

Township of Brock Corporate Policy



Policy Name: Sidewalk Inspection and Maintenance Procedure

Policy Type: Public Works

Policy Number: PW2

Reference:

Date Approved: June 21, 2011

Date Revised:

Approval By:

Point of Contact:

Overview: To formalize and document inspection and operational procedures to maximize the effectiveness of Township sidewalks, and maximize public safety while maintaining fiscal responsibility.

Required Competencies:

Definitions: As defined throughout procedure.

01 Procedures:

01.01 Sidewalk Classification

Brock's sidewalks have been classified into three categories as follows:

1. Class 2 & 3 roads are designated as high traffic areas
2. Class 4 roads are designated as medium traffic areas
3. Class 5 & 6 roads are designated as low traffic areas

01.02 Inspection and Inventory

An inventory (22.6 km) of all sidewalks will be maintained by the Township Director of Public Works and/or his Designate which will include a history of inspections, constructions and maintenance information.

Sidewalks shall be inspected once per year in a priority sequence as follows:

- a) High traffic areas (Class 2 & 3) and areas adjacent to schools and senior homes
- b) Medium traffic areas (class 4) that are not adjacent to schools or senior homes
- c) Low traffic areas (Class 5 & 6) that are not adjacent to schools or senior homes

01.03 Public Concerns

Safety related concerns will be investigated within two weeks. All concerns will be investigated in a timely manner considering manpower and workload.

Priority 1: Locations that have a condition of Very Poor or an location which the inspector considers being an immediate serious safety concern.

Priority 2: Locations that have a condition of Poor or Average or where the Inspector determines that the problem is not an immediate safety concern.

Priority 3: Locations that have a condition of Fair or New or where the Inspector determines that the problem is not a safety concern.

01.04 Actions

- a) A hazard is identified during an inspection or public concern; the hazard will be marked with orange paint.
- b) A report of the hazard will be submitted to the Supervisor of Operations and Director of Public Works once scheduled inspections are completed for the day
- c) A sidewalk shall be closed depending on the severity of the hazard. In this case the Supervisor of Operations and Director of Public Works will be notified immediately for assessment.

01.05 Repairs

Priority 1 problems, as confirmed by the Inspector and/or Designate, shall be repaired as soon as practical, taking into account weather and crew or contractor availability. If there is a substantial delay, the hazard shall be marked clearly so it is easily identified, or the sidewalk shall be closed.

Priority 2 problems, as confirmed by the Inspector and/or Designate shall be repaired as soon as practical based on crew availability, budget constraints and environmental factors. These repairs may be delayed.

Priority 3 problems, as confirmed by the Inspector and/or Designate, shall be scheduled based on crew availability, budget constraints and environmental factors. These repairs may be delayed for several years if an area is scheduled for reconstruction.

01.06 Examples of Priorities

Once a sidewalk area is needing repair or improvement has been classified, it shall then be prioritized based on its age, condition and location. Areas on designated plow routes,

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high pedestrian volume, near transit stations, high-volume bus stops, elderly housing, senior centres or schools are considered to be areas of particular sensitivity. Therefore, they are given higher priority for inspection and repair regardless of the Class of road. The following examples show typical priority ratings which may be given to a sidewalk:

Overall Condition	Single Trip Edge	Spalled (Sidewalk Area)	Cracking (Panels Affected)	Priority
New	5 mm or smaller	Little or none	Little or none	3
Fair	5 mm to 10 mm	25% or less	50% or less	3
Average	10 mm to 20 mm	25% to 50%	50% to 80%	2
Poor	20 mm to 25 mm	50% to 75%	50% to 80%	2
Very Poor	25 mm or greater	75% to 100%	80% to 100%	1

01.07 Stub Toe

The vertical misalignment along any part of the seam between two slabs, or between sections of a cracked slab, of 20mm or more, or deemed hazardous by engineering judgement.

01.08 Cracked Slabs

Slabs fragmented by cracks into four (4) or more sections and/or where any one of the gaps is greater than 51mm and prohibits the sidewalk from functioning as designated.

01.09 Traverse Slope

Any individual slab or portion of a slab shall not slope either toward the street or the adjoining property at a ratio or more than 16mm per foot (1:20).

01.10 Longitudinal Slope (Sunken or Raised Sections)

Any sidewalk panels that have lifted to a peak or sunken such that the slab or portion of a slab deviates for the average line of the sidewalk surface level at a ratio of more than 25 mm per foot.

01.11 Gaps

Opening in between sidewalks slabs greater than 51 mm in width, or those caused by the absence of a fragmented section of sidewalk exceeding 51 mm in width.

01.12 Spalling (Pitted) Slabs

Slabs whose surface is granular or if a chunk of the sidewalk surface greater than 51 mm in width has broken out, and the result is a hole 12.5 mm or deeper.

01.13 Public Utility Damage

Any deficiencies in a slab or part of a slab that are deemed to be caused by public infrastructure (sewer and water mains, sewer manholes, catch basins, etc.).

01.14 Tree Root Damage

- a) Any deficiencies in a slab or part of a slab that are deemed to be caused by tree roots from a tree in the Township right of way.
- b) To avoid cutting tree roots or removing trees, the slab replacement may require a change in the sidewalk alignment.

02

02.01 Crack Filling

a) Crack filling is done primarily to seal concrete cracks to prevent moisture from penetrating the base, causing additional crack widening and uneven settlement. Crack filling is appropriate for longitudinal cracks where separation is less than 12.5 mm and differential settlement has not occurred

b) Cracks are first sterilized, then routed or sand blasted, and finally filled with a sealant. Crack filling is usually done on an area basis as crews and budget are available.

02.02 Concrete Planning

Concrete Planning or grinding is temporary solution which is used to grind up to 20 mm of concrete to flatten out trip edges.

02.03 Asphalt Overlay

Asphalt overlays are effective as a temporary measure to smooth the surface of the concrete if the concrete is severely spalled or cracked. While not the best aesthetic treatment, an asphalt overlay does provide a reasonable safe working surface.

02.04 Replacement

Sidewalk replacement is appropriate if severe damage has occurred to the sidewalk which cannot be corrected by one of the methods described above. Replacement is most cost effective when done on an area basis, but replacement at individual locations is sometimes necessary.

02.05 Interpretation

The Township of Brock acknowledges that all sidewalks cannot be maintained in perfect condition due to fiscal and practical constraints. The timing and scope of sidewalk rehabilitation will be planned at the discretion of the department to be within the scope of the Operating or Capital Budget to balance sidewalk safety and appearance with other Public Works priorities.

03 Reducing the Township's Liability Exposure

To reduce injuries on sidewalks and minimize exposure to liability, these steps should be followed:

- a) **Determine criteria for repair replacement of sidewalks.** Include a procedure that says what conditions warrant replacement or repair, such as broken or missing pieces of sidewalk or major differences in elevation levels. It should also establish construction and repair standards, including materials to be used
- b) **Develop a sidewalk inspection program.** Township staff should conduct formal inspections by traveling the sidewalks and noting any problems
- c) **Prioritize repair needs.** With a limited budget, concentrate first on the most obvious problem areas and on high-traffic areas
- d) **Keep inspection records.** The records should indicate what area the employee inspected, any problems discovered, and what the Township will do or did about it
- e) **Include Customer Care as part of the inspection program.** This should include submitting a record of the complaint indicating the details of the issue. Records should indicate who notified the Township, the date and how the Township responded. After inspecting and determining if repairs are needed, the Township should add a note as to whether there was a problem and if repairs were necessary, or if the Township put a warning device over it
- f) Regular inspection is key keeping sidewalks safe
- g) Regular inspection based on established criteria of all public sidewalks should be an important part of any township's infrastructure management program
- h) The surface condition of all public sidewalks and the need for maintenance, repairs or new construction should be documented at least once a year
- i) Relying solely on follow-ups to complaint calls is not enough, because major problems can still go unreported, increasing the chances of someone's suffering an

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injury and filling a lawsuit

- j) Planning and budgeting for sidewalk repairs and projects should be done on the basis of the annual inspection. This is not only a good safety-first practice; it also helps demonstrate that the Township actively pursues corrective action
- k) The earlier those problems are dealt with, the cheaper and easier the process is to correct them. For example, small vertical changes of one inch or less in concrete sidewalks can be easily beveled by using a grinder.
- l) There are other temporary measures that can be employed, including ramping a large elevation change with asphalt, placing traffic cones around a problem area, or painting the affected sidewalk area with bright orange.
- m) The key is to respond promptly with these temporary measures and then follow up with permanent corrective action as resources and time allow
- n) Keep it simple, document results, and apply persistent maintenance. It's a good way to avoid "trip (slip) and fall" accidents and the lawsuits that often accompany them
- o) It is impossible for a Township to have perfect sidewalks, and the law does not impose such a standard but the Township must exercise reasonable care. Implementing sidewalk inspections along with repair and maintenance programs indicates that the Township is concerned and that it is making an effort to maintain its sidewalks.