

CHAPTER 1106
Concrete

<p>1106.01 Concrete construction. 1106.02 Driveway construction. 1106.03 Concrete usage; quality. 1106.04 Residential concrete drive; plant and contractor's report.</p>	<p>1106.05 Asphalt concrete specifications. 1106.06 Installation specifications for sidewalks. 1106.07 Permit and fee. 1106.99 Penalty.</p>
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1106.01 CONCRETE CONSTRUCTION.

Concrete construction in the City of Seven Hills shall conform to the American Concrete Institute Practices for flatwork construction and the following specifications.
(Ord. 69-2005. Passed 7-11-05.)

1106.02 DRIVEWAY CONSTRUCTION.

(a) Driveways for New Dwellings. All driveways for new dwellings constructed in the City after the effective date of this section shall be Portland cement concrete or brick pavers of equal or greater strength than Portland cement concrete in thicknesses required by the Codified Ordinances of the City of Seven Hills.

(b) Replacement of Existing Driveways. Replacement of existing gravel, aggregate, brick or concrete driveways replaced in the City of Seven Hills after the effective date of this section, shall be Portland cement concrete, asphalt concrete or brick pavers of equal or greater strength than Portland cement concrete in thickness equal to Portland cement concrete required by the Codified Ordinances of the City of Seven Hills.

(c) Driveways, turnarounds, and parking areas whether new or replacement shall not be placed nearer than five (5) feet to any lot line on lots with greater than forty (40) foot frontage.

(d) Driveways closer to a lot line than 10 feet shall be tapered from the outside edges to the centerline to form a "vee". This "vee" shall run the full length of the driveway. The minimum taper shall be one-eighth (1/8) inch per foot.

(e) Where brick pavers are used, a proper base and base material must be used to establish a stable foundation. Drainage shall be provided to minimize settling or heaving.

(f) Excavation and Base. For light traffic areas excavate 5" to 6" where the pavers are to be laid. 3" to 4" will be the #9 crushed and compacted limestone material and 2-3/8" for the pavers laid on top. The base and pavers combined will equal 5" to 6". For drives or heavy traffic areas. Excavate 10" where pavers are to be laid. Place 5" of #57 limestone (3/4") in the excavated area place 3" of the #9d crushed limestone on top of the #57. The base and pavers combined equal 10". Proper compaction of sub-grade and base are mandatory.

(g) Edging. A substantial edge or curbing is required to retain the patio or driveway and to minimize "creeping" and hold the entire patio or driveway together. Some typical edges include landscape timbers and various curbing edges such as plastic, steel, or aluminum, which must be approved by the Building Commissioner.

(h) Sanding. Fine silica sand or mason sand shall be sweep into the joints of the pavers. This "sanding" locks the pavers in and tightens the entire surface. Sweep off the excess sand and hose patio off with water. Let dry and repeat this sanding process.
(Ord. 69-2005. Passed 7-11-05.)

1106.03 CONCRETE USAGE; QUALITY.

Any and all concrete used for the purposes set forth in this section shall be mixed and placed in accordance with the American Concrete Institute and the following specifications:

- (1) Contain a Portland cement content of six and one-half bag mix at ninety-four pounds per bag;
 - (2) Have an air entrainment of six percent (6%) to eight percent (8%) at the time of pour;
 - (3) Consist of clean and sound, coarse aggregate (one inch or smaller required);
 - (4) Contain no more water than will present a slump between a minimum of four inches and a maximum of six inches. Other slumps are permitted when designed and supervised by an Engineer;
 - (5) Have a uniform thickness of four inches (4") in the driveway and six inches (6") in the apron from the property line to the curb or street line; and
 - (6) Be reinforced with wire reinforcing mesh having a maximum spacing of six inches in either parallel direction between wires and a minimum wire size of Number 10 U.S. Gauge or other approved methods such as fibrous concrete;
- (a) Base.
- (1) The Engineer of the City shall set the grade for driveways.
 - (2) The base must be smooth and consist of undisturbed or compacted earth. Stone, gravel, limestone screenings, or non-settling material, approved by the Building Department, may be used as a leveling course. Excavations or trenches under a drive must be filled and compacted with a non-settling material.
 - (3) The sub-grade or base shall be dampened, if dry, before pouring.
- (b) Placing Concrete.
- (1) Foundation beds shall be sprinkled immediately prior to depositing of concrete. Ready-mixed concrete shall be rapidly deposited in the work, and any concrete not in final position within thirty minutes after completion of the mixing shall not be used.

- (2) Concrete shall be continuously deposited between bulkheads to a uniform thickness and to the full depth and width of the forms. The concrete, shall be thoroughly and sufficiently compacted to properly imbed the coarse aggregate and brought to the proper pitch and grade with a template or straight edge to produce concrete uniform in appearance, density and composition.
 - (3) No concrete showing segregation of materials shall be deposited in the work.
- (c) Time of Pour.
- (1) Where the temperature in the surrounding area is below seventy degrees Fahrenheit, the maximum allowable time from loading to pour shall be one and one-half hours.
 - (2) Where the temperature in the surrounding area is above seventy degrees Fahrenheit, the maximum allowable time from loading to pour shall be one hour.
 - (3) When concrete is placed at or below an atmospheric temperature of forty degrees Fahrenheit, or whenever the predicted temperature will fall below forty degrees Fahrenheit within the curing period, the water, aggregates, or both, shall be heated and suitable enclosures and heating devices shall be provided for and during the curing process.
- (d) Finishing and Curing.
- (1) Calcium or other admixtures shall not be added at the job site.
 - (2) Minimum floating and finishing shall be required. A broom or trowel finish shall be required. Finishing must be delayed until water sheen (bleed water) has disappeared from the surface. All finishing shall be in accordance with the American Concrete Institute guidelines.
 - (3) Curing compound shall be applied immediately after finishing, without damaging the surface, according to the manufacturer's recommendation. The compound shall be applied uniformly by means of an approved pressure spray distributor at the rate of one gallon to each two hundred square feet of surface, and it shall be so applied that the concrete surface is completely coated and sealed at one application.
 - (4) Curing may also be accomplished by "ponding". That is keeping the concrete continuously moist by spraying, soaking, or covering it with polyethylene or other non-porous sheeting. This process shall be maintained for a period of seven (7) days for regular concrete or three days (3) for Type 3 High-Early concrete.
- (e) Joints.
- (1) Control joints, whether hand-tooled or sawn, shall be to a depth of one-quarter the thickness of the slab. The dimension of any control joint panel shall not exceed ten feet.
 - (2) Isolation joints shall be required where concrete abuts any structure, including, but not limited to, foundations, garage floors, stoops and paved streets.

- (3) Expansion joints. Prepared strips of premoulded fiber expansion material shall be one-half inch in thickness and of sufficient width to extend the entire depth of the concrete and shall be placed in such a manner that the joint will be filled to within one-half inch of the finished surface of the wale. The edges of all joints so placed shall be rounded as hereinbefore specified.
(Ord. 69-2005. Passed 7-11-05.)

1106.04 RESIDENTIAL CONCRETE DRIVE; PLANT AND CONTRACTOR'S REPORT.

(a) In any construction within the purview of this chapter, all suppliers shall, at the time of loading for delivery to a user, complete a form entitled "Residential Concrete Drive: Plant and Contractor's Report, Part I," which shall state:

- (1) The delivery destination;
- (2) The size of the load;
- (3) The concrete mix;
- (4) The air entrainment;
- (5) The amount of water added at the plant;
- (6) The admixture added;
- (7) The amount of calcium chloride added; and
- (8) The time of truck loading.

(b) In any construction within the purview of this chapter, the contractor or his or her agent shall complete a form entitled "Residential Concrete Drive: Plant and Contractor's Report, Part II," which shall state:

- (1) The address or sublet number of the pour location;
- (2) The time of arrival;
- (3) The time of pour;
- (4) The name of the builder or user;
- (5) The name of the cement contractor or user;
- (6) The amount of water added at the job site;
- (7) The area temperature at the time of pour; and
- (8) The curing compound used and the type.

(c) An original and two copies of the Residential Concrete Drive: Plant and Contractor's Report shall be signed by the individual completing the report. Such person, by affixing his or her signature to such Report, warrants that the statements contained therein are true, under penalty of law. The original shall be sent to the Building Department of the City, one copy shall be sent to the builder, and the supplier shall retain one copy.
(Ord. 69-2005. Passed 7-11-05.)

1106.05 ASPHALT CONCRETE SPECIFICATIONS

Asphalt concrete shall be installed in accordance with the following specifications:

- (a) Two-inch asphalt concrete surface course in accordance with the requirements of the State of Ohio Department of Transportation Construction and Material Specifications, the latest edition, for Item 448 Asphalt Concrete Surface Course as, including all sub items; and
- (b) Four-inch bituminous aggregate base in accordance with the requirements of the State of Ohio Department of Transportation Construction and Material Specifications, the latest edition, for Item 301, including all sub-items.

- (c) Prior to the application of the two-inch asphalt concrete surface course, include treatment with a tack and/or prime coat in accordance with Items 407 and 408. (Ord. 69-2005. Passed 7-11-05.)

1106.06 INSTALLATION SPECIFICATIONS FOR SIDEWALKS.

(a) The supervision and inspection of any sidewalks laid in the City shall be under the direct control of the Building Commissioner. In addition to the requirements of Section 1106.03 above, the following shall be the specifications for the installation of sidewalks in the City:

- (1) Concrete sidewalks shall be provided which are five feet wide and four inches (4') thick;
- (2) All sidewalks shall slope from the inside of the lot line towards the street at a ratio of three-eighths inch per foot;
- (3) The sub-base and forms shall be inspected by the City prior to placing of concrete;
- (4) Where the sidewalks intersect, corners must have at least four feet of walk facing the opposite corner. All corners that lead to a crosswalk must be ramped in accordance the Federal Americans with Disabilities Act Guidelines.

(b) Cutting Slabs.

- (1) Immediately prior to the finishing of the surface, the walk shall be cut. The joints shall be cut through the full width of the walk, a minimum of one-quarter of the thickness, and shall be constructed at intervals of not greater than fifty feet, unless otherwise ordered by the Building Commissioner.
- (2) The joints shall be formed by a cutting tool or other means satisfactory to the Building Commissioner. The markings in the surface of the work at these joints shall not be more than one-fourth inch deep. All edges shall be rounded with an approved edging tool to a radius of one-fourth inch.

(c) Surface Finish.

- (1) The finish of the walk shall immediately follow the placing and compacting of the concrete. Unless otherwise ordered, a finish produced by rubbing with wood floats will be required. In the compaction of the freshly placed concrete, care shall be exercised that the concrete is worked only sufficiently to properly imbed the coarse aggregate and to produce concrete uniform in appearance, density and composition. The surface shall be free from depressions or inequalities. The application of dry cement to hasten drying of the surface is prohibited.
- (2) In all cases where curbs and/or sidewalks are constructed, the developer and/or contractor constructing them shall mark thereon the location of the sewer and water connections with the proper letter "S" and "W". (Ord. 69-2005. Passed 7-11-05.)

1106.07 PERMIT AND FEE.

A permit shall be obtained from the Building Department before construction of any new or replacement concrete work begins and a fee specified in Chapter 1125 shall be paid to the Building Department. (Ord. 69-2005. Passed 7-11-05.)

1106.99 PENALTY.

Any person who fails to comply with any provisions of this code shall be guilty of a misdemeanor of the fourth degree. (Ord. 69-2005. Passed 7-11-05.)