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DPW ORDER NO. 177,526

Good Neighbor Guidelines for Repair of Sidewalk Defects

This Order is a companion to the DPW Order 177,525, Guidelines for Inspection of Sidewalk Defects, and lists temporary sidewalk/curb repair methods available to property owners. The Department of Public Works considers these methods to be temporary in nature and not permanent fixes for sidewalk defects.

Although the proven method of repair is full pavement and/or curb replacement, repair methods identified in this Order are available to property owners to quickly, and efficiently, address defects. Property owners should plan for, and undertake, permanent repairs as needed in order to maintain defect-free sidewalks/curbs.

DPW makes no claim related to how long these temporary repair methods will remain effective nor does DPW make any claim as to the effect these methods will have on prolonging or shortening the useful life of the pavement. DPW will continue to monitor the condition of the City's sidewalks and curbs and require defects to be repaired in a timely manner; however, by following the guidance set forth in this Order, property owners may minimize DPW enforcement action.

Public Works Code Section 706 makes it is the duty of the property owner(s) to maintain sidewalks in front of and adjacent to their properties in good repair and condition. The property owner is responsible for the repair and condition of the sidewalk fronting his/her property except in the following instances:

- When the damage is caused by City-maintained street trees as listed on the City's street tree database (i.e., tree root damage).
- When the damage is in the sidewalk corner (angular corner or corner return).
- When the damage is related to a utility facility.
- Special instances where the City maintains sidewalks, e.g. Market Street Bricks or Mission Street Tiles

When the Department of Public Works (DPW) inspects or becomes aware of sidewalk problems, it will inform the responsible party of sidewalk defects such as gaps, cracks, chips, displacement, holes, or other defects. DPW rigorously follows the standards established in the Americans with Disabilities Act and California Title 24, which identify a ¼ inch or greater displacement or gap as a defect subject to repair for accessibility purposes. The normal process to repair a sidewalk defect is the removal and replacement of the sidewalk as specified in the City's Standard Specifications (Section 204).

This Order establishes DPW's Good Neighbor Guidelines for property owners to improve sidewalk accessibility by minimizing sidewalk defects.

Sidewalk defects that impair pedestrian accessibility are a DPW priority for repair and must be corrected by the responsible party in a timely manner. Some conditions may warrant immediate attention.

The following defects are considered to impact pedestrian access and, as such, are priorities for property owner repair.

(1) Vertical Displacement – where the sidewalk pavement or curb is displaced by ½ inch or more from the abutting pavement or curb.
(2) Voids, cracks, chips, holes, gaps – where sidewalk pavement or curb has eroded leaving a ½ inch or more void, in width and/or depth, from abutting pavement or curb.

These measurements should account for existing grades, slopes and sidewalk patterns.

The above standards define sidewalk defects that DPW believes the public can easily identify under existing conditions. Consequently, these measurements should facilitate the public's assistance in contacting DPW (415-554-5810) for inspections of sidewalk defects and provide an opportunity for affirmative repair by property owners in lieu of DPW inspection and issuance of notices to repair or other enforcement action. These guidelines are not meant to defer or relieve a property owner's responsibility to maintain defect-free sidewalks under Public Works Code Section 706. Instead, these Good Neighbor Guidelines are intended to provide the public with general rules that will assist the City and property owners in proactively addressing sidewalk defects.

Temporary Sidewalk/Curb Repair Methods:

Grinding

Uneven sidewalks/curbs that are the result of soil settlement or tree roots comprise many of the defects encountered by DPW Inspectors. Any pavement displacement of ¾ of an inch, or less, may be ground down to eliminate the displacement. The following additional guidelines must be followed:

The vertical defect should be feathered to allow a gradual transition or a slope of no >4.2% (1/2" per foot of transition).

DPW makes no claim related to a sidewalk's ability to withstand damage from vehicles or reducing the structural integrity when utilizing grinding as a method to repair a sidewalk/curb.

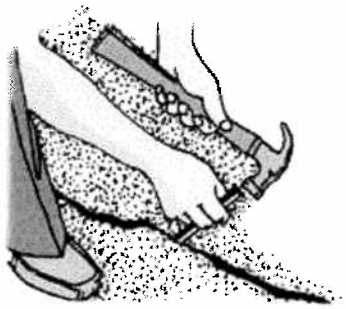
Patching

Sidewalks with cracks, chips or voids may be patched. Larger defects must be repaired by removing and replacing the entire sidewalk square. Although the patching methods, identified below, are intended to provide a best practice method to temporarily repair the sidewalk, they are not the only method available to achieve satisfactory results.

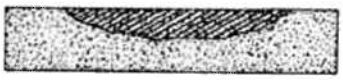
REPAIRING HAIRLINE CRACKS

- *You can repair hairline cracks in concrete with a grout made of Portland cement and water. Add just enough water to the cement to form a thick paste.*
- *Moisten the old concrete along the hairline crack with water for several hours before adding the grout. Moistening the concrete prevents it from drawing the water from the grout, which will dry out the mixture. Although the old concrete should be moist, no water should be standing on the surface when the grout is applied.*
- *After the hairline crack has been moistened and thoroughly cleaned, apply the grout with a putty knife or pointing trowel. Force the grout into the crack as much as possible. Then smooth it off so it is level with the original concrete.*
- *Allow the patched area to dry about two hours.*

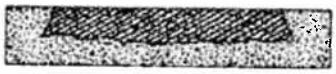
REPAIRING CRACKS IN SIDEWALKS



- *Cracks in sidewalks that are larger than hairline cracks must be enlarged before they can be satisfactorily repaired. Enlarge the crack along its entire length with a cold chisel and hammer.*
- *Make the crack wider at the bottom than at the top. This is known as undercutting. It helps to bond the new concrete with the older concrete.*
- *Undercut the crack to a minimum depth of 1". The depth of the undercutting depends on the size and depth of the crack to be repaired.*



- *After the crack has been thoroughly undercut, remove all loose material and brush the area with a wire brush.*



- *Use a garden hose or a tire pump to blow or wash away the dust in the crack.*
- *The new concrete patch will hold better if a concrete adhesive is used first. There are many types of concrete adhesives. Acrylic resin–a milky fluid–is one common type. Brush the adhesive into the undercut area*

and allow it to dry until it becomes tacky.

- *If you do not use a cement adhesive, thoroughly brush and soak the area to be patched. Moistening the area prevents the old concrete from absorbing all the moisture in the concrete patch. Although it should be moist, no water should be standing on the area where the patch is to be applied.*

- *For small patching jobs, use a pre-mixed concrete patch. If you use ready-mix concrete patch, all you need to add is water.*

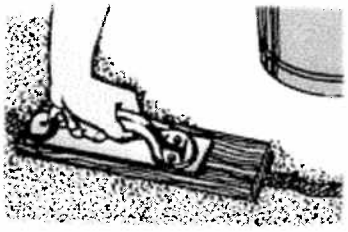
- *If you mix your own concrete patch, use one part Portland cement to two-and-a-half parts of fine, clean sand. Heavier concrete patch jobs call for one part of Portland cement to two parts of sand to three parts of gravel.*

- *Tamp the concrete patch mix tightly into the undercut area. Be sure to fill all areas completely.*

- *When the mixture begins to set, smooth it down with either a metal trowel or a wooden float. Use a metal trowel for a smooth finish. For a rough surface, use a wood float for the finishing job.*

- *After the patch is completed, allow it to dry for about two hours. Then cover the patched area completely with plastic sheeting or boards. The area must be secured and a 48" path of travel maintained for disabled access.*

REPAIRING CONCRETE DRIVEWAYS



- *You can repair a crack in a concrete driveway in basically the same way as a crack in a concrete sidewalk. However, since the driveway must carry heavier weight loads, the repaired area must withstand much greater pressure.*

- *Use a gravel mix, rather than a sand mix, for repairing concrete driveways. This mix is one part Portland cement, two parts sand and three parts gravel.*

- *Thoroughly clean and then undercut the crack. Brush cement adhesive into the undercut area.*

- *Undercut the cracked area to a greater depth and make the cracks considerably wider than when repairing a sidewalk. This extra depth and width increases the strength of the repair job.*

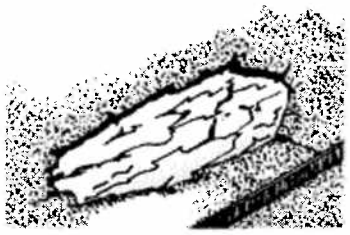
- *Follow all of the steps outlined previously in repairing a crack in a*

sidewalk to repair a crack in a concrete driveway.

- *After the gravel mix has been applied, level the new patch mix off with a trowel or float, as you would do when repairing a sidewalk.*

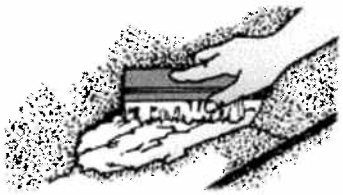
- *Do not drive an automobile over the patched area for at least five days. This gives the newly patched section time to dry thoroughly before it must carry the heavy load of an automobile or truck.*

PATCHING HOLES IN WALKS OR DRIVEWAYS



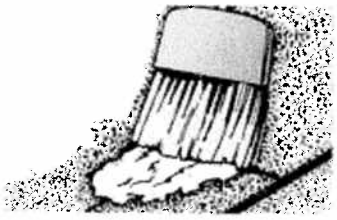
- *How you patch holes in sidewalks and driveways depends on the depth and the size of the hole. If the hole is extremely deep and large, you must undercut it as previously described and fill the area with a gravel mix.*

- *Small, shallow holes in flat-surfaced concrete–such as driveways, patios or sidewalks–can easily are repaired with latex cement. If the hole is small and shallow, no chipping away is required.*



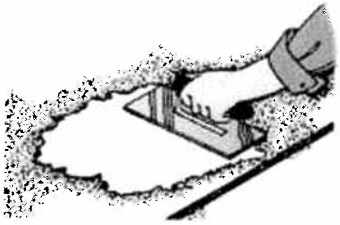
- *Small, shallow holes need only to be cleaned thoroughly before adding the latex cement.*

- *This cleaning can usually be done with a wire brush, which removes all the small pieces of loose concrete when you rub the area thoroughly.*



- *After using the wire brush on the damaged area, use a lighter brush to remove the loose particles that were dislodged by the wire brush. Then, wash the area to be repaired with a garden hose.*

- *After the cleaning is done, you are ready to apply the latex cement. This usually comes in 5-lb. cans, with the liquid latex in a smaller can inside a larger can.*



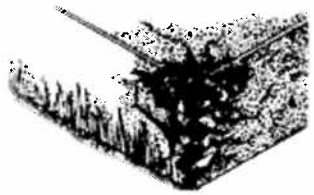
- *Pour the liquid latex into the larger can and thoroughly mix it with the latex cement to form a heavy paste. Apply this paste to the area to be patched in approximately 1/4" layers. Smooth each layer with a trowel and allow to partially dry before applying the next layer.*

- *Build up the latex cement 1/4" at a time until it reaches the same level as the original concrete. Then, smooth out the area with a trowel or float as you would finish regular concrete.*

REPAIRING BROKEN CORNERS ON CONCRETE

- *You can repair broken corners on concrete with latex or epoxy cement. A broken corner should be thoroughly cleaned and moistened before the mixture is applied.*

- *After the corner has been thoroughly brushed and washed, build up the latex or epoxy cement mix 1/4" at a time, as previously described. If the area to be repaired is quite large, you may need to build a small form to hold the mix while it is drying.*



Follow all safety precautions. Information in this document has been furnished by the National Retail Hardware Association (NRHA) and associated contributors.

RECOMMENDED:

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APPROVED:

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