

CITY OF SPRINGFIELD, OHIO

DEPARTMENT OF ENGINEERING

SPECIFICATIONS

FOR THE CONSTRUCTION OR RECONSTRUCTION OF
CONCRETE CURB, COMBINED CONCRETE CURB AND
GUTTER, SIDEWALK AND DRIVEWAYS

DAYS AND HOURS OF WORK

The City of Springfield reserves the right to regulate the days and hours of work within the right-of-way.

Work shall be scheduled during daylight hours, Monday through Friday. When excavations are to be left open during nighttime hours, or over an extended time of no activity, the contractor shall secure approval of the City to assure proper treatment of the site, per this manual.

The City reserves the right to order the excavation plated or backfilled during times of no related activity to return the roadway to full usable width.

Except for emergency situations or permission from the Engineer, no work shall be started within the right-of-way on weekends, legal holidays, or any other day judged critical to the safe and orderly movement of vehicular or pedestrian traffic.

City Ordinance prohibits Sunday work.

RESPONSIBILITY FOR FURNISHING TEMPORARY TRAFFIC CONTROL DEVICES

The contractor shall be responsible for furnishing the appropriate traffic control devices, excepting those noted below, pursuant to this manual.

All signs shall be erected and approved by the City prior to the contractor commencing with any work within the right-of-way.

The City of Springfield shall furnish temporary parking control signing, signs regulating speed or turning movements, and detour signing (when it is not included within the bidding documents for a given project.)

The contractor shall notify the City a minimum of two (2) working days in advance of the need for City owned devices.

CHANNELIZATION AND BARRICADING DEVICES

Traffic cones, drums, and barricades are all used, in tandem with appropriate signing, for redirecting of vehicular and pedestrian traffic in a safe and orderly manner.

All such devices shall meet the requirements of the Ohio Manual of Uniform Traffic Control Devices, the latest revision.

All such devices shall be in good repair and free from dirt and other defacing agents, which limit or obstruct any reflectorized surfaces or the overall visibility of the device.

CONES:

Traffic Cones are effective for daytime use in redirecting traffic along a given path of travel. Cones are subject to blow-over and theft. Cones used through a heavy traffic or high-speed area should be checked often to assure that they are remaining in the desired position.

Cones should not be spaced more than 10 feet apart when used to channelize traffic on streets with speed limits of 25 mph or less.

BARRICADES:

Portable barricades may be used as channelizing devices, identifying a hazard within the right-of-way, and for closing specific areas. Properly maintained, portable flasher barricades may be used for both day and night operations.

Portable barricades, utilized between sunset and sunrise shall be equipped with a working battery powered flasher.

Barricades should not be spaced more than 15 feet apart when used as a channelizing device on streets with speed limits 25 mph or less.

When used to outline an excavation or close a specific area, barricades should not be spaced farther than 5 feet apart to prevent vehicles from driving between them to enter the protected area.

CHANNELIZATION AND BARRICADING DEVICES, cont

DRUMS:

Plastic construction drums have become a much-preferred method of channelization. Drums are utilized because they can be weighted easier than cones and barricades, they have a larger reflective surface area for visibility, they are normally not subject to disabling damage when struck by a vehicle, and drums take up less of the usable roadway during channelizing operations.

Drums are permitted for both day and night time use and due to their large reflective surfaces, do not require use of a lighting device when used for channelization.

Drums are subject to the same spacing requirements as barricades on streets with speed limits of 25 mph or less.

CRITERIA FOR CONDEMNING SIDEWALKS

1. Any block having a crack or cracks in it more than 1/4" wide.
2. Blocks or portions of blocks thereof whose edges differ vertically by more than 1/2" from the adjoining blocks or portions of blocks.
3. Blocks that have holes in them 5/8" or more in diameter or are cracked and broken so that the pieces are missing or loose.
4. Blocks having depressions, reverse cross-slope (sloping away from the street) or below curb grade so as to impound mud or water.
5. Blocks having a cross-slope in excess of 3/4" vertical per one foot horizontal.
6. Blocks that cause an abrupt change in the longitudinal grade of the sidewalk.
7. Blocks that are ravelled; i.e., the surface has spalled leaving it very rough with the coarse aggregate protruding.
8. Cellar doors and coal hole covers that are not flush with the sidewalk, or have a smooth surface, or projecting hinges, or are structurally unsafe.
9. Cellar gratings that have openings measuring more than 5/8" or project above the sidewalk, or are structurally unsafe.
10. Any natural stone slabs, steel plates (other than approved covers over cellar openings), or prismatic lights used as sidewalk over a sub-grade.
11. Defective columns or beams supporting a sidewalk slab over a sub-space.
12. Stumps, stones, private sign posts or any other unauthorized obstruction in the sidewalk space.

CRITERIA FOR CONDEMNING DRIVEWAYS

1. Any driveway having a crack or cracks in it more than 1/4" wide.
2. Driveway approaches that differ vertically by more than 1/2" either above or below the sidewalk.

CRITERIA FOR CONDEMNING DRIVEWAYS cont.

3. Driveways that are cracked or broken or have holes larger than 5/8" in diameter.
4. Driveway approaches and sidewalks across driveways within the street right-of-way constructed or materials other than concrete. Asphalt drive aprons and sidewalks across drives are not permitted on streets with curbs.
5. Step-down driveways, i.e., having vertical curbs in excess of 2" in height above the gutter.
6. Abandoned driveways.

CRITERIA FOR CONDEMNING CURB & GUTTER *

1. Any section of curb having crack or cracks in it more than 1/4" wide.
2. Any section or portion of a section of curb thereof whose edges differ vertically by more than 1" from the adjoining sections or portion of a section of curb or any sidewalk or driveway approach that adjoins such curb.
3. Sections of curb that have holes 5/8" or more in diameter or are cracked and broken so that pieces are missing or loose.
4. Sections of curb that are raveled, i.e., the surface has spalled leaving it very rough with the coarse aggregate protruding.
5. Sections of curb that have been broken off for a drive approach. Specifically the breaking off of the top of curb at drive approaches is not permitted.
6. Any section of curb face that differs more than 1/2" from the established curb line.
7. Any section or portion of a section of curb whose elevation differs from adjoining sections so that more than 1" of water is impounded.

*All references to "Curb" also refer to "Combined Curb and Gutter"

SPECIAL INSTRUCTIONS

Permission to construct Sidewalk, Curb and Gutter and Driveways is granted upon the express condition that all construction shall be done in conformity with the rules, regulations and ordinances governing said construction and shall be constructed in accordance with the specifications for construction and materials and standard drawings on file in the office of the City Engineer. The following special rules and regulations shall be adhered to:

Failure to comply with the rules, regulations and ordinances may result in a citation under appropriate ordinances or may result in a recommendation to the Contractor's Licensing Board for suspension of the violating Contractor's license.

According to Chapter 903 of the Codified Ordinances of the City of Springfield, Ohio, no person shall tear up or dig into any street for the purpose of construction or repairing the sidewalk, curbing or gutters thereon or for any other purpose, without having first obtained from the City Manager a permit to do so. (This permit can be obtained in the City Engineering Department.)

THE CONCRETE PERMIT TAG MUST BE POSTED ON THE SITE OF THE WORK AT ALL TIMES DURING THE PROGRESS OF THE WORK.

NO INSPECTION WILL BE MADE BY THE ENGINEERING DEPARTMENT UNLESS THE PERMIT TAG IS POSTED ON THE JOB.

The Permittee must call (937) 324-7313 for inspection at least three (3) hours before he plans to pour the concrete. The Permittee, or his foreman, must be on the job when the Inspector arrives. If, because of weather conditions or for some other reason, it will not be possible to have a man on the job, the Permittee is required to call and cancel his call for inspection.

The Permittee is cautioned against ordering concrete before the inspection is made due to possible correction of FORMS or GRADE.

The decision of the City Inspector shall be final; however, if the Permittee wishes to appeal the Inspector's decision, they may contact the City Engineer. If further appeal is desired, the City Manager may be contacted.

SPECIAL INSTRUCTIONS, cont'd

All Permittees installing new curb or curb with gutter plate are cautioned that it is your responsibility to place suitable crushed gravel or grits backfill between the existing street edge and the new gutter plate before removing your barricades. All debris or excess concrete must be removed from the void prior to placing gravel.

Wherever a Permittee is removing, replacing, and/or installing a sidewalk in which there is a sign support, the Permittee shall contact the City Public Works office at (937) 525-5800 for instructions on removing or maintaining a temporary support, and re-erection of said sign support. If the sign support is to be re-erected within the sidewalk area, the Permittee shall be required to place an open ended can of a size to accommodate the post at the location indicated by the Public Works Director.

SPECIFICATIONS

SECTION 1 – MATERIALS

No curbs, gutters, sidewalks or driveways shall be constructed of any material other than Air Entrained Concrete made with Type 1 Portland Cement or materials equivalent thereto as determined by the City Engineer on any public ways within the City. The concrete shall be a minimum of 6 bags per cubic yard with a maximum slump of 3 inches and have a minimum compressive strength of 4,000 lbs. Per square inch in 28 days. The concrete shall contain sufficient air entraining agent to provide 4° to 7° air entrainment. Maximum permissible time lapse after water is first added to mix and time the last concrete is removed from the mixer (truck or otherwise) is one hour. The City Inspector shall have the right to examine delivery tickets for any and all materials used or to be used in the public right-of-way.

SECTION 2 –EXCAVATION

In excavating the old concrete, it shall be cut at a joint by sawing, use of pneumatic tools, or other satisfactory methods and care shall be exercised to avoid damaging the remaining concrete. Any good concrete broken out due to careless workmanship, shall be replaced at the Permittee's expense.

In the excavation of existing ground for new sidewalk, curb and gutter, or driveway, the Permittee shall use such suitable equipment, tools and methods for excavating the existing materials so as not to disturb the sub base. Any excavating of the sub base not required shall be backfilled with clean gravel and firmly tamped.

SECTION 3 – FILL

Where fill is required or where the sub base material is deemed by the Engineer to be unsuitable, it shall be excavated and backfilled with bank run gravel or suitable material approved by the Engineer. The fill shall be deposited in 6-inch layers and thoroughly tamped, flushed or rolled until thoroughly compacted. Where necessary, the fill shall extend a minimum of 12 inches beyond the proposed concrete work and sloped from that point on a 1-1/2 horizontal to 1 vertical.

SPECIFICATIONS cont.

SECTION 4 – FORMS

All forms shall be either metal or sound 2” wood planks. All forms shall be full depth and they shall be straight, true, and clean.

SECTION 5 – CURING

Immediately after the final finishing and after the free water has disappeared, all exposed surfaces of the concrete shall be sealed by spraying thereon, as a fine mist, a uniform application of curing material which shall be white in color, meeting the requirements of Section 705.07 State Highway Specifications in such a manner as to provide a continuous, uniform water-impermeable white film without marring the surface of the concrete. Clear curing material may be used in place of white before May 15th and after September 15th.

SECTION 6 – CONCRETING IN COLD WEATHER

When the temperature is below 36°F, or predicted to be below 36°F in the next 72 hours, no concrete shall be poured without the express permission of the Engineer. Permission so granted shall be for the day and location in question only and must again be requested for subsequent days when the temperatures are as above. When the Engineer grants such permission, the following conditions must be met:

1. No concrete shall be poured until adequate covering materials such as, plastic and straw or paper and straw, is on the site and sufficient number of workmen are present to pour and finish the concrete and to follow up with the covering material as soon as application is practicable.
2. All forms must be cleaned of all frost. In no case shall concrete be poured on frozen ground or on ground in which there is frost.
3. When pouring under the above conditions, the use of a maximum of 2° calcium chloride or other admixtures as approved by the Engineer to aid in the initial set of the concrete will be permitted provided sufficient workmen are on hand to finish the concrete properly before the initial set.

SPECIFICATIONS cont.

SECTION 7 – SIDEWALKS

All sidewalk constructed within the street right-of-way shall be a minimum of 4 inches in thickness except sidewalk thru driveways which shall be a minimum of 6 inches in thickness and shall be constructed in conformity with the lines and grades and plans on file in the office of the Engineering Department. The City Engineer shall establish new grades and lines or changes in same and the width of walk.

Wherever excavation is made for new sidewalk across existing driveways, care shall be exercised in excavating the driveway and unless otherwise ordered by the Engineer, the driveway shall be cut on a line not to exceed 2 inches back of the back of the sidewalk. After the forms have been removed, the void between the driveway and the sidewalk shall be filled with crushed gravel, grits or suitable paving material, as directed by the Engineer or Inspector.

All tree roots shall be trimmed to a point at least 2 inches below the sub grade and 2 inches beyond the edges of the sidewalk. Where trees or large tree roots extend into the sidewalk area, the Permittee shall call for an Inspector to review the condition before any cutting is done on the tree or the roots.

SUBGRADE. The sub grade shall be well compacted and any fill necessary will be made with bank run gravel, crushed stone or other material approved by the Engineer. Immediately prior to placing of concrete, the sub grade shall be evenly wetted down.

PLACING AND FINISHING. NO CONCRETE SHALL BE POURED UNTIL THE SUBGRADE AND THE INSPECTOR HAS APPROVED THE PLACING OF FORMS.

The concrete shall be carefully placed so as not to disturb the alignment of the forms and thoroughly spaded or puddle to eliminate honeycomb. The sidewalk shall be divided into blocks 5' long unless otherwise ordered.

The joints shall be neatly finished with a grooving tool leaving a groove ½ inch deep with a double edger. The sidewalk shall be finished with a magnesium float or broomed.

CURING. Curing shall be done in accordance with the method as specified under Section #4 of these specifications.

SPECIFICATIONS cont.

EXPANSION. Expansion joints shall be made by use of Carey non-extruding fiber joint material or equal of ½ or ¼ inch thickness and shall be placed around all fire hydrants, poles, trees, etc. In new construction, expansion joints shall be placed every 50 feet and on either side of driveway. Expansion joints shall be placed between sidewalk and curb and gutter whenever walk is poured adjacent to curb and gutter.

SECTION 8 – CURB AND GUTTER OR CURB ONLY

All Curb and Gutter constructed within the street right-of-way shall conform to the typical section and with lines and grades and plans on file in the office of the Engineering Department. The City Engineer shall establish new grades and lines or changes in same.

All tree roots shall be trimmed to a point at least 2 inches below the sub grade and 2 inches behind the back of curb. Where trees or tree roots extend into the curb and gutter area, the Permittee shall call for an Inspector to review the condition before any cutting is done on the tree or the roots.

SUBGRADE. The sub grade shall be well compacted and any fill necessary will be made with bank run gravel, crushed stone or other material approved by the Engineer. Immediately prior to placing of concrete, the sub grade shall be evenly wetted down.

PLACING AND FINISHING. NO CONCRETE SHALL BE POURED UNTIL THE SUBGRADE AND THE INSPECTOR HAS APPROVED THE PLACING OF FORMS.

The concrete shall be carefully placed so as not to disturb the alignment of the forms and thoroughly spaded or puddle to eliminate honeycomb. The curb and gutter shall be divided into blocks 5 feet long, unless otherwise ordered.

The joints shall be neatly finished with a grooving tool leaving a groove ½ inch deep. Edges shall be neatly finished with an edging tool. If templates have been used, joints must be cut where templates have been removed.

CURING. Curing shall be done in accordance with the method as specified under Section 4 of these specifications. Immediately after completion of curing and removal of forms, all voids along the back of the

SPECIFICATIONS cont.

new curb shall be filled with earth firmly tamped. All voids along the front of the gutter shall be filled with gravel firmly tamped to street grade.

Barricades and flares must not be removed until after the backfilling along the gutter has been completed.

EXPANSION. Expansion joints shall be made by use of Carey, non-extruding fiber joint material or equal, of ½ or ¼ inch thickness cut to the contour of the curb and gutter and shall be placed where new curb joins existing curb, at driveways and at the end of all circular sections. Expansion joints shall be placed every 50 feet and on either side of driveways.

SECTION 9 – DRIVEWAY APPROACHES

Driveway approaches are herein defined as that area between the back of the curb and the face of the sidewalk. All said driveway approaches shall be a minimum of 6 inches in depth and shall conform to the lines and grades and plans on file in the office of the Department of Public Works.

CURING. Curing shall be done in accordance with the method as specified under Section 4 of these specifications. Immediately after completion of curing and removal of forms, all voids along the back of the new driveway shall be filled with earth firmly tamped.

FORMS. Driveway approach forms shall be either metal or sound 2” wood planks, except in special cases where a bendable material may be used. (Expansion joint material may not be used for forms at any time.) All forms for driveway approaches shall be full depth and they shall be straight, true, and clean.