center of toilet and at least 24" clear space in front of the toilet.
- Showers, regardless of shape, shall have a minimum finished interior of 1024 square inches and shall also be capable of encompassing a 30-inch circle.
- Fireplaces and stoves shall be installed accordance with mfg. specs. Installation specs shall be on site for inspection.
- Bedrooms must be at least 70 square feet in area.
- Nail plates shall be installed wherever nails or screws may come in contact with electrical wiring, plumbing, or gas piping, see specific codes for rules.

R310 Emergency Escape and Rescue Openings (Egress Windows)

Basements and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, each with approved emergency escape and rescue openings, additional openings not required in adjoining areas of basement.

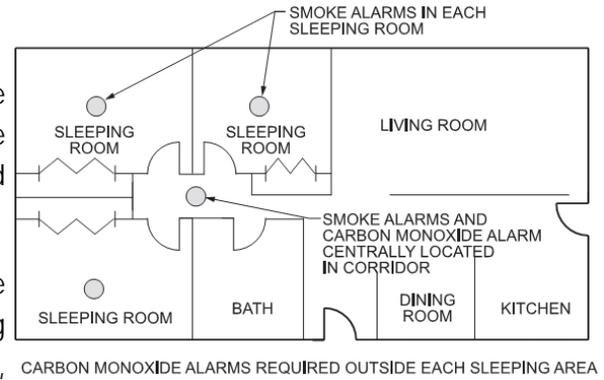
The sill height shall be not more than 44" from finished floor to bottom of clear opening. The minimum net clear opening of the egress window shall be 5.7 sq. ft. except grade floor openings permitted to have minimum 5 sq. ft. The minimum opening shall be 20" in width and 24" in height. See MN R310 for exceptions.



R314 Smoke Alarms

Smoke alarms shall be located within each sleeping room and outside of in the vicinity of each sleeping room and on each floor of the dwelling, including the basement. Upgrade to current code required throughout dwelling.

All smoke alarms shall be interconnected where actuation of one alarm with activate all alarms. In areas where wall and ceiling materials are not being removed as part of the project, interconnectivity not required.



R315 Carbon Monoxide Alarms

Carbon monoxide alarms are required when the dwelling contains fuel-fired appliances or has an attached garage. Alarms shall be installed outside of and not more than 10 feet from each separate sleeping area or bedroom. Where a fuel-fired appliance is installed inside a bedroom or attached room, the carbon monoxide alarm shall be installed within the bedroom.

All carbon monoxide alarms shall be interconnected where actuation of one alarm with activate all alarms. In areas where wall and ceiling materials are not being removed as part of the project, interconnectivity not required.

General Framing Information

- Non-bearing wood framed walls may be 2X4 studs at 16 or 24 inches on center. Walls must have a bottom plate and at least a single top plate. Plates in contact with concrete floors must be treated wood, redwood, or cedar unless there is a vapor retarder under the slab. Wood used for framing soffits may be 2X2 material.
- Headers in non-bearing walls may consist of a 2X4 laid flat for openings up to 8 feet wide. No cripples or blocking are required above the header provided the distance from the header to the floor joist above is not more than 24".
- Walls shall not be removed unless it has been determined that they are not load bearing. If any portion of a load bearing partition is removed, a header or beam must be installed to transfer the load to a footing and the footing size must be calculated to ensure the existing footing is adequate to carry the new point load.
- Pressure treated wood furring strips not less than 1X2 inches may be attached directly to the interior of exterior masonry or concrete walls below grade or untreated strips may be used if an approved vapor retarder is installed between the wall and the furring strips.
- Wood veneer paneling must be placed on wood framing spaced not more than 16 inches on center. Wood veneer paneling less than ¼ inch nominal thickness must have not less than a 3/8-inch gypsum board backer.

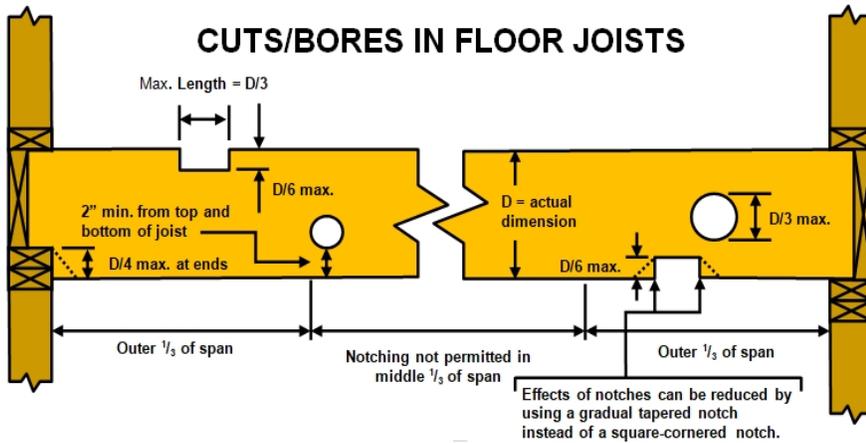
Drilling and Notching of Framing Members

- Drilling and notching of open web trusses or laminated veneer lumber (LVL) beams is not permitted without an approved design from the manufacturer or a structural engineer.
- Drilling and notching of I-joists is permitted in accordance with the manufacturer’s specifications.

NOTCHING AND BORING WOOD STUDS ²				
	Maximum Hole Diameter	Distance Edge of Hole to Edge of Stud	Location	Maximum Depth of Cut or Notch
Bearing/Exterior Stud ¹	40% of Stud of Width	5/8" Minimum	Not same section as cut or notch	25% of Width of Stud
Interior Bearing Studs	40% of Stud of Width	5/8" Minimum	Not same section as cut or notch	40% of Stud of Width

¹ Exterior or bearing studs may be bored or drilled provided that the diameter of the resulting hole is not greater than 60% of the stud width and that the studs are doubled and not more than two successive studs are bored, the edge of the hole is no closer than 5/8 inch to the edge of the stud, and the hole is not located in the same section as the cut or notch.

² Approved stud shoes may be used when installed in accordance with the manufacturer’s recommendations



Engineer's fix or mfg. specs shall be on site for any notching or boring of trusses, laminated veneers, i-joist, other engineered wood, or those that do not meet the prescriptive limits of MN R602.6

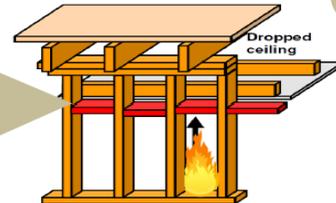
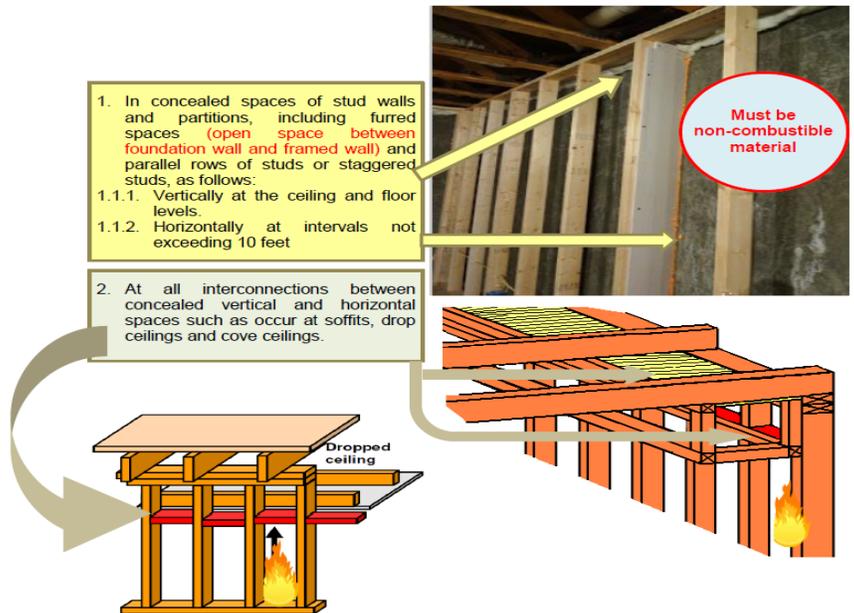
Fireblocking

In combustible construction, fire-blocking shall be provided to cut off all concealed draft openings, both vertical and horizontal, to form an effective fire barrier between stories, and between a top story and the roof space. Fire-blocking shall be provided in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
 - a. Vertically at the ceiling and floor levels.
 - b. Horizontally at intervals not exceeding 10'.

1. In concealed spaces of stud walls and partitions, including furred spaces (open space between foundation wall and framed wall) and parallel rows of studs or staggered studs, as follows:
 1.1.1. Vertically at the ceiling and floor levels.
 1.1.2. Horizontally at intervals not exceeding 10 feet

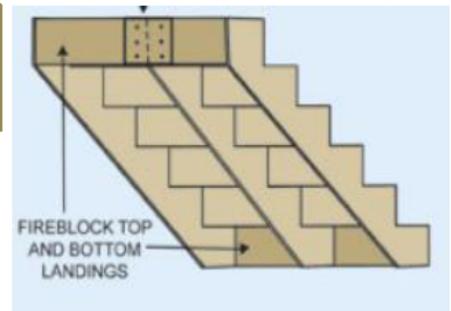
2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.



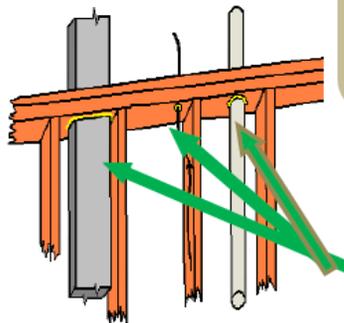
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3. In concealed spaces between stair stringers at the top and the bottom of the run.

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4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.



4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E 136 requirements.

Fireblocking Materials (Except as provided in Section R302.11 Item 4), fireblocking shall consist of the following materials:

- Two-inch (51 mm) nominal lumber.
- Two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints.
- One thickness of 23/32-inch (18.3 mm) wood structural panels with joints backed by 23/32-inch (18.3 mm) wood structural panels.
- One thickness of 3/4-inch (19.1 mm) particleboard with joints backed by 3/4-inch (19.1 mm) particleboard.
- One-half-inch (12.7 mm) gypsum board.
- One-quarter inch (6.4 mm) cement-based millboard.
- Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place. Fireblocking should be installed and inspected as part of the framing or insulation inspection.
 - R302.11.1.2 Un-faced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches (406 mm) measured vertically from the bottom of the dropped area. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction. Other materials such as caulking, or spray foams shall be non-combustible.

Insulation

The Minnesota Energy Code does not require basements and crawl spaces of existing homes to be insulated. The method and type of insulation you use is entirely up to you. If you use foam plastic insulation, it must be covered with ½ -inch gypsum board unless the foam plastic is approved for use without the covering.

Electrical

Electrical installations are subject to permits and inspections. Permit is through MN Department to Labor and Industry Electrical Division

Electrical Inspections: Contact the State Electrical Inspector for your area (see below)

Line No.	County	*AHJ	City or Township	Form and Fees	Inspector	Phone
226	Scott	State	Belle Plaine Township	State form/State fees	Justin Doebbeling	612-643-1838
227	Scott	State	Blakeley Township	State form/State fees	Justin Doebbeling	612-643-1838
228	Scott	State	Cedar Lake Township	State form/State fees	Randy Edel	507-334-3748
229	Scott	State	Credit River Township	State form/State fees	Justin Doebbeling	612-643-1838
230	Scott	State	Elko New Market	State form/State fees	Randy Edel	507-334-3748
231	Scott	State	Helena Township	State form/State fees	Randy Edel	507-334-3748
232	Scott	State	Jackson Township	State form/State fees	Justin Doebbeling	612-643-1838
233	Scott	State	Jordan	State form/State fees	Justin Doebbeling	612-643-1838
234	Scott	State	Louisville Township	State form/State fees	Justin Doebbeling	612-643-1838
235	Scott	State	New Market Township	State form/State fees	Randy Edel	507-334-3748
236	Scott	State	New Prague	State form/State fees	Randy Edel	507-334-3748
237	Scott	State	Prior Lake	State form/State fees	Justin Doebbeling	612-643-1838
238	Scott	State	Sand Creek Townshp	State form/State fees	Justin Doebbeling	612-643-1838
239	Scott	State	Savage	State form/State fees	Justin Doebbeling	612-643-1838
240	Scott	State	Spring Lake Township	State form/State fees	Justin Doebbeling	612-643-1838
241	Scott	State	St. Lawrence Township	State form/State fees	Justin Doebbeling	612-643-1838
242	Scott	Local	Belle Plaine	Local form/Local fees	Justin Doebbeling	612-643-1838
243	Scott	Local	Shakopee	Local form/Local fees	David Lemke	952-233-9396

Plumbing shall be applied for with the Basement Finish Permit

- Nail plate (18 gauge) required at piping within 1" of the outside edge of framing and shall extend 1 ½" beyond the outside diameter of the pipe.
- Support – Piping shall be supported to maintain alignment and prevent sagging.
 - Horizontally support PVC and ABS DWV every 4' and at each horizontal branch and at change of direction or elevation. Vertically at the base and each floor level – guides at mid story.
 - Pex every 32" horizontally at each floor vertically – guides at mid story.
 - CPVC 1" and smaller horizontally every 36" and vertically at the base and each floor – guides at mid story.
- Hot water piping shall be insulated (minimum R-3) per the requirements and table listed in the MN Energy Code R403.3
- Toilets must be installed in a space at least 30 inches wide (minimum 15" from center of toilet to finished wall or surface) and at least 24 inches of clear space must be provided in front of the toilet bowl.
- Anti-scald control devices - combination tub/shower and shower valve must be of the thermostatic, pressure-balancing, or combination thermostatic and pressure-balancing type in accordance with ASSE Standard 1016.
- Lining for shower and receptors are required to be tested for water tightness by filling with water to the level of the rough threshold. The test plug shall be placed so that the upper and under side of the sub pan shall be subject to the test at the point where it is clamped to the drain. (There is no Scott County Building inspection required).
- Drain, Waste and Vent piping is not allowed to be intermixed between types of material without using an approved mechanical connection. For example, ABS (black) and PVC (white) cannot be solvent welded (glued) together. Transition glue is not an approved connection.
- Access panels (minimum 12"x12") shall be provided to all traps, slip joint connections, pumps, cleanouts, and valves.
- All cleanouts shall be readily accessible. 2" piping or less requires 12" in front of the cleanout; piping exceeding 2" requires 18" in front of the cleanout.

Mechanical shall be applied for with the Basement Finish permit

- Operable window or mechanical exhaust fan is required in the bathroom. Mechanical exhaust is required to have a minimum ventilation rate of 50 CFM for intermittent ventilation or 20 CFM for continuous ventilation. Exhaust air from fan shall be exhausted directly to the outside. Termination shall be 3' from windows and other operable openings and 10' from any mechanical intakes or appliances manufacturer's requirements.
- Clothes dryers shall be properly vented to the exterior per Section 504.6 of the MN Mechanical Code. The maximum length of clothes dryer vents shall be as allowed in Section 504.6.1. Max 35' with a 5' reduction for each elbow.
- Exhaust ducts within a conditioned space must be insulated to an R-3.3 with a vapor retarder for a distance of three feet from the exterior.
- White plastic flexible duct for dryer vent or bath fan exhaust is prohibited.
- Warm air supply ducts must be metal or UL 181 listed flexible duct.
- Provide outside source of combustion, ventilation and dilution air as per Chapter 1346: Section 304 of the MN Fuel Gas Code and the MN Energy Code.
- Prior to mechanical rough-in inspection all flue vents, insulation guards, straps, connections and fire stopping must be in place.
- Must be able to heat all habitable spaces to a minimum 68 degrees. Supply and return air shall be balanced.
- Return air ducts are prohibited in closets, kitchen, laundry rooms, bathrooms, storage or mechanical rooms.
- All New duct seams shall be sealed with approved mastic 1/16" min. thickness or UL 181 listed tapes. The longitudinal seams shall also be sealed.

- All new exhaust system terminations shall be equipped with backdraft dampers at the point of discharge on the exterior.

Energy Code Items

- Jobsite/Field Identification: materials, systems, and equipment shall be identified in a manner that will allow a determination of compliance with the applicable provisions of this code. Materials used shall be:
 - Listed for the intended use.
 - Installed in accordance with the manufacturer's installation instructions.
 - Installed by an installer who is certified by a manufacturer to install that specific product.
- All insulating materials require a manufacturer's R-value mark which must be installed to be readily observable upon inspection.
- All ducts shall be sealed with approved mastic 1/16" min. thickness or UL 181 listed tapes.
- Rigid interior foundation insulation shall be in contact with the foundation wall and sealed with an acoustic sealant along vertical edges, all interior joints, edges, and through penetrations. In addition, acoustic sealant shall be applied horizontally between the top of the insulation and the foundation wall, and horizontally between the bottom of the insulation edge and basement floor.

Other Related Items

- The "approved" plan shall be kept on the site of the building.
- "Approved" plans and specification shall not be changed, modified or altered without **prior** approval from Scott County Building Inspections
- The permit applicant and property owner are responsible for complying with all conditions of Scott County Ordinances, current MN codes, building permit, and stamped "Approved" project plans and documents.