



Date _____
Permit # _____

Property Owner _____
Agent/Builder _____
Property Address _____

To: City of Waupaca

Subject: Drain Tile – Comm 21.17
Inspections and Occupancy – Comm 20.10(1)(b)(4), Uniform Dwelling Code

It is acknowledged that the City of Waupaca requires the installation of drain tile according to Comm 21.17, attached, unless:

The owner or agent determines, through on-site evaluation, that the soil at the building site shows no evidence of permanent, periodic or seasonal saturation.

I hereby certify that I have completed an on-site evaluation of the building site and there is no evidence of saturation, therefore, the requirements of Comm 21.17 are not mandatory.

Owner/Agent Date

It is also acknowledged that I have been provided with a copy of Comm 20.10 and that I understand the inspection and occupancy procedure described therein.

Owner/Agent Date

NOTE: This signed letter is required before the pouring of any footings. If the letter is not provided, the building permit is suspended until such time as this signed letter is provided.

Comm 21.17 Drain tiles. (1) DETERMINATION OF NEED.

(a) *New construction.* 1. Except as provided under sub. (2), a complete drain tile or pipe system shall be installed around the foundation of dwellings under construction where groundwater occurs above the bottom of the footing.

2. For the purposes of this section, a complete drain tile or pipe system includes all of the following:

- a. The drain tile or pipe installed inside and outside the foundation, except as allowed under s. Comm 21.17(3)(d) 1. b.
- b. Bleeders connecting the inside tile or pipe to the outside tile or pipe.
- c. The sump pit or crock.
- d. The discharge piping.
- e. A pump or other means of discharging water to grade.

(b) *Optional systems.* 1. If a complete drain tile or pipe system is not required by natural conditions under par.(a) or by a municipality or registered UDC inspection agency, a partial drain tile or pipe system may be installed.

2. For the purposes of this section, a partial drain tile or pipe system includes a means of discharging water from the tile or pipe and may include any of the other elements under par. (a) 2. **Note:** Means of discharging water include a sump pit, a crock or natural means of drainage to daylight.

(2) OPTIONAL SYSTEMS. (a) *New construction.* 1. For new dwelling construction, a municipality or registered UDC inspection agency may determine the soil types and natural or seasonal groundwater levels for which a complete drain tile or pipe system is required. 2. For new dwelling construction, a municipality may not enact requirements for other than complete drain tile or pipe systems.

(b) *Alterations to an existing dwelling.* For an alteration to an existing dwelling covered by this code, a municipality may not require a complete drain tile or pipe system. (c) *Partial systems.* Municipalities may allow partial drain tile or pipe systems for new dwellings under construction or existing dwellings.

(3) MATERIAL AND INSTALLATION REQUIREMENTS FOR REQUIRED SYSTEMS. (a) *General.* Complete drain tile or pipe systems required by natural conditions under sub. (1) (a) or by a municipality or registered UDC inspection agency shall comply with the requirements of this subsection. (b) *Basement floor slabs.* The basement slab shall be placed on at least 4 inches of clean graded sand, gravel or crushed stone. (c) *Manufactured drainage systems.* Manufactured drainage systems not meeting the requirements of this section shall be submitted to the department for review and approval prior to installation. (d) *Drain tile or pipe installation.* Drain tile or pipe used for foundation drainage shall comply with the following requirements:

1. a. Except as allowed under subd. 1. b., the top of the tile or pipe shall be at or below the top of the footing.
- b. Where the top of the footing is more than 4 inches below the bottom of the floor slab, tile or pipe is required on the interior of the foundation only and it shall be placed directly under the floor. **Note:** This situation will commonly occur with a walk-out basement.
2. Drain tile or pipe shall have an inside diameter of at least 3 inches.
3. Drain tile or pipe shall have open seams, joints or perforations to allow water to enter.
4. Where individual tiles are used, they shall be laid with 1/8 inch open joints. Joints between tiles shall be covered with a strip of asphalt or tar impregnated felt.
5. The tile or pipe shall be placed upon at least 2 inches of coarse aggregate and shall be covered on the top and the side facing away from the dwelling with at least 12 inches of coarse aggregate that meets all of the following criteria:
 - a. 100% of the aggregate shall pass a 1-inch sieve.
 - b. 90–100% of the aggregate shall pass a 3/4-inch sieve.
 - c. 0–55% of the aggregate shall pass a 3/8-inch sieve.
 - d. 0–5% of the aggregate shall pass a #8 sieve.

Note: A #8 sieve has square openings of 2.36 mm or 0.09 inch.

Note: These specifications encompass aggregate sizes #6 and #67 per ASTM standard C 33. Of the two sizes, #6 is coarser.

6. a. Bleeder tiles or pipes shall be provided at no more than 8-foot intervals to connect the exterior drain tile or pipe to the interior drain tile or pipe.

b. Bleeder tiles or pipes shall have a minimum interior diameter of 3 inches.

c. Direct connection of the bleeders is not required if the intersection of the bleeder with the tile or pipe is covered with a membrane or fabric that prevents soil and fines from entering the system.

7. The drain tiles or pipe that lead from the footing tiles to the sump pit shall be laid at a grade of at least 1/8 inch per foot leading to the sump pit. The remaining drain tiles or pipe shall be level or graded downward to the line leading to the sump pit.

(e) *Drain tile or pipe discharge.* 1. Drain tiles or pipe shall be connected to the sump pit.

2. The sump pit shall discharge to natural grade or be equipped with a pump.

3. All other aspects of drain tile discharge shall be in accordance with the uniform plumbing code, chs. Comm 82 to 87.

Note: The following is a reprint of a pertinent section of the plumbing code:

Comm 82.36 (8) SUMPS AND PUMPS. (a) *Sumps.* 1. 'General.' All storm building subdrains shall discharge into a sump, the contents of which shall be automatically lifted and discharged, dispersed or used in accordance with sub. (4). 2. 'Construction and installation'. a. Except as provided in subd. 2. c. and d., an interior sump shall have a rim extending at least one inch above the floor immediately adjacent to the sump. b. A sump shall have a removable cover of sufficient strength for anticipated loads. c. Where a sump is installed in an exterior meter pit or elevator pit, the rim may be level with the floor. d. When a sump is provided with an airtight, solid cover. 3. 'Location'. All sumps installed for the purpose of receiving clearwater, groundwater or stormwater shall be separated from water wells by the applicable separation distances contained in chs. NR 811 and 812, or as otherwise permitted by the department of natural resources. **Note:** See Appendix A-82.30 (11) (d) for material reprinted from s. NR 812.08. 4. 'Size'. Except as recommended by the pump manufacturer, the size of each sump shall be no smaller than 16 inches in diameter at the top, 14 inches in diameter at the bottom, and 22 inches in depth. (b) *Pumps.*

1. 'Size.' The pump shall be of a capacity appropriate for the anticipated

use. 2. 'Discharge piping.' a. Where a pump discharges into a storm drain system, a check valve shall be installed. b. The minimum diameter discharge piping shall be based on the design flow rate of the pump and a minimum velocity of one foot/second. **History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80; r. and recr. Register, February, 1985, No. 350, eff. 3-1-85; r. and recr. (3) (a) 3. and (4), Register, May, 1988, No. 389, eff. 6-1-88; am. (2) (f), Register, January, 1989, No. 397, eff. 2-1-89; r. and recr. (4) (c) 3., Register, August, 1991, No. 428, eff. 9-1-91; cr. (5), Register, March, 1992, No. 435, eff. 4-1-92; r. and recr. Register, January, 1999, No. 517, eff. 2-1-99; am. (3) (d) 4., Register, March, 2001, No. 543, eff. 4-1-01; CR 03-097: am. (1) (b) 1., (2) (a) 1., and (3) (a) Register November 2004 No. 587, eff. 1-1-05; **CR08-043: am. (1) (a) 2. and (b) 2., renum. (3) (d) 1. to 4., 5. and 6. to be (3) (d) 2. to 5., 6. a. and 7., cr. (3) (d) 1., 6. b. and c. Register March 2009 No. 639, eff. 4-1-09.**

Comm 20.10 Inspections. (1) INSPECTOR CERTIFICATION. All inspections, for the purpose of administering and enforcing this code, shall be performed by an inspector certified in accordance with ch. Comm 5 who holds the respective credential for the

inspection performed. **(2) GENERAL INSPECTION REQUIREMENTS.** (a) *General.* Inspections shall be conducted by the municipality or authorized UDC inspection agency administering and enforcing this code to determine if the construction or installations conform to the conditionally approved plans, the Wisconsin uniform building permit application and the provisions of this code.

(b) *Inspection notice.* 1. The applicant or an authorized representative shall request inspections from the municipality or authorized UDC inspection agency administering and enforcing this code. 2. Except as provided under subd. 3., construction may not proceed beyond the point of inspection until the inspection has been completed. 3. Construction may proceed if the inspection has not taken place by the end of the second business day following the day of notification or as otherwise agreed between the applicant and the municipality or authorized UDC inspection agency.

(3) INSPECTION TYPES. (a) *General.* The inspections described in pars. (b) to (i) shall be performed to determine if the work complies with this code.

(b) *Erosion control inspection.* Erosion control inspections shall be performed concurrently with all other required construction inspections. Additional inspections for erosion control maybe performed by the delegated authority.

(c) *Foundation excavation inspection.* 1. The excavation for the foundation shall be inspected after the placement of any forms or required reinforcement and prior to the placement of the permanent foundation material. 2. If a drain tile system is required, by the local inspector or by groundwater levels in the excavation, the presence and location of bleeders used to connect the interior and exterior drain tile shall be inspected at the same time as the excavation. **Note:** This excavation inspection may be used to determine the need for drain tile under s. Comm 21.17.

(d) *Foundation reinforcement inspection.* The placement of reinforcement shall be inspected where the reinforcement is required for code compliance.

(e) *Foundation inspection.* The foundation shall be inspected after completion. Where dampproofing, exterior insulation or drain tile are required for code compliance, the foundation shall be inspected prior to backfilling.

(f) *Rough inspection.* 1. A rough inspection shall be performed for each inspection category listed under subd. 1. a. to e. after the rough work is constructed but before it is concealed.

a. **The basement floor area.** **Note:** The inspection of the basement floor area should include the following: any underfloor plumbing, electrical, or HVAC; any interior drain tile with base course required under s. Comm 21.17; the structural base course for the floor slab if required under s. Comm 21.20; and the underfloor vapor retarder as required under s. Comm 22.38.

b. General construction, including framing.

c. Rough electrical.

d. Rough plumbing.

e. Rough heating, ventilating and air conditioning.

2. All categories of work for rough inspections may be completed before the notice for inspection is given, provided the work has not been covered. 3. The applicant may request one rough inspection or individual rough inspections.

4. A separate fee may be charged for each individual inspection.

(g) *Insulation inspection.* An inspection shall be made of the insulation and vapor retarders after they are installed but before they are concealed.

(h) *Final inspection.* 1. Except as provided under subd. 2., the dwelling may not be occupied until a final inspection has been made that finds no critical violations of this code that could reasonably be expected to affect the health or safety of a person using the dwelling. 2. Occupancy may proceed in accordance with local ordinances if the inspection has not been completed by the end of the fifth business day following the day of notification or as otherwise agreed between the applicant and the department or municipality.

(i) *Installation inspection.* An inspection shall be performed on the installation of a manufactured home or modular home.

Note: The design and construction of manufactured homes is regulated by the federal Department of Housing and Urban Development under Title 24 CFR Part 3280.

(4) NOTICE OF COMPLIANCE OR NONCOMPLIANCE. (a) *General.* 1. Notice of compliance or noncompliance with this code shall be written on the building permit or another readily visible means and posted at the job site. 2. Upon finding of noncompliance, the municipality or authorized UDC inspection agency enforcing this code shall also notify the applicant of record and the owner, in writing, of the violations to be corrected. 3. Except as specified under par. (b), the municipality or authorized UDC inspection agency shall order all cited violations corrected within 30 days after written notification, unless an extension of time is granted under s. Comm 20.21.

(b) *Erosion and sediment control requirements.* 1. The time period allowed for compliance with the erosion and sediment control provisions under s. Comm 21.125 shall be determined based on the severity of the noncompliance in relation to soil loss or potential damage to the waters of the state. 2. Pursuant to s. 101.653 (7) (b), Stats., the department, a municipality or the designated UDC inspection agency may issue a special order directing an immediate cessation of construction work on other aspects of the dwelling until compliance with the erosion and sediment control provisions under s. Comm 21.125 is attained. Construction work may resume once the erosion and sediment control compliance corrections are completed. **Note:** Section 101.653 (7) (b) reads: "The department or a city, village, town or county may issue a special order directing the immediate cessation of work on a one- or 2-family dwelling until the necessary plan approval is obtained or until the site complies with the rules promulgated under sub. (2)."

(5) VOLUNTARY INSPECTION. The department or its authorized representative may, at the request of the owner or the lawful occupant, enter and inspect dwellings, subject to the provisions of this code, to ascertain compliance with this code.

(6) RECORD KEEPING. (a) *Municipal enforcement.* Municipalities that have adopted an ordinance to enforce this code shall maintain records in accordance with all of the following: 1. A record shall be made of each visit to a site, each inspection type performed and the pass or fail results of each inspection. 2. Approved plans shall be retained for 4 years after completion of the dwelling. 3. Applications forms, correction orders, correspondence and inspection records shall be maintained for 7 years after completion of the dwelling. (b) *State enforcement.* Inspectors working under state contract shall maintain records in accordance with the provisions of the contract that was in effect at the time the inspections were completed. **Note:** Records generated by the plan review and inspection functions are public records and are subject to the open-records law. **History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80; am. (1) (a), Register, February, 1985, No. 350, eff. 3-1-85; cr. (1) (b) 2. f., Register, January, 1989, No. 397, eff. 2-1-89; correction (1) (b) 2. intro. made under s. 13.93 (2m) (b) 4., Stats., Register, January, 1989, No. 397; r. (1) (b) 2. e., renum. (1) (b) 2. f. and 3. and (3) to be (1) (b) 2. e. and 4. and (2), cr. (1) (b) 3., Register, March, 1992, No. 435, eff. 4-1-92; am. (1) (c), Register, September, 1992, No. 441, eff. 12-1-92; cr. (1) (b) 5., Register, November, 1995, No. 479, eff. 12-1-95; am. (intro.), Register, October, 1996, No. 490, eff. 11-1-96; r. and recr. (1) (c), Register, February, 1997, No. 494, eff. 3-1-97; am. (intro.), Register, March, 1998, No. 507, eff. 4-1-98; r. and recr. (1) (b) 4., Register, March, 2001, No. 543, eff. 4-1-01; CR 00-159: am. (1) (intro.), (c) 1. and 2. a., r. and recr. (1) (a), Register September 2001 No. 549 eff. 12-1-01; CR05-113: r. and recr. (1) (c) 2. Register December 2006 No. 612, eff. 4-1-07; CR06-071: am. (1) (b) (intro.) cr. (1) (b) 6. and (3) Register December 2006 No. 612, eff. 4-1-07; **CR 08-043: r. and recr. Register March 2009 No. 639, eff. 4-1-09; correction in (3) (i) made under s. 13.92 (4) (b) 7., Stats., Register March 2009 No. 639.**