Right-of-Way

Utility Installation and Permit Manual

for the Installation of Plant within City of Hamilton Streets, Right of Ways, and Properties

CONTACTS

For questions / comments related to the Municipal Consent Requirements:

Gord McGuire
Manager of Geomatics and Corridor Manager
Engineering Services
Phone: 905-546-2424 ext. 2439
Email: Gord.McGuire@hamilton.ca

For questions / comments related to the utility permit application process, cut repairs and restoration:

Bob Howard
Project Manager / Utility Right of Way Coordinator
Engineering Services
Phone: 905-546-2424 ext. 2052
Email: Bob.Howard@hamilton.ca

Municipal Consent Requirements:
www.hamilton.ca
Right-of-Way Utility Installation and Permit Manual
for the Installation of Plant within City of Hamilton Streets, Right of Ways, and Properties

City of Hamilton
August 2013

Special Credits

Editors: Gord McGuire, Bob Howard
Reviewers: Ted Swiderski, Joe Scarcelli, Gary Kirchknopf, Marco Cicconi,
Rich Shebib, Mike McNamara, Patricia Leier, Steve Robichaud,
Alissa Golden, Meghan House

Drawings: Michelle McTeer
Typing & Formatting: Laura-Lynn Machado
Printing: ???
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>i</td>
</tr>
<tr>
<td>Chapter 1 – Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Chapter 2 – Order of Precedence</td>
<td>3</td>
</tr>
<tr>
<td>Chapter 3 – Permit Application Requirements</td>
<td>5</td>
</tr>
<tr>
<td>Conditions of Permit Application</td>
<td>5</td>
</tr>
<tr>
<td>Extension of Permit Duration</td>
<td>6</td>
</tr>
<tr>
<td>Moratorium of Newly Improved Streets</td>
<td>7</td>
</tr>
<tr>
<td><em>Scope</em></td>
<td>7</td>
</tr>
<tr>
<td><em>Duration</em></td>
<td>7</td>
</tr>
<tr>
<td><em>Exceptions</em></td>
<td>8</td>
</tr>
<tr>
<td>Work Not Requiring Excavation – Road Occupancy Permit</td>
<td>8</td>
</tr>
<tr>
<td>Work Requiring Excavation – Cut Permit</td>
<td>9</td>
</tr>
<tr>
<td>Identification of Planned Work</td>
<td>9</td>
</tr>
<tr>
<td>Alignments</td>
<td>9</td>
</tr>
<tr>
<td>Services</td>
<td>9</td>
</tr>
<tr>
<td>Clearance from Other Plant</td>
<td>10</td>
</tr>
<tr>
<td>Depth of Cover</td>
<td>10</td>
</tr>
<tr>
<td><em>Curbed Roads</em></td>
<td>11</td>
</tr>
<tr>
<td><em>Uncurbed Roads</em></td>
<td>11</td>
</tr>
<tr>
<td><em>Boulevards</em></td>
<td>11</td>
</tr>
<tr>
<td><em>Tree Protection Zone</em></td>
<td>11</td>
</tr>
<tr>
<td>Cancelled Projects</td>
<td>12</td>
</tr>
<tr>
<td>Structures with Surface Access</td>
<td>12</td>
</tr>
<tr>
<td>Joint-Builds / Common Trenches</td>
<td>13</td>
</tr>
<tr>
<td>Abandoned / Decommissioned Infrastructure</td>
<td>13</td>
</tr>
<tr>
<td>Installations on City Owned Lands Other than Streets</td>
<td>14</td>
</tr>
<tr>
<td>Protected Locations and Cultural Heritage Resources</td>
<td>14</td>
</tr>
<tr>
<td><em>Archaeology</em></td>
<td>14</td>
</tr>
<tr>
<td><em>Built Heritage and Cultural Heritage Landscapes</em></td>
<td>15</td>
</tr>
<tr>
<td>Changes to Permit</td>
<td>16</td>
</tr>
<tr>
<td>Chapter 4 – Application Streams</td>
<td>17</td>
</tr>
<tr>
<td>Emergency Work</td>
<td>17</td>
</tr>
<tr>
<td><em>Scope</em></td>
<td>17</td>
</tr>
</tbody>
</table>
Requirements .................................................................................................................................................. 17
Short-Stream ....................................................................................................................................................... 18
Scope ................................................................................................................................................................. 18
Submission Requirements ................................................................................................................................. 18
Full-Stream ......................................................................................................................................................... 19
Scope ................................................................................................................................................................. 19
Submission Requirements ................................................................................................................................. 19
Projects with Multiple Application .................................................................................................................. 20
Circulation and Sign-Offs .................................................................................................................................. 20
Incomplete Applications .................................................................................................................................... 21
Application Review Period ............................................................................................................................... 21
Disputes .............................................................................................................................................................. 21

Chapter 5 – Above-Ground Plant ...................................................................................................................... 23
Location .............................................................................................................................................................. 23
Justification ......................................................................................................................................................... 23
Complete Streets ............................................................................................................................................... 23
Visibility & Aesthetic Treatment ....................................................................................................................... 23
Notification ......................................................................................................................................................... 24
Business Improvement Areas ............................................................................................................................. 24
Pole Installation Protocol .................................................................................................................................. 25

Chapter 6 – Construction Requirements .......................................................................................................... 27
Scope ................................................................................................................................................................. 27
Insurance ............................................................................................................................................................ 27
Site Meetings ...................................................................................................................................................... 27
Perimeter Warning Signs ................................................................................................................................... 27
Scheduling .......................................................................................................................................................... 28
Locates and Protection Plant ............................................................................................................................. 28
Notification to the City ....................................................................................................................................... 29
Resident and Business Notification .................................................................................................................. 29
Documents Required to be On-Site ................................................................................................................... 29
Working Hours .................................................................................................................................................. 30
Projected Information Sign .............................................................................................................................. 30
Cut Permits .......................................................................................................................................................... 31
Traffic Control ..................................................................................................................................................... 31
Access to Site / Inspection .................................................................................................................................. 33
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid Duty Police Officers</td>
<td>33</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td>33</td>
</tr>
<tr>
<td><strong>Determining the Need for Paid Duty Police Officers</strong></td>
<td>34</td>
</tr>
<tr>
<td><strong>Disputing the Need for a Paid Duty Police Officer</strong></td>
<td>34</td>
</tr>
<tr>
<td>Public Convenience and Safety</td>
<td>34</td>
</tr>
<tr>
<td>Clean Work Site</td>
<td>35</td>
</tr>
<tr>
<td>Material and Equipment Delivery and Storage</td>
<td>36</td>
</tr>
<tr>
<td>Operation of Valves and Hydrants</td>
<td>37</td>
</tr>
<tr>
<td>Working Around Trees</td>
<td>37</td>
</tr>
<tr>
<td>Working Around Mass Transit</td>
<td>37</td>
</tr>
<tr>
<td>Working in the Vicinity of Bridges</td>
<td>37</td>
</tr>
<tr>
<td>Snow Removal and De-Icing</td>
<td>38</td>
</tr>
<tr>
<td>Contaminated Soil</td>
<td>38</td>
</tr>
<tr>
<td>Notification of the Location of Unidentified Plant</td>
<td>38</td>
</tr>
<tr>
<td>Trenchless Installations</td>
<td>39</td>
</tr>
<tr>
<td>City of Hamilton Inspections</td>
<td>39</td>
</tr>
<tr>
<td>Reporting Impact / Damage to Existing Plant</td>
<td>39</td>
</tr>
<tr>
<td>Non-Compliance</td>
<td>40</td>
</tr>
<tr>
<td><strong>Chapter 7 – Backfill and Restoration</strong></td>
<td>41</td>
</tr>
<tr>
<td>General</td>
<td>41</td>
</tr>
<tr>
<td>Submission and Permit Requirements</td>
<td>41</td>
</tr>
<tr>
<td>Traffic Control</td>
<td>41</td>
</tr>
<tr>
<td>Materials</td>
<td>42</td>
</tr>
<tr>
<td><strong>Supply of Materials</strong></td>
<td>42</td>
</tr>
<tr>
<td><strong>Management and Disposal of Excess Materials</strong></td>
<td>42</td>
</tr>
<tr>
<td>Installation of Plant</td>
<td>42</td>
</tr>
<tr>
<td><strong>Sawcutting of Pavement, Sidewalk, Curb, and Driveway</strong></td>
<td>42</td>
</tr>
<tr>
<td><strong>Excavation</strong></td>
<td>43</td>
</tr>
<tr>
<td><strong>Inspection of Excavation</strong></td>
<td>44</td>
</tr>
<tr>
<td><strong>Excavation near Trees</strong></td>
<td>44</td>
</tr>
<tr>
<td><strong>Protection of Excavation</strong></td>
<td>44</td>
</tr>
<tr>
<td>Existing Material in Trench</td>
<td>45</td>
</tr>
<tr>
<td><strong>Contaminated Material</strong></td>
<td>45</td>
</tr>
<tr>
<td>Backfill</td>
<td>46</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>46</td>
</tr>
<tr>
<td><strong>Suitable Backfill Materials</strong></td>
<td>46</td>
</tr>
<tr>
<td><strong>Unshrinkable Fill</strong></td>
<td>46</td>
</tr>
<tr>
<td><strong>Hot-Mix Asphalt</strong></td>
<td>46</td>
</tr>
<tr>
<td><strong>Imported Granular Materials</strong></td>
<td>47</td>
</tr>
</tbody>
</table>
ROW Utility Installation and Permit Manual

Backfilling .................................................................................................................................................. 47
  Backfilling in Pavement ............................................................................................................................ 47
  Backfilling in Boulevards ....................................................................................................................... 48
  Backfilling in Tunnels ............................................................................................................................... 48
Restoration .................................................................................................................................................. 48
  Sodding and Top Soil .............................................................................................................................. 48
  Repair Responsibility According to Surface Types ................................................................................ 49
Temporary Repair ........................................................................................................................................ 51
  Deficiencies ............................................................................................................................................. 51
  Emergency Repairs ............................................................................................................................... 51
Quality Assurance ......................................................................................................................................... 52
  Warranty ................................................................................................................................................ 52

Chapter 8 – Location Certificates ............................................................................................................ 53
  Preparation and Submission .................................................................................................................... 53
  Non-Compliance with Location Certificate Requirements .................................................................... 53
  Accountability for Inaccurate Location Certificates ............................................................................ 53

Glossary ......................................................................................................................................................... G-1

Appendices .................................................................................................................................................. A
Chapter 1

Introduction

This document applies to all utility companies, commissions, agencies, boards, associations, municipal departments, and private or third party stakeholder applicants proposing to undertake work within City of Hamilton streets.

The Utility Installation and Permit Manual provides for the efficient review of applications, pertaining to utility and any other structure installations that may conflict with utilities within City of Hamilton streets and rights-of-way, or other lands owned and maintained by the City of Hamilton. The manual also provides standards and processes for the design and installation of utilities within the municipal right-of-way to ensure that required safety criteria and procedures are being followed and adhered to, clearances and separations are maintained, and that physical space is optimally utilized.

Adherence to these requirements will protect the interests of the City of Hamilton, the community, and utilities occupying the right-of-way. To this end, all applications are reviewed with consideration to their impact on the physical and social environment and the City’s infrastructure. It is important that these objectives are taken into consideration in the planning and design of all work being proposed and carried out within the streets, and rights-of-way or other lands owned and maintained by the City of Hamilton.

The City of Hamilton emphasises that all utilities and third parties must work together and with the City to achieve the protection of the existing and proposed underground infrastructure and effect initial optimum strategic placements in such a manner as to enable future installations and works. Accordingly, submissions must clearly state why a particular design and placement location was undertaken. **Locations chosen for purely economic reasons may not be acceptable.**

The submissions must also demonstrate the adherence to implementation and enforcement of drawing and construction standards established by the City, circulation of drawings for planned construction to all affected stakeholders and obtaining their individual signoffs for absence of conflict, and to minimum clearances and depths.
The impact on the physical and social environment is controlled through the establishment of pedestrian and vehicular traffic restrictions, setting out the timing and physical extent of the work, and the strict enforcement of the City’s noise and air quality bylaws. Protection of the surface infrastructure is achieved through implementation and enforcement of the pavement cut repair standards established by the City.

All work within the streets requires consent from the General Manager Public Works or designate.
Chapter 2
Order of Precedence

In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:

1. Negotiated and Legislated Agreements, including Municipal Access Agreements (MAA)
2. Municipal Consent Requirement
3. Permit
4. City of Hamilton By-laws
Chapter 3
Permit Application Requirements

Conditions of Permit Application

Permits are issued by the General Manager Public Works or designate to allow an Applicant to perform work related to the installation and maintenance of plant within the streets.

A permit may be required whenever the Applicant’s proposed work includes:

- performing maintenance to existing plant
- installing new plant
- making additions or upgrades/alterations to existing plant
- excavating, directional boring and/or drilling within the right-of-way

Please refer to [Appendix M, Permits Required to Perform Work](#).

By submitting an application to perform work within the public right-of-way, the Applicant agrees to:

- Indemnify and hold harmless the City of Hamilton and its elected officials, officers, directors, employees, representatives, successors and assigns collectively, the Indemnities for injury or damage including legal costs, howsoever arising, due to the construction, operation and/or maintenance of the work or temporary repairs referred to in this application.
- Indemnify and hold harmless the Indemnities from all claims and actions resulting from any preserved or perfected lien under the Construction Lien Act (Ontario) in connection with the construction, operation and/or maintenance of the work or temporary repairs referred to in this application. The Applicant shall cause any such lien or claim which may be filed or made to be released, vacated or otherwise discharged within five days of receiving notice of the lien or claim by the City or otherwise. If the Applicant fails to release, vacate or discharge any such lien or claim, the City may, but is not obligated to, obtain a discharge or release of the lien or claim or otherwise deal with the lien or claim, and the Applicant shall pay all costs and expenses, including legal fees, incurred by the City in so doing.
• Conform to and comply with all applicable laws and regulations including, but not limited to, the Occupational Health and Safety Act (OHSA). The Applicant will indemnify and hold harmless the City of Hamilton from and against all liability resulting from any and all failures to meet the responsibilities referred to in the OHSA, including any fine(s) levied against the City of Hamilton as a result of any breach of the responsibilities of the employer for the project, to the extent attributable to the Applicant’s failure to fulfil its obligations.

• Perform all work in accordance with any legislated or negotiated agreements, such as municipal access agreements, applicable bylaws, the permit and this document.

**Extension of Permit Duration**

If the work arising out of an application will not be completed by the expiry date of the permit, the Applicant will be required to apply for an extension of the permit. Any such request for extension must be submitted to the General Manager Public Works or designate no less than seven days prior to the expiry of the existing permit. Only one extension may be granted for any permit.

Extension approval shall be at the sole discretion of the General Manager Public Works or designate based on:

- a review of the proposed work
- the progress of the work up to the date of the extension request
- the performance of the Applicant during the period of the existing permit
- a review of any potential conflict with other planned or ongoing work which may be affected by the requested extension, and
- the safety and convenience of the public

Expired permits may not be renewed if an application for extension has not been received within seven calendar days of the expiry of the existing permit. The Applicant must submit a new application in accordance with the requirements of this document, including, but not limited to, updated circulations, sign-offs and notifications. Documentation from previous applications will not be accepted.
Moratorium on Newly Improved Streets

To ensure the long-term sustainability of the City’s infrastructure, the General Manager Public Works or designate enforces a moratorium on all newly improved streets. The moratorium ensures that the integrity of the pavement structure is protected and also serves to minimise the disruptions and inconvenience to the public resulting from repeated construction activity.

Scope

The moratorium applies to the enhancement, maintenance, repair or replacement of existing plant and construction of new plant which may undermine the integrity of the newly improved street infrastructure. Unless otherwise stated the moratorium applies to the whole street, from property line to property line. The expiry of the moratorium shall be measured from December 31 of the calendar year in which the improvement was performed.

Duration

The moratorium shall apply:

Within 5 years from the date of:
- maintenance or repair work undertaken on roads, curbs, sidewalks, and boulevards
- construction, reconstruction, maintenance or repair of embankments, handrails of highway bridges, rail bridges, pedestrian bridges and culverts

Within 5 years from the date of the:
- construction or reconstruction of roads, curbs, sidewalks, and boulevards
- full resurfacing of streets including base repairs
- construction, reconstruction, maintenance or repair of abutment walls, piers, un-waterproofed bridge approaches, slope protection of highway bridges, rail bridges and pedestrian bridges
- construction, reconstruction, maintenance or repair of culverts
Within **10 years** from the date of:
- construction, reconstruction, maintenance or repair of bridge decks, sidewalks, parapet walls, asphalt wearing surface, deck waterproofing, superstructure, bearings, expansion joints, ballast walls, and foundations of highway bridge and pedestrian bridges
- construction, reconstruction, maintenance or repair of decks, parapet walls, superstructure, bearings, expansion joints, ballast walls, and foundations of railway bridges

**Exceptions**

While these requirements represent the General Manager’s current policy, it is recognised that, under certain circumstances, such as emergency work, providing service to a new customer, or construction identified by the General Manager Public Works or designate as being necessary to ensure public safety, an exception to the moratorium may be made. Exemptions may be made, at the sole discretion of the General Manager Public Works or designate, provided that the Applicant has investigated and evaluated all other options and can demonstrate that they are not feasible or practical.

When such exceptions are granted, the Applicant shall exhaust all trenchless methods available to minimize the number and size of cuts in the street. The City, acting reasonably, may perform more extensive site restoration than would normally be expected, at the Applicant’s expense, in order to mitigate the concerns of public inconvenience and the premature degradation and aesthetics of newly improved streets.

**Work Not Requiring Excavation – Road Occupancy Permit**

For temporary street occupation not requiring excavation, consent is required through a Road Occupancy Permit, included as [Appendix U, Road Occupancy Permit Application](#), or issued by the appropriate permit office as indicated in [Appendix A, Permit Application Offices](#).
Work Requiring Excavation – Cut Permit

For work involving excavation, consent is required through an excavation permit, included as Appendix V, Road Excavation Permit Application, or issued by the appropriate permit office as indicated in Appendix A, Permit Application Offices.

Excavation permits will only be issued to Applicants having authority to construct, operate and maintain their plant within City streets, as established through legislation or the terms of a municipal access agreement or encroachment agreement.

Identification of Planned Work

Applications will be checked against the list of planned capital projects submitted to the HUCC capital coordination subcommittee. For proposed work that is anticipated to cause a major disruption but was not identified on the list of planned capital projects, the Applicant may be required to submit an explanation of why the project was not identified at the time the list was prepared prior to the application being processed.

Alignments

Wherever possible, installation of plant should follow the alignments shown in the standard right-of-way cross sections in Appendix P, Standard Utility Location ROW Drawings.

The City, in its sole discretion, may direct the Applicant to propose an alternate alignment if, in the opinion of the General Manager Public Works or designate, the proposed alignment is not in the best interests of the efficient and organised usage of the right-of-way.

Services

Wherever possible, services and service drops shall be designed and constructed directly in front of the customer being serviced in a straight line perpendicular to the road. Where an application shows a service that is not in a straight line perpendicular to the road, the Applicant may be required to submit rationale explaining why this could not be achieved.
Clearance from Other Plant

Horizontal and vertical clearances shall be in compliance with Appendix O, Vertical and Horizontal Clearance Guidelines. The indicated clearances are minimums and shall be interpreted to be measured from the outermost edge of the existing plant to the outermost edge of the proposed plant.

Any encasement, steel plating or other non-excavatable material shall be considered to be part of the proposed plant and must meet the required clearance from existing plant.

Exemptions from the minimum clearances may be granted, at the discretion of the affected plant owners and the approval of the General Manager, acting reasonably. As a minimum, any consideration for exemption will require written consent from the affected plant owners giving explicit permission to the Applicant to reduce the clearance. To ensure the acceptability of the proposed reduction in clearance, the Applicant may be required to submit a detailed drawing identifying the existing and proposed plant.

Depth of Cover

The depth of cover for all installations shall meet the depths indicated below. Please also refer to drawing in Appendix J, Depth of Cover. Where there is a conflict at the proposed depth of cover, the Applicant shall plan to go deeper to accommodate the existing plant and meet the required clearances.

Where an Applicant demonstrates that the depth requirements cannot be met, exceptions may be granted on a case-by-case basis. Applicants must contact the City for such an exemption at the planning stage of their project, prior to submission of a permit application.

Under no circumstances shall plant be installed shallower than the minimum depths indicated without specific written consent from the General Manager Public Works or designate.

The depths listed below are minimums. Where deemed necessary to accommodate other existing plant or future work, additional depth of cover may be required at the application review stage or during construction at the sole discretion of the General Manager Public Works or designate. Anticipate your company’s needs and allow the applicable depth.
**Curbed Roads**

For areas under the road, curb, the portion of the boulevard within one metre of the back of curb, and the entire right-of-way within thirty metres of an intersection, the minimum depth of cover on shall be **1.0 m**.

**Uncurbed Roads**

For the entire right-of-way, from street-line to street-line, on uncurbed roads, the minimum depth of cover shall be **1.0 m** below the road, or **1.2 m** below the lowest point of the adjacent ditch, whichever is deeper.

**Boulevards**

The minimum depth of cover on all streets shall be **1.0 m**.

**Tree Protection Zone**

For any means of construction other than directional boring, the minimum depth of Cover shall be a minimum of **1.5 m** within the TPZ. If the installation of plant is executed via directional boring, the depth of cover may be reduced to a minimum of **1.2 m**.

Directional boring (trenchless technology) is required for utility construction within driplines to a minimum depth of **1.2 m** below the grade at the base of the tree (not the road centreline). When employing trenchless technology, all sending and receiving pits must remain well outside Municipal driplines.

Soil removed from the sending or receiving pits should not be stored ahead of the pit within the open side of the tree protection fencing but off to the side or behind the excavation. Any roots encountered that are 20 mm or greater in diameter should be cleanly cut with a sharp tool such as sidecutters back to the side of the excavation and not left ragged sticking out into the hole. Roots larger than 20 mm requiring removal will require approval from the Manager of Forestry or Horticulture or their designate.

The bore hole should never go directly beneath the trunk due to downward growing tap roots and should be offset according to the information provided.
Below are the minimum distances that the closest edge of the sending or receiving pits or the directional bore should be to any face of the tree.

<table>
<thead>
<tr>
<th>Trunk Diameter (cm)</th>
<th>Min. Offset / Trunk Face (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 cm</td>
<td>0.3 m</td>
</tr>
<tr>
<td>7.5 cm</td>
<td>0.6 m</td>
</tr>
<tr>
<td>12.5 cm</td>
<td>1.5 m</td>
</tr>
<tr>
<td>25.0 cm</td>
<td>3.0 m</td>
</tr>
<tr>
<td>38.0 cm</td>
<td>3.7 m</td>
</tr>
<tr>
<td>50.0 cm or larger</td>
<td>4.6 m</td>
</tr>
</tbody>
</table>

When encountering Municipal roots outside tree preservation zones, the use of Hydro-vac technology is preferable to the use of an Air-Spade. Our objective is to preserve as many roots as feasible using the fan nozzle attachment with a pressure which does not exceed 600 psi.

If excavation within the tree dripline is required, Forestry and Horticulture review and approval must be obtained prior to commencing work. For further details, please refer to Appendix F, Tree Protection Policy.

**Cancelled Projects**

The permit office must be notified of any cancelled projects for which an application has been submitted or a cut permit has been issued. Applicants with an excessive number of existing open permit requests will not be issued additional permits by The City of Hamilton until their backlog of not started work is cleared.

**Structures with Surface Access**

Any new buried structures which have surface access, with the exception of vaults where the structure roof is monolithic with the sidewalk or flush with the surrounding finish grade shall be constructed with the ability for fine adjustment of their elevation to accommodate future changes to surface grading. The amount of vertical adjustment available for lowering and lifting shall not be less than 300 mm.
For buried structures, including, but not limited to, vaults and chambers, the top of the structure shall conform to the minimum depths described above. Where such a structure requires access, it shall be designed so that only the access chimney protrudes to the surface.

**Joint-Builds / Common Trenches**

To make effective use of the limited space in the right-of-way, the General Manager Public Works or designate may request that utility companies planning installations in close proximity to one another, or to service the same customer, enter into an agreement to share a common trench. Where the parties have agreed to construct in a common trench, one of the utilities companies shall be designated as the Applicant for purposes of obtaining a cut permit, adherence to permit conditions, completion of restoration, billing process, and submission of location certificates. Joint-builds shall be clearly identified as such, including the names of all participating utility companies, on both the application and the drawings.

**Abandoned / Decommissioned Infrastructure**

The utility company shall continue to be responsible and liable for all abandoned infrastructure and any issues that arise as a result of that abandoned infrastructure until such time that it has been completely removed from the right-of-way to the satisfaction of the General Manager Public Works or designate.

**Note:** This responsibility shall include, but not be limited to, providing all available information for any abandoned or decommissioned plant as part of the Applicant’s response to any request for information by the General Manager or other members of the HUCC. All abandoned plant must be shown on all cut permit application plans.
Installations on City Owned Lands Other than Streets

Installations on city owned land other than streets require the prior approval of the city division that has jurisdiction over that land. The City of Hamilton Real Estate Section must also be contacted at 905-546-2424 ext. 6698, as the lands in question may not always be Public Works holdings. Any easement documents or licenses that may be required by the General Manager Public Works or designate for work in these locations shall be submitted with the application.

Protected Locations & Cultural Heritage Resources

Archaeology

The City is responsible for archaeology on lands under its ownership, and is obliged to perform due diligence in considering archaeology when carrying out activities resulting in soil disturbances on its properties. Where soil disturbance is proposed, City staff shall use archaeological potential mapping to determine whether some or all of the area to be impacted is within an area of archaeological potential or whether there will be impacts to registered and/or reported archaeological sites. Where areas of archaeological potential or archaeological site(s) will be impacted, the City shall provide recommendations or requirements to the applicant on how to address them.

Applicants shall consult with Heritage Planning staff to confirm if the property has archaeological potential. Typically, if an area is identified as having archaeological potential, a Stage 1-2 Archaeological Assessment must be completed prior to disturbance taking place. If archaeological resources are identified, further Stage 3 and Stage 4 work may be required. Alternatively, if an area is shown to retain no archaeological potential, no further assessment is required.

The Province administers archaeology under the authority of the Ontario Heritage Act. The legislation stipulates that any archaeology carried out in the Province must be conducted under license granted by the Province to individuals. Work conducted under a license is reviewed by the Province to ensure that the technical standards and guidelines are being met. All archaeological reports shall be submitted to the City of Hamilton for approval concurrent with their submission to the Ministry of Tourism, Culture and Sport.
Note: Should deeply buried archaeological materials be found on the property as a result of the soil disturbance activities, the Ontario Ministry of Tourism, Culture and Sport (MTCS) should be notified immediately at 416-314-7143. In the event that human remains are encountered during construction, the proponent should immediately contact both MTCS and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Small Business and Consumer Services at 416-326-8392.

**Built Heritage and Cultural Heritage Landscapes**

Applicants shall verify with Heritage Planning staff whether the proposed work is located on, or adjacent to, a Protected Heritage Property, and whether a Heritage Permit is required to permit the work.

Protected Heritage Properties include: individual properties designated under Part IV of the Ontario Heritage Act; properties and public right-of-ways located in a Heritage Conservation District designated under Part V of the Ontario Heritage Act; and, properties subject to a heritage conservation easement under Part IV of the Ontario Heritage Act.

If a Heritage Permit is not required, the applicant shall take extra care not to disturb any landscaping or architectural features when performing work in the vicinity of a Protected Heritage Property.

For further information on Cultural Heritage Resources, the applicant should contact a Cultural Heritage Planner in the Development Planning, Heritage and Design Department at:

For further information on heritage properties, the Applicant may contact Heritage Planning at:

**East Hamilton Area:** 905-546-2424 ext. **1214**  
**West Hamilton Area:** 905-546-2424 ext. **1202**

To determine whether the location is in the East or West area, view the online map located on the Heritage Planning page:  
[www.hamilton.ca/CityDepartments/PlanningEcDev/Divisions/Planning/CommunityPlanning/HeritagePlanning](http://www.hamilton.ca/CityDepartments/PlanningEcDev/Divisions/Planning/CommunityPlanning/HeritagePlanning)
Changes to Permit

Any request for changes to an issued cut permit and the applicable drawings must be reviewed and approved by the City.

Depending on the nature and extent of the requested change, the Applicant may be required to:

- meet with General Manager Public Works or designate in the field to review proposed change
- submit, in writing, an explanation of the proposed change
- submit a revised drawing highlighting the proposed change
- obtain sign-off from owners of affected plant
- submit a new application, if applicable, for the revised work

As a point of reference, any change in alignment that goes beyond 0.3m of the initial proposed alignment would require drawings to be submitted for review.

Examples:

- If the proposed change in alignment, involves moving closer to an existing utility, then Sign-Off documents will be required from that particular utility company.
- If the proposed plant requires a 0.3 m shift in alignment due to field conditions and if this shift does not cause the proposed plant to fall within the proximity of any existing utilities, sign-off documents are not required.
Chapter 4

Application Streams

Emergency Work

Scope

The requirements and process for emergency work shall apply to work requiring a new excavation and be limited to the repairs or actions required in response to a failure of, or damage to, existing plant that results in, or has the potential to result in, danger to the public, a loss of an essential service, and/or damage to infrastructure or other utility plant.

Requirements

When emergency work is undertaken, the Applicant shall:

- Immediately notify the City of Hamilton’s Customer Contact Centre at 905-546-CITY (2489). The representative will notify the appropriate City inspector.
- In the event that EMS or police assistance is required, call 911.
- Submit a cut permit application, clearly marked emergency, by the next business day to the appropriate district permit office with the field location and details of the repaired or replaced plant.
- Upon completion of the emergency work, immediately notify the City of Hamilton’s Engineering Services section at 905-546-2424 ext. 5920. Refer to Appendix A, Permit Application Offices.
- The cut permit application for the emergency work shall include the rationale for classifying the work as emergency work.
Short-Stream

Scope

Classification of work as short-stream shall be at the discretion of the General Manager of Public Works or designate.

Work to be submitted through the short-stream application process includes the following:

- Exploratory work to investigate subsurface conditions.
- The construction of service drops or subsurface services connecting one or more individual users to the mainline distribution infrastructure, and not requiring the removal, relocation or alteration of adjacent infrastructure.
- Replacement of a single pole along its existing alignment within one metre of its existing location or to a location between two existing poles along the same alignment.
- Replacement of frame and cover for existing underground structure with surface access.
- There is a length of limit of 20.0 m allowed for short-stream permits.

Submission Requirements

Cut permit applications for work defined as short-stream shall be made on the standard permit cut form included in Appendix K, Municipal Consent Application Form.

Where the proposed work is not taking place directly in front of the customers’ municipal address, the Applicant shall indicate the actual street and location impacted by the work.

The form shall be completed, in its entirety, and include a drawing conforming to the standards outlined in Appendix Q, Permit Drawing Standards.

The application shall include two copies of the application form with two copies of each accompanying drawing.

The application should be submitted to the appropriate permit office as identified in Appendix A, Permit Application Offices. Incomplete or inaccurate applications will not be processed.
Full-Stream

Scope

In general, work to be submitted through the full-stream application process includes, but is not limited to:

- The construction of new underground or surface infrastructure involving the relocation, removal or alteration of adjacent infrastructure.
- Replacement of a pole where there is a change to the installation type, for example, replacing a direct buried pole with one bolted to a concrete pole base.
- Any work not classified as emergency or short-stream under the definitions provided herein.
- Any work that crosses or is within 1.2 m of City infrastructure.

Submission Requirements

A separate application form shall be fully completed and submitted for each street of the proposed work.

Cut permit applications for work defined as full-stream shall be made on the standard permit cut form included in Appendix K, Municipal Consent Application Form.

Where the proposed work is not taking place directly in front of the customers’ municipal address, the Applicant shall indicate the actual street and location impacted by the work.

The submission package should be submitted to the appropriate permit office as indicated in Appendix A, Permit Application Offices.

The submission package shall include:

- **Two** copies of the application form with two copies of each accompanying sketch or drawing.
- Six copies of the finalized drawings may be required before final issuance of the permit.
- One copy of the required sign-offs from impacted parties. Refer to Appendix B, Utility Circulations Contacts.
Projects with Multiple Applications

The Applicant may choose to 'bundle' several applications together as a single project. For submission of a project, the applicant shall submit the appropriate number of applications as defined above. In the absence of any specific instructions, the project will be reviewed as a whole with permits for all applications being issued simultaneously or all applications being declined.

In a case where the applicant wishes to have a portion of a project reviewed and a cut permit issued, they are required to resubmit two hard copies, along with the associated sign-off for that particular portion.

Arrangements for these cases may be made after consultation with City of Hamilton review staff once they have reviewed that particular portion of the work.

Circulation and Sign-Offs

Prior to submitting a full-stream application, the Applicant shall circulate drawings of their proposed work to all utility companies, agencies and commissions that may be impacted by the work. As a minimum, the Applicant shall circulate to each member of the Hamilton Public Utilities Coordination Committee (HUCC), as indicated in Appendix B, Utility Circulations Contacts. For each party circulated to, the Applicant shall attach to their application a completed sign-off form. This form shall confirm that the party receiving the circulation:

- Has marked up the Applicant’s drawing or provided the Applicant with an up-to-date location certificate of that party’s infrastructure within the limits of the proposed work.
- Has communicated all its requirements to the Applicant.
- Does not object to the proposed work as described in the application.
- Has investigated and declined a joint-build venture with the Applicant.

Unless explicitly noted otherwise by the party providing the sign-off, a sign-off shall expire six months after the date it was signed.
Incomplete Applications

Full-stream applications that are not in strict conformance with the Municipal Consent Requirements (MCR), particularly with the drawing standards in Appendix Q, Permit Drawing Standards, will not be reviewed. The Applicant will be notified by the General Manager via e-mail or telephone and informed of the specific parts of the Utility and Permitting Manual with which the application does not comply.

For the purposes of time tracking, the date of submission shall be the date on which a complete and compliant application is received at the permit office.

Application Review Period

The date of application will be the date on which the complete and compliant application is received at the permit office.

The time required for review of a full-stream application will vary depending on the nature, size and complexity of the proposed work and the completeness and clarity of the application form and drawings. Additionally, a high volume of applications at a permit office may occasionally cause delays in the issuance of permits.

Disputes

In the event of any dispute regarding the classification of a specific application, the General Manager of Public Works or designate shall make the final determination.
Chapter 5
Above-Ground Plant

Location

The conditions outlined herein shall apply at all locations; however, in general, more scrutiny will be used in reviewing applications to install above-ground plant:

- on major or minor arterial streets.
- within the downtown central areas, defined in the Hamilton Official Plan which can be found at:
  
  www.hamilton.ca/CityDepartments/PlanningEcDev/Divisions/StrategicServicesSpecialProjects/Policy+Planning/HamiltonNewOfficialPlan

Justification

Applications or drawings that include proposed above-ground plant shall include an explanation of the reason why this plant cannot be installed below ground.

Complete Streets

Any above-grade installations within the street shall conform to the Complete Streets for Canada Design guidelines: “Complete Streets by Design”. These guidelines, which the City of Hamilton helped develop, are available on the Complete Streets for Canada website at:

http://completestreetsforcanada.ca/complete-streets-design

Visibility & Aesthetic Treatments

Permit applications for work defined as full-stream that include above-ground plant shall include consideration to reducing the negative visual impact to passing motorists, pedestrians and adjacent property owners while still allowing the Applicant to freely access and properly service the plant and provide its services to its customers.
Utility infrastructure is not to be placed in the day light triangles. Refer to Appendix T, Minimum Requirements for Visibility Clearance.

Applications or drawings shall describe the proposed aesthetic treatment so that the General Manager can evaluate the suitability and potential impact.

Examples of aesthetic treatments include, but are not limited to: placement in locations of minimal visual impact; landscaping around the plant; painting the plant; decorative covers; placement of plant behind existing physical features. The treatment must be supplied and installed during the time of equipment installation. The Applicant shall be responsible for the maintenance of the aesthetic treatment to the satisfaction of the General Manager.

**Notification**

The Applicant shall provide written notification to all adjacent properties, and all properties that will face or will have a line of sight to the proposed plant. Such notification shall outline the nature of the work and clearly describe the size, appearance and location of the proposed plant. The notice shall include the phone number of a contact person at the Applicant’s office.

A copy of the notification and a list of the addresses of all residents the notice has been sent to shall be submitted with the application. The General Manager may perform random spot checks on the list to ensure that the notification is being done.

**Business Improvement Areas**

If the proposed location of the plant falls within the boundaries of a Business Improvement Area (BIA), the Applicant shall ensure that they notify the BIA and address any objections regarding the proposed plant and its location in the following manner.

The Applicant shall notify the BIA, in writing, and outline the nature of the work, clearly describing the size, appearance and location of the proposed above ground plant. The notification shall include the phone number of a contact person at the Applicant’s office and the phone number of the appropriate district permit office.
The notification shall include clear wording to indicate that a response from the BIA outlining the specifics of any objection to the proposed plant.

Where the BIA reasonably objects with the proposed work, and where the Applicant has exhausted all negotiation measures, the General Manager will attempt to work with the Applicant and the BIA to reach a mutually acceptable agreement. If an agreement cannot be reached, the General Manager will advise the Applicant on what escalation measures or other options may be available.

A copy of the notification and the BIA’s response, if any, shall be submitted with the full-stream application. The General Manager may contact the BIA to confirm their receipt of the notification.

A listing of Hamilton’s BIAs can be found at:  
www.hamilton.ca/CityDepartments/CorporateServices/Clerks/BIA_subcommitteelisting.htm

**Pole Installation Protocol**

An incoming permit must outline the location of the proposed pole in relation to:

- City infrastructure
- ditches, top/bottom of banks
- driveways, curbs, road edges, sidewalks
- trees, driplines

The permit application drawing must depict guy and anchor locations clearly. In the event of proximity to ditching, pole setting depths must be calculated to allow ditch maintenance.
Chapter 6
Construction Requirements

Scope

These requirements cover work performed by the Applicant within the City of Hamilton streets and describe the procedures to be followed before, during and after construction work in undertaken.

Insurance

Liability insurance for the construction, operation and maintenance of plant shall be provided as set out in the authority or agreement under which the Applicant occupies the right-of-way.

Site Meetings

Prior to the start of work the City of Hamilton may contact the representative specified on the permit as may be required to schedule a site meeting. As a minimum, the site meeting must be attended by at least one representative directly employed by the Applicant and not solely by the Applicant’s designated contractor.

Perimeter Warning Signs

Based on the impact to traffic and area residents, at the sole discretion of the General Manager of Public Works or designate, acting reasonably, advance notice perimeter warning signs may be required. The General Manager Public Works or designate shall identify the requirement for such signs at the time of the site pre-construction meeting. Where such signs are required, the signs shall be manufactured and installed by the City of Hamilton to the satisfaction of the General Manager of Public Works or designate at the Applicant’s cost. Typically, two weeks are required to manufacture and install the signs after the decision that the advance notice signs
are required. Work shall not commence until the perimeter warning signs have been in place for at least one week.

Where the Applicant is planning work that will extend over a long period or where it is anticipated that the work will cause major disruption to traffic or residents, the Applicant is advised to contact the district permit office as soon as possible to make arrangements to assess the requirements for signage.

**Scheduling**

To minimise disruption to vehicular traffic, the General Manager of Public Works or designate may, in its sole discretion, direct the Applicant to alter the start date of construction. In general, construction activity will not be permitted to occur simultaneously on parallel adjacent arterial roads or collector roads. The Applicant will be notified by the General Manager Public Works or designate of a conflict with other work, and the requirement to adjust their start date to a mutually agreeable date, at the pre-construction site meeting.

Where such conflicts arise, the General Manager will work with the affected Applicants to coordinate a mutually agreeable schedule. All instances will be evaluated on a case-by-case basis; however, precedence will generally be given to the first Applicant to hold a site meeting and provide a firm start date to the General Manager.

**Locates and Protection of Plant**

Prior to the commencement of any excavation, the Applicant shall obtain locates from all owners of underground plant in the work area to determine the location of all such plant and shall comply with any standards and instructions from the plant owners when working near their plant and as required by law. The Applicant shall comply with industry best practices when excavating, shoring, piling, backfilling and compacting around existing plant or as directed by the owner of the plant and the General Manager of Public Works or designate.
Notification to the City

The Applicant shall strictly adhere to the notification protocol indicated on the permit. Following completion of the work the Applicant must immediately notify the Permit Office as indicated in Appendix A, Permit Application Office.

 Resident and Business Notification

For all non-emergency work, written notification stating the type and location of the proposed installation, duration of construction and phone number of the utility company undertaking the work shall be delivered to all residences and businesses abutting the work zone a minimum of 48 hours prior to commencement of work.

When the duration of the project is expected to be greater than seven calendar days, or if access to residences and businesses will be restricted in any way, the Applicant shall notify the local councillor and, where applicable, the Business Improvement Area (BIA) office at least 10 business days prior to commencement of construction. A copy of this notification shall be forwarded to the permit office.

A listing of Hamilton’s BIAs can be found at:
www.hamilton.ca/CityDepartments/CorporateServices/Clerks/BIA_subcommiteeeling.htm.

Documents Required to be On-Site

The Applicant shall ensure that, as a minimum, copies of the following documents are kept on-site at all times and shall make these documents available for viewing immediately upon being requested to do so by to the General Manager or the Hamilton Police Service:

- Locate Forms
- Approved Permits
- Approved Drawings
Working Hours

The Applicant shall comply with the City of Hamilton’s Noise Bylaw No. 11-285 of the Hamilton Municipal Code available on the City of Hamilton website, www.hamilton.ca, under the Frequently Requested By-laws page.

In addition, the Applicant shall ensure the following:

- Equipment shall be maintained in a good working condition that does not leak fluids and prevents unnecessary noise, including but not limited to proper muffler systems, properly secured components and the lubrication of all moving parts.
- Idling of service equipment shall be restricted to the minimum necessary for the proper performance of the specified work.

Work may only take place during the times specified on the permit or as specified by General Manager. The Applicant should note that the restrictions may vary for different directions of travel on the same street and that work may be prohibited at specific times and dates in order to co-ordinate with or avoid other work or events in the area.

At most locations, typical working hours will be between the hours of 7 a.m.–7 p.m. from Monday to Friday and from 9 a.m.–7 p.m. on Saturday. Typically, no work will be permitted on Sunday or statutory holidays. On arterial roads, work will typically be limited to the hours of 9:30 a.m.–3:30 p.m. Specific exceptions to these typical times may be granted or required, at the sole discretion of the General Manager, depending on the circumstances of the individual work.

Project Information Sign

For work authorized under a street occupation permit, including site services permits, on any portion of the right-of-way, regardless of duration, or when material and equipment are left on-site unattended for any period of time, project information signs shall be prominently displayed. Please refer to Appendix N, Project Information Sign.
A project information sign will not be required for work authorized under a street occupation permit only when all of the following conditions are met:

- A work vehicle is parked within 10.0 m of the work area, bearing a sign identifying the name and corporate logo of the Applicant, their designated contractor undertaking the work, where applicable, and a 24 hour emergency contact phone number.
- The emergency contact phone number shall connect the caller to an office and contact person that will answer calls 24 hours a day seven days a week. Connection to a voice mail box is not acceptable.
- The site will not be left unattended for any period of time.

**Cut Permits**

For work authorized under a cut permit on any portion the right-of-way, regardless of duration, or when material and equipment are left on-site unattended for any period of time, project information signs shall be prominently displayed.

Signs must conform to the requirements of [Appendix N, Project Information Sign](#), and shall clearly identify the name and corporate logo of the Applicant, their designated contractor undertaking the work, where applicable, and a 24 hour emergency contact phone number.

The emergency contact phone number shall connect the caller to an office and contact person that will answer calls 24 hours a day, seven days a week. Connection to a voice mail box is not acceptable.

Signs shall be clearly legible to pedestrians and drivers passing the work site and shall be placed, as a minimum, at each end of a project so that traffic from both directions can easily view the details. For projects that extend across more than one block, additional signs may be required at intermittent intersections crossed by the project.

**Traffic Control**

The Applicant shall provide, place in service, maintain and remove all of the traffic control devices and certified traffic control person as required by the *Ministry of Transportation Ontario (MTO) Ontario Traffic Manual Book 7*, the *Occupational Health and Safety Act (OHSA)* and *Ontario Regulation 145/00 for Construction Projects*, the *Highway Traffic Act* and all other applicable legislation and City of Hamilton policies.
The Applicant shall also conform to the following minimum requirements:

- The Applicant shall have a copy of the location-specific traffic control plan for the protection of workers and the public on site at all times as per the Ministry of Labour regulations.
- On non-arterial roads, the Applicant may restrict traffic to one lane if a minimum of two certified traffic control persons are provided to ensure safe vehicular travel through the site or as deemed necessary by the General Manager.
- Vehicular access to commercial properties must be maintained at all times for the duration of the work. Any work across commercial driveways shall be done in a manner that will ensure continuous and unimpeded flow of vehicular traffic.
- All sidewalk cuts shall be backfilled or covered with a non-skid surface having sufficient strength to maintain pedestrian traffic and include warning signs for pedestrians.
- **Sidewalks** shall be maintained at a minimum width of **1.5 m** at all times. Where this cannot be achieved, a temporary sidewalk shall be required.
- **Bicycle lanes** shall be maintained at a minimum width of **1.2 m** at all times. Where this cannot be achieved, and where conditions permit, a temporary bicycle lane may be required.
- All open excavations on roads, when not under construction, are to be covered with non-skid steel plating, counter-sunk and set flush with the surface of the pavement. The counter-sunk plate should overlap the cut by no less than 300 mm on all sides. Appropriate signs shall be posted advising of the presence of the plates. The plates must be secured to the pavement and be of sufficient thickness and strength to support the traffic without movement or bouncing. The plates are to be placed on a layer of burlap to avoid any excessive noise. Asphalt mix shall be used to jam the plate tight into the pavement along all edges.
- Where it is not reasonable to cover an open excavation, the Applicant may request permission from the General Manager to leave the excavation uncovered. Where permission to do so has been granted, the excavation shall have the appropriate barriers, fencing and signage as per applicable legislation in addition to any further requirements imposed by the General Manager.
- For a traffic sign removal or relocation, the Applicant must place a request to Traffic Operations at 905-546-2424 ext. 4600 at least 6 weeks in advance of the required removal or relocation. Under no circumstance is the Applicant to remove or relocate any traffic signs.
A static barrier may be permitted to close crosswalks at a signalised intersection depending on the pedestrian and vehicle volumes. This would be discussed at a site meeting. Yellow caution tape is not recognised as an acceptable barrier.

Additional traffic control or signage may be required as directed by the General Manager. The applicant shall be granted a reasonable amount of time to place these additional signs.

**Access to Site / Inspection**

Authorized representatives of the General Manager, having the required personal protective equipment, shall at all times have access to the work site to monitor the progress of the work to whatever extent they deem appropriate and to determine compliance with this manual, permit requirements and any other instructions issued by an authorized representative of the General Manager. The Applicant is cautioned that lack of such compliance may result in a stop work order being issued or cancellation of the permit and that such violations will be documented and kept on file.

The Applicant shall immediately cease the work or any part thereof when directed to do so, verbally or in writing, by an authorized representative of the General Manager, or any other party having proper jurisdiction. Verbal orders shall be followed by written notification within 24 hours stating the reasons for the order to stop work. The work or affected part thereof shall not resume until any such violation has been rectified to the satisfaction of the General Manager.

**Paid Duty Officers**

**General**

In addition to complying with the *Ontario Traffic Manual Book 7 –Temporary Conditions (Field Edition)*, the Applicant is required to provide paid duty police officers (PDOs) on site in accordance with the requirements of this document and as stipulated in the Hamilton Police Traffic Service Guidelines for paid duty police, as it is amended.
A Paid Duty Request Form can be obtained from any police station or the City of Hamilton Police Central Paid Duty Office at 905-546-4366. The form and the current hourly rates of PDO pay, which are provided in the terms of agreement at the back of the form, are updated once every January of the year.

**Determining the Need for a Paid Duty Officer**

The need for PDOs for work on city streets generally follows the criteria below, however this requirement shall be determined on a case-by-case basis. The actual need for PDOs shall be determined at the pre-construction meeting and reviewed at site meetings by General Manager and the Hamilton Police Service construction liaison officer according to the actual site conditions.

In general, a PDO shall be required:
- When work is taking place within 30.0 m of a signalised intersection.
- When work is taking place within 30.0 m of a pedestrian cross-over.
- When pedestrians’ movements cannot be made safely.
- Where the hand gesturing of traffic is required.
- When more than one lane or direction of traffic flow is to be controlled.
- At a signalized intersection, the left turn lane has been eliminated or turning movements cannot be made in a safe manner.
- Wherever deemed necessary by the Hamilton Police Service construction liaison officer or the General Manager.

**Disputing the Need for a Paid Duty Officer**

If a dispute arises with regular police on patrol over the need for PDO, a police supervisor or the Hamilton Police Traffic Services construction liaison officer shall mediate the dispute. No claims for delay, resulting from these matters, will be considered by the General Manager.

**Public Convenience and Safety**

In carrying out the work, or any portion thereof, the convenience of the public must always be considered and provided for by the Applicant who must not obstruct any street, thoroughfare or pedestrian walkway longer or to any greater extent than is absolutely necessary in the
opinion of the General Manager and shall in no case tear up or open more of any street than is approved by the General Manager or other body having jurisdiction over such closures or obstructions.

The Applicant is to provide safe, ample and convenient means of approach and entrance to adjoining lanes, driveways, buildings and property, both for vehicles and pedestrians, wherever necessary, and for passing along all roads and sidewalks, and for crossing the same where it is practicable to do so, both during the execution of the work as well as at other times, and for this purpose must construct and maintain, in good and serviceable condition, suitable and convenient platforms, approaches, structures, bridges, crossings or other works as necessary to maintain access.

The Applicant is to ensure that all residents have access to their properties at all times. If access will be blocked for any period of time, the Applicant must make arrangements with the occupants at least 48 hours in advance of any disruption. Particular attention will be required at night to ensure that safe access is maintained for all occupants. The Applicant shall be attentive to the needs of pedestrians that are visually or physically impaired, and the Applicant must be prepared at all times to assist in the safe and comfortable passage of these pedestrians.

**Clean Work Site**

The Applicant is responsible for maintaining the work site and surrounding area free of dust and mud. The Applicant shall clean the road and sidewalks as required to the satisfaction of the General Manager.

Prior to the start of any construction activity, filter cloth shall be placed between the frames and covers of all catch basins within the immediate area to prevent the entry of construction dirt and debris.

The Applicant shall keep the site and work in as tidy a condition as practicable and to the satisfaction of the General Manager. The Applicant shall not deposit any material on any portion of street, sidewalk, boulevard, grass plot, or other city or public property, without the permission of the General Manager, and shall remove same without delay when and as directed by the General Manager.
Upon completion of the work, the Applicant shall remove all surplus materials as well as any rubbish accumulated on account of the work, make good any defects or damage and shall leave the site in a condition satisfactory to the General Manager.

Should the Applicant fail to comply with this requirement and maintain the street in a satisfactory condition, the General Manager, acting reasonably, without further notice, may issue a stop work order, cancel the permit, charge the Applicant under applicable bylaws and/or arrange for the site to be cleaned immediately by others. All costs incurred in cleaning the dust and mud resulting from the Applicant’s work shall be charged to the Applicant.

**Material and Equipment Delivery and Storage**

The Applicant shall plan and schedule the movements of construction and delivery vehicles to, from and within the work site to minimise the interference and interruptions to traffic. Where possible, access routes shall be established to allow vehicles to merge with traffic without crossing traffic lanes.

Storage of materials delivered to the work site shall be considered to be part of the work area and shall conform to the traffic management plan and the provisions of this document.

Stockpiled material and equipment must not obstruct pedestrian or vehicular traffic, obstruct pedestrian or vehicular sight-lines, or be allowed to runoff onto pavement or sidewalks or into storm sewers. Sites for material storage are to be approved by the General Manager at the pre-construction meeting. Material storage must adhere to the City’s tree protection practices as outlined in [Appendix F, Tree Protection Policy](#).

Notwithstanding the foregoing, the Applicant shall immediately rectify any situation involving equipment or material that, in the sole opinion of the General Manager, constitutes a hazard to vehicular traffic or to pedestrians.
Operation of Valves and Hydrants

The Applicant shall not operate watermain valves, service water valves and/or hydrants. If operation of any water supply valves is required, the Applicant should contact the Hamilton Water Customer Service line at 905-546-4426.

Working Around Trees

Any construction activity in the vicinity of trees shall be carried out in strict compliance with the tree protection policy in Appendix F, Tree Protection Policy, of this document. Such activity includes, but is not limited to: delivery and storage of equipment and material; excavation; backfilling; plant installation; traffic control.

Working Around Mass Transit

The Applicant shall coordinate all staging with any transit commission, school or tour group known to the Applicant that may have a bus stop or travel within the work area by contacting the City of Hamilton’s Transit Planning section at 905-546-2424 ext. 1810. Special attention shall be given to loading and unloading areas for disabled persons and school buses.

The Applicant shall maintain access to all existing bus stops within the work area. Where it is not practical to maintain access, the Applicant will be responsible for relocation and reinstatement of the bus stops, under the direction of the transit authority or the General Manager, unless other arrangements have been made.

Working in the Vicinity of Bridges

Any construction activity in the vicinity of bridges shall require the approval and review of Engineering Services. The applicant may contact the structures and expressways unit, prior to their submission to the City, in order to determine the feasibility of their proposed design. The correspondence from the pre-consultation with the Structures and Expressways unit should be included in the submission package to the City, in order to expedite the review process.
In the case where the applicant submits a set of plans that includes proposed work in the vicinity of bridges with pre-consultation with the Structures and Expressways unit, the Utility and Third Party Review group will forward a set of drawings to Engineering Services. The applicant is to note that the turnaround time may be significantly higher for such cases based on the complexity of the review.

**Snow Removal and De-Icing**

Where the Applicant’s work impedes snow removal and de-icing by the City on areas where vehicular and pedestrian traffic are being maintained, as reasonably determined at the sole discretion of the General Manager, the Applicant shall be responsible for providing ice and snow removal services within the limits of the work site. Such areas shall be cleared of ice and snow to the satisfaction of the General Manager.

Should the Applicant fail to complete the required snow removal services and de-icing within the set deadlines, the General Manager, without any notice to the Applicant, may arrange for the snow and ice to be removed by others. All costs incurred by such removal shall be charged to the Applicant.

**Contaminated Soil**

If contaminated material is found when excavating, the Applicant shall immediately notify the General Manager and the Ontario Ministry of the Environment and comply with all applicable health and safety requirements. Contaminated material must not be used as backfill and must be disposed of according to ministry requirements at the Applicant’s expense.

**Notification of the Location of Unidentified Plant**

The Applicant shall immediately notify the General Manager of any plant encountered during the course of excavation which was not identified in any of the pre-construction circulations or locates. The Applicant shall contact all other utility companies and endeavour to determine the owner of the unidentified plant.
The Applicant shall include the location, depth, size and material of the unknown plant, clearly labelled as unidentified existing plant, with the location certificates submitted for that project.

**Trenchless Installations**

Where the work is being undertaken using trenchless installation methods, 1.0 m should be provided as minimum clearance from other utilities and indicated on submission plans. Pilot holes and any other damage to the street infrastructure shall be restored as per the requirements in this document. The location of the pilot holes and the measured depth of the existing plant must be clearly depicted on the location certificate. Please refer to Appendix R, *Minimum Location Certificate Requirements*.

All trenchless installations must daylight all crossing utilities.

**City of Hamilton Inspections**

City of Hamilton inspectors may at their discretion visit construction site locations as may be required, and must be allowed entry.

**Reporting Impact / Damage to Existing Plant**

Any impact with existing plant including, but not limited to, the protective coating, support, cathodic protection or the housing of the plant, shall be reported to the General Manager and plant owner immediately. The plant shall remain exposed, with the excavation properly supported, until the plant owner has assessed the damage and made a repair or authorized the Applicant to proceed.
Non-Compliance

Should any construction begin that is not in strict compliance with the conditions of the permit and this document, the Applicant may be issued a stop-work order and may be required to perform temporary restoration and move all equipment and materials off-site until these requirements are met in-full and the permit may be cancelled, at the sole discretion of the General Manager.

Depending on the severity of the infraction, the issuance of new permits for some or all work by the same Applicant may be withheld or delayed, at the sole discretion of the General Manager, until the infraction has been addressed by Applicant to the satisfaction of the General Manager.
Chapter 7

Backfill and Temporary Restoration

General

All restoration shall be completed at the expense of the Applicant.

Where the Applicant has completed temporary restoration, the permanent repairs shall be completed by the General Manager with all costs charged to the Applicant including the City’s administrative cost recovery and, where applicable, a pavement degradation fee. Additional charges shall apply to overdue accounts.

The City will carry out permanent repairs and invoice the Applicant within 18 months of the date of permit expiry. When the repair cannot be completed within 18 months, the City will notify the Applicant with an explanation and a revised completion date.

Submission and Permit Requirements

For submission and permit requirements to make an installation within the City of Hamilton’s streets, refer to the current Municipal Consent Requirements, as amended.

Traffic Control

Compliance with all City traffic control standards, including the latest editions of the Ontario Traffic Manual (OTM) Book 7 and the Municipal Consent Requirements, is required. Please refer to Appendix G, Traffic Control.
Materials

Supply of Materials

Unless otherwise specified, the Applicant shall supply all materials necessary for the execution and completion of the work.

Management and Disposal of Excess Materials

Management and disposal of excess material shall be according to OPSS 180.

Installation of Plant

Sawcutting of Pavement, Sidewalk, Curb, and Driveway

Unless judged unfeasible, the sawcut area shall have a maximum of four sides that are all parallel or perpendicular to the direction of travel. Sawcuts shall be straight and vertical to the full depth of the asphalt and concrete layers of the pavement.

Sawcutting operations shall be performed with suitable equipment and methods and not with heavy machinery or jackhammers that may cause damage to the surrounding road.

Saw cutting shall stop at, or just short of, corners to avoid overcutting. After sawcutting the edges, removal of pavement materials shall be performed with care to avoid lifting and breaking the road pavement beyond the sawcut borders.
Excavation

During the installation of any Plant, excavation equipment with stabilizers shall be suitably outfitted to prevent damage to the pavement surface or else wood or rubber pads shall be placed on the road to support the stabilizers. Any damage to the Street attributable to the Applicant’s work shall be repaired, at the Applicant’s expense, in conjunction with the utility cut.

Excavation shall not extend beyond the limits of the sawcut area. Care is to be taken to ensure that undermining of the adjacent pavement, curb and sidewalk is minimized. Where the pavement, curb and/or sidewalk are undermined by construction activities or from other causes, these undermined areas shall be filled and the settled structures shall be restored to their original grades at the expense of the Applicant.

Where necessary, bracing, shoring and/or sheeting shall be used in accordance with the Occupational Health and Safety Regulations, to support the sides of the excavation and to prevent any movement that could damage other services, adjacent pavements, sidewalks, etc. This excavation support system shall be removed as backfilling proceeds to eliminate voids between the fill and adjacent soils. Appropriate restoration of all displaced services to their original positions is the responsibility of the Applicant.

The Applicant shall, at its own expense, provide adequate support and protection of the underground and above ground plant and structures that exist inside the excavation and in the vicinity of the excavated area. Any damage to plant or structures attributable to the Applicant’s work shall be repaired to the satisfaction of the City and/or the owner(s) of the damaged plant or structures, at the Applicant’s expense, in conjunction with the utility cut.

Except where native cohesive material is to be used for backfill, as permitted by the City and/or under the conditions of this specification, stockpiling of excavated material within City Streets is not permitted under any circumstances for any length of time. All excavated material shall be loaded directly into appropriate haulage trucks and disposed of off-site immediately upon removal. The Applicant shall remove, transport and dispose of all excavated materials in accordance with the latest Ontario Environment Protection Acts and, where appropriate, the Occupational Health and Safety Act.
Inspection of Excavation

Prior to backfilling, the Applicant shall inspect the utility cut excavation to ensure the following minimum requirements are met:

- the edges of the pavement have been saw cut in a straight line and to the full depth of the pavement, or if permitted, to partial depth in composite pavement
- the bottom of the trench has been compacted and is free of water before the bedding material is placed
- all loose or wet material at the bottom of the trench has been removed and replaced with suitable bedding materials
- pipe bedding, pipe cover and compaction to the bedding and cover have been carried out to City’s or utility agency’s requirements
- necessary shoring/bracing meeting Ontario Health and Safety Acts and Regulations has been used to prevent the trench from cave-in and to protect adjacent services, pavement and sidewalk
- undermining of the adjacent pavement and sidewalk has been prevented or repaired

Excavation near Trees

Please refer to Appendix F, Tree Protection Policy, which includes a copy of SP-97.

Protection of Excavation

All excavations must be backfilled to match the adjacent grade or properly protected at the end of each working day.

When temporary plates are used to maintain vehicular, bicycle and pedestrian traffic flow, the plates shall have a skid resistant surface treatment and shall be fastened down to prevent moving. The plates shall be set flush with the surface of the pavement. The recessed plates should overlap the cut by no less than 300 mm on all sides. Asphalt mix shall be used to jam the plates tight into the pavement along all edges to eliminate any vertical edges.

Plates shall be used only as a temporary measure during construction and shall not be used for extended periods of time.
Existing Material in Trench

Materials excavated during trench construction may be considered for reuse as trench backfill where permitted as per Appendix D, *Temporary Backfill Restoration and Compaction Requirements*. The materials shall have suitable physical and environmental properties; and the materials should be properly managed during construction.

The excavated materials that may be considered for reuse as backfill include either a suitable existing granular material or a suitable existing cohesive material. The physical properties of the materials shall meet the following requirements:

- the material is free of any obvious objectionable or deleterious materials such as topsoil, organics, wood chips and metal pieces if the material is to be used in trenches located under a pavement
  - **Note:** material containing topsoil, organics, or wood chips, is acceptable when backfilling within sodded or soil surfaces in the boulevard
- the material is free of large pieces of rock or boulders
- the material is free of shale pieces
- the compaction equipment deployed on site is able to compact the material to its required density
- the material is not considered to be frost susceptible
- the material is not wet, frozen or lumpy

All excavated materials to be reused as trench backfill shall be managed to prevent contamination, and shall be protected to preserve or maintain its moisture condition.

**Contaminated Material**

Where the excavated material has been identified to be contaminated, the Applicant shall comply with all applicable legislation. Contaminated soil must not be used as backfill and must be disposed of off-site according to the applicable requirements.

When the suitability of excavated material for reuse is in dispute, the City, in its sole discretion, shall determine the suitability of the material based on the physical properties mentioned in this section and as recommended in a report, submitted by the Applicant, from a geotechnical consultant.
Backfill

Backfilling, compaction, and restoration shall be carried out in accordance with the conditions of this document and Appendix D, Temporary Backfill Restoration and Compaction Requirements.

Equipment

1. Vibratory Roller or Propane heated Roller (cold weather) – for compacting HL3 asphaltic concrete: and
2. Insulated Asphalt Hot Box – for transporting HL3 asphaltic concrete in cold weather

Suitable Backfill Materials

Unshrinkable Fill

Unshrinkable Fill shall meet the requirements of OPSS-1359, included in Appendix E, Material Specifications for Unshrinkable Backfill. The supplied Unshrinkable Fill may be tested, and any material that does not meet the requirements will be removed and replaced at the Applicant’s expense. All costs associated with the removal and replacement of deficient Unshrinkable Fill shall be borne by the Applicant, including the cost of administration and retesting.

Temporary plating shall be used to support loads from pedestrian and vehicular traffic until the temporary asphalt is laid. Traffic shall not be permitted to travel directly onto the surface of the Unshrinkable Fill.

Hot-Mix Asphalt

HL3 Hot-Mix Asphalatic Concrete shall meet the requirements of Form 800, Specifications for Hot-Mix Asphalt, in the Construction and Materials Specification Manual.

Note: Under no circumstances will temporary cut repairs be accepted if cold-mix asphalt has been used.
Imported Granular Materials

Granular materials may be imported for use as trench backfill provided the imported materials meet the requirements of Form 600, *Granular Fill Materials*, in the Construction and Materials Specification Manual.

**Backfilling**

Bedding and covering material shall be compacted to at least 98% of its Standard Proctor Maximum Dry Density, or in accordance with the Applicant’s installation requirements, whichever is greater.

If Unshrinkable Fill is used, backfill trench with Unshrinkable Fill to within 75 mm of the top of the existing surface.

If temporary shoring/bracing has been used to support adjacent infrastructure, it shall be removed in a safe manner continuously as backfilling proceeds.

**Backfilling in Pavements**

If suitable backfill material is to be used, backfilling shall be carried out in uniform lifts not exceeding 150 mm loose thickness with the layer thickness decreased to 100 mm around obstacles. Each lift of suitable backfill material shall be compacted to a minimum of 98% of its Standard Proctor Maximum Dry Density, or in accordance with the Applicant’s utility agency installation requirements, whichever is greater.

For temporary restoration of pavements, suitable backfill materials shall be brought to within 75 mm of the top of the existing surface.

The type of backfilling required in utility cuts made in road pavements shall be as follows:

Unshrinkable Fill shall be used for all cuts made in road pavements unless otherwise approved by the City.

The City, in its sole discretion, may allow an Applicant to apply, in writing, for an exemption from using Unshrinkable Fill where a utility cut is to be located at the
shoulder area or for backfilling of a wide and deep trench. No such exemptions will be granted on roads for reconstruction or resurfacing within the current construction season as advised by the City.

Where an exemption from using Unshrinkable Fill has been granted, the Applicant or its contractor shall provide Geo-technical Certificates from a geotechnical consultant within 30 days of completion of work certifying that the trench backfill meets the backfill materials requirements and compaction requirements as specified in this specification.

Where suitable native backfill is used, a 400 mm layer of Granular ‘A’, compacted to 98% of its Standard Proctor maximum dry density, shall be placed immediately below the asphalt in flexible pavements and immediately below the concrete base in composite pavements.

**Backfilling in Boulevards**

The use of unshrinkable fill is strictly prohibited for backfilling in boulevards except in the following two scenarios:

Where cuts are in close proximity to the road and the limits of the excavation encroach into the 1:1 structural prism commencing from the bottom of the adjacent curb, unshrinkable fill shall be used within the envelope of the structural prism.

Where cuts are made in hard surfaces (curbs, public sidewalks, concrete driveways, and interlocking bricks/flagstone on a concrete base) that are immediately adjacent to the road, unshrinkable fill shall be used under these hard surfaces.

Where an excavation extends beyond the areas described above, the Applicant shall ensure that the unshrinkable fill is contained within the appropriate area.

**Note:** Notwithstanding the above, unshrinkable fill is strictly prohibited for any excavation within a [Tree Protection Zone](#) regardless of the surface treatment.

For areas of sod or soil, refer to drawing in Appendix D, *Temporary Backfill Restoration and Compaction Requirements*. 
For the boulevard areas other than those specifically described above, only suitable native material or Granular B shall be used. Backfill materials shall be placed in lifts not exceeding 200 mm loose thickness and each lift shall be compacted to 95% of its Standard Proctor Maximum Dry Density.

**Backfilling in Tunnels**

Any facility that is placed underground in any method other than open cut trenching shall be considered as tunnelling.

In backfilling a tunnel, the final density of the backfill must match or exceed that of the surrounding soil. All voids resulted from tunnelling shall be completely backfilled using suitable materials as defined in this specification.

**Restoration**

**Sodding and Top Soil**

Sod shall not be laid when ground is in a frozen condition or when the site is in adverse conditions such as high wind, frozen soil or soil covered with snow, ice or standing water.

All topsoil and sod shall be in accordance with OPSS 802 and 803, as included in Appendix H, *Construction Specifications for Top Soil*, and Appendix I, *Construction Specifications for Sodding*, as amended by the Construction and Material Specifications Manual and this special provision.

This item shall include all costs to supply and place sod with a minimum 100 mm of topsoil and shall include stakes where required.

The Utility Company shall water and maintain sod for 30 consecutive days after placement to ensure root establishment and sufficient growth. The Utility Company shall have all work schedules for the placement of sod approved by the City prior to commencing work.

Where in the opinion of the City, the Utility Company has failed to provide the required maintenance to ensure root establishment and growth, the Utility Company shall remove, replace, and maintain all sod identified by the City.
# Repair Responsibility According to Surface Types

<table>
<thead>
<tr>
<th>Surface Type</th>
<th>Material</th>
<th>Repair Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Temporary Repair</strong></td>
</tr>
<tr>
<td>Road Pavement</td>
<td>Asphalt</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td>Sidewalk</td>
<td>Asphalt</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td>Curb</td>
<td>Asphalt</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td>Boulevard</td>
<td>Asphalt</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Interlocking bricks/flagstone on</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>a granular base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interlocking bricks/flagstone on</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>a concrete base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sod</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Gravel or Soil</td>
<td>---</td>
</tr>
<tr>
<td>Driveway</td>
<td>Asphalt with abutting concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>repair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asphalt with no abutting concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>repair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>The Applicant</td>
</tr>
<tr>
<td></td>
<td>Interlocking bricks/flagstone on</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>a granular base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interlocking bricks/flagstone on</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>a concrete base</td>
<td></td>
</tr>
</tbody>
</table>

Notes: • Any repairs on private property shall be the responsibility of the Applicant. • All work performed by the Applicant or its contractor shall be carried out in accordance with the City standards and applicable specifications. • Permanent restoration of areas with decorative or specialized surfaces, landscaping, and subsurface treatments such as patterned/impressed concrete shall be the responsibility of the City at the Applicant’s expense as part of the restoration of the work.
Temporary Repair

Unless otherwise specified, backfill material shall be brought to within 75 mm below the existing surface. The remainder of the trench shall be filled with compacted hot-mix asphalt as a mean for temporary pavement restoration.

Unless otherwise specified, all temporary repairs shall be HL3 hot mix asphalt. The HL3 shall be mechanically compacted as per the requirements indicated in Appendix D, Temporary Backfill Restoration and Compaction Requirements, and neatly match the finished grade of the existing pavement or sidewalk.

Temporary utility cut repairs shall be marked by Applicant using paint applied with a stencil. The marking shall bear the identified code and/or name assigned by the City to the Applicant and the calendar year that the temporary repair was performed. The marking shall be placed adjacent to the cut, outside the area of the temporary repair.

Deficiencies

Upon being notified that the temporary restoration has not been carried out to the satisfaction of the General Manager, the Applicant shall rectify the deficiencies immediately. The General Manager may, in its sole discretion, accept a request from the Applicant for another timeline where justified by the nature and extent of work required. If the deficiencies are not rectified by the required deadline, the General Manager may undertake remedial restoration, which may include complete excavation of the cut, and charge back all associated expenses, including mobilization costs, to the Applicant.

Emergency Repairs

Notwithstanding the above, if deficiencies in the temporary or permanent repair performed by the Applicant pose a safety hazard, the General Manager, in its sole discretion, may immediately undertake remedial restoration, which may include complete excavation of the cut, and charge back all associated expenses, including mobilization costs, to the Applicant.
Quality Assurance

Warranty

The Applicant will warrant the utility cut repairs it undertakes for 2 years in accordance with the Repair Responsibility table on page 50 of this chapter. The Applicant shall maintain a rigorous control and assurance program such that each utility cut repair will be inspected once every 12 months.
Chapter 8
Location Certificates

Preparation and Submission

Location certificates shall comply with the requirements outlined in Appendix R, Minimum Location Certificate Requirements, within 90 days of the date of permit expiry, the Applicant shall submit location certificates electronically to the City’s Geomatics and Corridor Management section.

Non-Compliance with Location Certificate Requirements

If the Applicant does not submit a compliant location certificate within 90 days of project completion, the General Manager may, in its sole discretion, arrange for a locator and survey crew to identify, locate and prepare a drawing accurately depicting the location of the Applicant’s infrastructure. All costs associated with this work shall be charged to the Applicant. The issuance of new permits may be withheld or delayed, at the sole discretion of the General Manager, until the required location certificates have been submitted.

Accountability for Inaccurate Location Certificates

The submitted location certificates may be used for management of the right-of-way and for future designs. In the event that the actual constructed plant location differs from that shown on the location certificate, the Applicant will be held 100% responsible, and shall absolve all other occupiers of the street of any responsibility for all damages, liabilities, relocation costs, redesign costs and subsequent delay costs resulting from the Applicant’s failure to provide an accurate location certificate.
Glossary

Alignment – A location specified or approved by the General Manager for locating equipment on, over, along, across, under, or in a street.

Applicant – A person applying for a permit or other consent under these requirements. This shall be extended, where applicable, to include the Applicant’s direct employees and its agents, consultants and contractors.

Book 7 – Ontario Traffic Manual, Book 7 – Temporary Conditions (Field Edition) was developed to show how to apply traffic control devices in temporary construction, maintenance, and utility work zones, to help ensure worker safety, motorist safety, and motorist mobility. It has been prepared to assist works in the field by illustrating the appropriate signing and the channelization required for the most common types of roadway work operations.

Boulevard – That part of a public street that is not used, or intended to be used, for vehicle travel by the general public, and that is situated between the travelled portion of the road and the adjoining property line.

City – The City of Hamilton the corporation – and will be referred to as the City for the purposes of this document.

Commissioner – The Commissioner of Transportation and designated staff and any appointed engineering firm and/or appointed testing firm for the Contract.

Contraction Joint – A cut or formed joint to regulate the location and degree of cracking in the plane of the pavement.

Deep Trench – A trench deeper than 1.2 m

Dripline of a Tree – The area defined by the outermost circumference of a tree canopy where water drips from and onto the ground.
Emergency Work – Work within a street that must be completed immediately due to health or safety concerns or because the provision of essential services is endangered.

Equipment – Includes any machinery, vehicles, construction materials, poles, cables, pipes, conduits, ducts, pedestals, antennas, towers, wires, amplifiers, vaults, maintenance holes, hand holes, support structures or other appurtenances or ancillary facilities, structures or devices used to provide any public utility, including telecommunications, electrical energy, steam energy or water and waste water utility services.

Essential Services – Energy (including, but not limited to, natural gas, steam, and electricity), water, sanitary sewage, traffic control, and the following communication services: 911 service, communications for financial transactions, business networks, and Internet.

Expansion Joint – A physical separation between the concrete and appurtenances, or between parts of the sidewalk or raised median, which allows both horizontal and vertical movement.

Excavating – The breaking, digging up, tearing up, tunnelling, boring, coring, cutting into or removing any portion of the surface or subsurface of the street, including pavement, sidewalk, curbs, gutter or landscaping.

General Manager – The person appointed by the City from time to time as the general manager of Transportation Services and his or her successors or his or her duly authorized representative.

Hamilton Public Utilities Coordinating Committee (HPUCC) – the organization, or any successor organization, comprised of member utility companies and the City who own and operate equipment in City streets.

HSR – The Hamilton Street Railway.

Intersection – The area embraced within the prolongation or connection of the lateral curb lines or, if none, then of the lateral boundary lines of two or more streets or private driveways that join one another at an angle, whether or not one street or private driveway crosses the other.
Location Certificate – A drawing prepared according to the General Manager’s specifications that, in the General Manager’s opinion, is sufficient to accurately establish the location, elevation and distance of any equipment constructed, installed or reconstructed within a street.

Mainline – Any plant that is not a service or service drop.

Municipal Access Agreement (MAA) – A legal agreement, approved by City Council, which contains provisions for granting consent to a person to do work in the streets upon compliance by such person with all other applicable municipal requirements.

Municipal Consent Requirements (MCR) – This document, specifying the requirements for the installation of plant within city of Hamilton streets.

Narrow Trench – The width of a trench is less than or equal to 350 mm

Native Material – Excavated material for placement into the exact location from which it was removed.

Municipal Address – The city, street and number on the street by which a property is known.


Permanent Repair – The process whereby a cut and/or excavation is reinstated to a condition which requires no further repair.

Permit – Written authorization granted by the General Manager under the provisions of this document.

Person – One or more individuals, partnerships, corporate bodies, unincorporated organisations, governments, government agencies, trustees, executors, administrators or other legal representatives, other than the City or its legal representatives.

Plant – Any poles, cables, pipes, conduits, ducts, pedestals, regulators, antennas, towers, wires, amplifiers, vaults, maintenance holes, hand holes, support structures and or other appurtenances or ancillary facilities or structures used for the provision of telecommunications,
internet, energy, water, waste water, steam, fuel and/or other materials. Any encasement, steel plating or other non-excavatable material shall be considered to be part of the plant.

**Road** – The portion of the street designed, improved and ordinarily used by vehicle traffic.

**Service / Service Drop** – A cable, pipe, conduit, or any other plant that provides service directly to a customer.

**Shallow Trench** – The depth of trench is less than or equal to 1.2 m

**Sidewalk** – That part of a public street located within the boulevard that is improved for the exclusive use of pedestrians.

**Street** – A common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicle and includes the area between the lateral property lines thereof. The terms City’s public road allowance, right-of-way and highway shall have the same meaning as street.

**Street Line** – The property line indicating the boundary of the right-of-way and private property.

**Suitable Backfill Material** – The native materials or imported granular materials that can be used as utility trench backfill materials in lieu of Unshrinkable Fill as defined in this specification.

**Temporary Repair** – The process whereby a cut and/or excavation is reinstated as a temporary measure pending completion of a permanent repair.

**Trunk** – A watermain with an inside diameter equal to or greater than 400 millimetres; a storm sewer with an inside diameter equal to or greater than 750 millimetres; a sanitary or combined sewer with an inside diameter equal to or greater than 375 millimetres; any attachment to the aforementioned watermains/sewers including, but not limited to, maintenance holes, appurtenances, valve chambers, cathodic protection or other features.

**Unshrinkable Fill** – A self-compacting cement treated aggregate with flowable consistency and controlled low strength properties that conforms to Appendix E, *Specification for Unshrinkable Fill*. 
**Utility Company** – A company owning, operating and maintaining plant in the public right-of-way.

**Work** – Includes any excavating in streets, and the installing, repairing, replacing, extending or operating and maintaining of any equipment, structure or device located on, over, along, across, under, or in streets.
Appendices

Appendix A  Permit Application Offices
Appendix B  Utility Circulations Contacts
Appendix C  City District Map
Appendix D  Temporary Backfill Restoration & Compaction Requirements
Appendix E  Material Specifications for Unshrinkable Backfill
Appendix F  Tree Protection Policy
Appendix G  Traffic Control
Appendix H  Construction Specifications for Topsoil
Appendix I  Construction Specifications for Sodding
Appendix J  Depth of Cover
Appendix K  Municipal Consent Application Form
Appendix L  Control Systems
Appendix M  Permits Required to Perform Work
Appendix N  Project Information Sign
Appendix O  Vertical and Horizontal Clearance Guidelines
Appendix P  Standard Utility Location ROW Drawings
Appendix Q  Permit Drawing Standards
Appendix R  Minimum Location Certificate Requirements
Appendix S  Classification of City Streets
Appendix T  Minimum Requirements for Visibility Clearance
Appendix U  Road Occupancy Permit Application
Appendix V  Road Excavation Permit Application
Appendix W  (intentionally left blank)
Appendix X  (intentionally left blank)
Appendix Y  (intentionally left blank)
Appendix Z  Document History
Appendix A

Permit Application Offices

Address

City of Hamilton
Public Works Department
Engineering Services – Geomatics & Corridor Management
77 James Street North, Suite 320
Hamilton, ON  L8R 2K3

Main Contact

Engineering Services
Phone: 905-546-2424 ext. 5920
Email: csr_gcm@hamilton.ca

Fax

905-546-2463

Alternate Contacts

Bob Howard
Project Manager
Utility Right of Way Coordinator
Phone: 905-546-2424 ext. 2052
Email: Bob.Howard@hamilton.ca

Joe Scarcelli
Public Utilities Coordinator
Phone: 905-546-2424 ext. 4729
Email: Joe.Scarcelli@hamilton.ca

Rich Shebib
Traffic Technologist
Phone: 905-546-2424 ext. 3909
Email: Rich.Shebib@hamilton.ca
# Appendix B

## Utility Contacts for Permit Process & Mark-up

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>CONTACT NAME</th>
<th>ADDRESS</th>
<th>PHONE / FAX / E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell Canada</td>
<td>Leslie Johnston</td>
<td>20 Hunter Street, 6th Floor P.O. Box 2340 Hamilton, ON L8P 1P8</td>
<td>T: 905-577-6616 F: 905-527-2187 <a href="mailto:leslie.johnston@bell.ca">leslie.johnston@bell.ca</a></td>
</tr>
<tr>
<td>COGECO</td>
<td>Jane MacDonald</td>
<td>950 Syscon Road P.O. Box 5076, Stn. LCD 1 Burlington, ON L7R 4S6</td>
<td>T: 289-337-7000 ext. 7442 F: <a href="mailto:jane.macdonald@cogeco.com">jane.macdonald@cogeco.com</a></td>
</tr>
<tr>
<td>Horizon Utilities</td>
<td>Mark Jakubowski</td>
<td>55 John Street North Hamilton, ON L8R 3M8</td>
<td>T: 905-317-4796 F: 905-387-1618 <a href="mailto:mark.jakubowski@horizonutilities.com">mark.jakubowski@horizonutilities.com</a></td>
</tr>
<tr>
<td>Hydro One</td>
<td>Doreen Stermann</td>
<td>40 Olympic Drive P.O. Box 585 Dundas, ON L9H 7P5</td>
<td>T: 905-627-6031 F: 905-627-6046 <a href="mailto:doreen.stermann@hydroone.com">doreen.stermann@hydroone.com</a></td>
</tr>
<tr>
<td>Rogers</td>
<td>Richard Bolliger</td>
<td>85 Grand Crest Place P.O. Box 488 Kitchener, ON N2G 4A8</td>
<td>T: 519-894-8142 F: 519-893-6463 <a href="mailto:richard.bolliger@rci.rogers.com">richard.bolliger@rci.rogers.com</a></td>
</tr>
<tr>
<td>Rogers (previously SHAW)</td>
<td>Keith Zonneveld</td>
<td>141 Hester Street Hamilton, ON L9A 2N9</td>
<td>T: 905-667-7604 <a href="mailto:keith.zonneveld@rci.rogers.com">keith.zonneveld@rci.rogers.com</a></td>
</tr>
<tr>
<td></td>
<td>Steve Gionomo</td>
<td></td>
<td>T: 905-667-7608 <a href="mailto:steve.gionomo@rci.rogers.com">steve.gionomo@rci.rogers.com</a></td>
</tr>
<tr>
<td>Source Cable</td>
<td>Bruno Milano</td>
<td>1090 Upper Wellington Hamilton, ON L9A 3S6</td>
<td>T: 905-574-6464 ext. 261 F: 905-574-8486 <a href="mailto:bruno@sourcecable.ca">bruno@sourcecable.ca</a></td>
</tr>
<tr>
<td>Union Gas</td>
<td>Enzo Greco</td>
<td>360 Strathearn Ave. N. Hamilton, ON L8N 3A5</td>
<td>T: 905-548-3411 F: 905-741-8395 <a href="mailto:egreco@uniongas.com">egreco@uniongas.com</a></td>
</tr>
<tr>
<td>COMPANY</td>
<td>CONTACT NAME</td>
<td>ADDRESS</td>
<td>PHONE / FAX / E-MAIL</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------</td>
</tr>
</tbody>
</table>
| City of Hamilton | Bob Howard | Engineering Services 77 James Street North, Suite 320 Hamilton, ON L8R 2K3 | T: 905-546-2424 ext. 2052  
F: 905-546-2463  
bob.howard@hamilton.ca |
| City of Hamilton | Chris McCafferty | Engineering Services 77 James Street North, Suite 320 Hamilton, ON L8R 2K3 | T: 905-546-2424 ext. 2320  
F: 905-546-2463  
chris.mccafferty@hamilton.ca |
| City of Hamilton | Joe Cascella | Planning & Development 71 Main Street West, 6th Floor Hamilton, ON L8P 4Y5 | T: 905-546-2424 ext. 4422  
F: 905-540-6142  
joe.cascella@hamilton.ca |
| City of Hamilton | Joe Scarcelli | Engineering Services 77 James Street North, Suite 320 Hamilton, ON L8R 2K3 | T: 905-546-2424 ext. 4729  
F: 905-546-2463  
joe.scarcelli@hamilton.ca |
| City of Hamilton | Sally Yong-Lee | Planning & Development 71 Main Street West, 6th Floor Hamilton, ON L8P 4Y5 | T: 905-546-2424 ext. 1428  
F: 905-540-6142  
sally.yong-lee@hamilton.ca |
| City of Hamilton | Susan Jacob | Engineering Services 77 James Street North, Suite 320 Hamilton, ON L8R 2K3 | T: 905-546-2424 ext. 2621  
F: 905-546-2463  
susan.jacob@hamilton.ca |
UTILITY SIGN-OFF FORM

Date: ______________________

Applicant / Utility: ______________________
Name of Project: ______________________
Work Order: ______________________

SENT TO:

- Bell Canada
- COGECO
- Horizon Utilities
- Hydro One
- Rogers
- Street Lighting
- Source Cable
- Union Gas

This form is notice of the above project.

Please review the attached plans and comment within 15 business days.

If we receive no comments in the allotted time frame, the project will proceed.

This is an opportunity to participate in a joint-built venture.
Appendix C
City of Hamilton District Map

For an interactive map, visit [www.map.hamilton.ca](http://www.map.hamilton.ca)

1. Click on the “Map Gallery” icon
2. In the Map Category drop-down menu, select “Areas and Boundaries”, then click Search
3. Select the map titled [Public Works, Operations & Waste Management Maintenance Districts](http://www.map.hamilton.ca)
## Operations and Waste Management Division

### Customer Service Contact List

<table>
<thead>
<tr>
<th>Section / Program</th>
<th>To report or find info on...</th>
<th>Contact Person and Email for Service</th>
<th>Contact Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forestry Operations</strong></td>
<td>City tree down, hanging branch, tree pests, etc.</td>
<td>☏️ 905-546-2424 ext. 5524 ✉️ <a href="mailto:Forestry@hamilton.ca">Forestry@hamilton.ca</a></td>
<td>Brenda Knox</td>
</tr>
<tr>
<td>Field Operations</td>
<td></td>
<td></td>
<td>Carol Riseing</td>
</tr>
<tr>
<td><strong>Tree Planting</strong></td>
<td>Planting of new trees on the City road allowance, etc.</td>
<td>☏️ 905-546-2424 ext. 3186 ✉️ <a href="mailto:TreePlanting@hamilton.ca">TreePlanting@hamilton.ca</a></td>
<td>Ben Gesch</td>
</tr>
<tr>
<td>located on Shaver Rd.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Horticulture</strong></td>
<td>Traffic island irrigation. Tropical house info, etc.</td>
<td>☏️ 905-546-2424 ext. 7598 ✉️ <a href="mailto:Horticulture@hamilton.ca">Horticulture@hamilton.ca</a></td>
<td>Dawn Miller</td>
</tr>
<tr>
<td><strong>Municipal Cemeteries</strong></td>
<td>Historical burial information, maintenance concerns, sales info, etc.</td>
<td>☏️ 905-546-4704 ✉️ <a href="mailto:Cemeteries@hamilton.ca">Cemeteries@hamilton.ca</a></td>
<td>Christine Hill</td>
</tr>
<tr>
<td>Business Office and Operations</td>
<td></td>
<td></td>
<td>Elizabeth Manneke</td>
</tr>
<tr>
<td><strong>Parks Operations and Maintenance</strong></td>
<td>Grass cutting, park amenities, trails, stairs, graffiti, etc.</td>
<td>☏️ 905-546-2424 ext. 4392 ✉️ <a href="mailto:ParksNorth@hamilton.ca">ParksNorth@hamilton.ca</a></td>
<td>Tammy Law</td>
</tr>
<tr>
<td><strong>Roads Operations and Maintenance</strong></td>
<td>Catchbasins, potholes, sidewalk repairs, snow clearing, street sweeping, etc.</td>
<td>☏️ 905-546-2424 ext. 5309 ✉️ <a href="mailto:RoadsNorth@hamilton.ca">RoadsNorth@hamilton.ca</a></td>
<td>Tom Guder</td>
</tr>
<tr>
<td><strong>Waste Collection and Disposal</strong></td>
<td>CRCs, downtown litter, missed waste/recycling/organics, program information, etc.</td>
<td>☏️ 905-546-2424 ext. 7494 ✉️ <a href="mailto:WasteManagement@hamilton.ca">WasteManagement@hamilton.ca</a></td>
<td>Carol Ellerker</td>
</tr>
<tr>
<td>located on Burlington St.</td>
<td></td>
<td></td>
<td>Cassandra Lee-Guest</td>
</tr>
</tbody>
</table>

*Note: The contact list includes the section, program, service area, contact numbers, contact emails, and contact names.*
Appendix D

Temporary Backfill Restoration

CROSS SECTION FOR TEMPORARY RE-INSTATMENT
THROUGH AN ARTERIAL ROAD

CROSS SECTION FOR TEMPORARY RE-INSTATMENT
THROUGH A LOCAL ROAD

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

TEMPORARY RE-INSTATMENT OVER UTILITY CUTS
CROSS SECTION FOR TEMPORARY RE-INSTATEMENT THROUGH A SIDEWALK OR CONC. ALLEYWAY

CROSS SECTION FOR TEMPORARY RE-INSTATEMENT THROUGH A SODDED AREA

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section

City of Hamilton
Public Works Department

TEMPORARY RE-INSTATEMENT OVER UTILITY CUTS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)
DATE: June 2013
REV No: FORMERLY: HAMILTON STD No: D2
# Appendix D

## Standard Compaction Requirements

<table>
<thead>
<tr>
<th>Material</th>
<th>Location / Use</th>
<th>Minimum Specified Compaction</th>
<th>Specification Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Mix Asphalt</td>
<td>Pavement Structures on Roads and Paved Parking Areas</td>
<td>97% MARSHALL DENSITY</td>
<td>OPSS 310</td>
</tr>
<tr>
<td>Granular “A” Base Course</td>
<td>Road, Curb, Sidewalk, and Bike Path Construction</td>
<td>100% SPMDD</td>
<td>OPSS 501</td>
</tr>
<tr>
<td>Granular “B” Sub-Base</td>
<td>Road Construction</td>
<td>100% SPMDD</td>
<td>OPSS 501</td>
</tr>
<tr>
<td>Granular Backfill</td>
<td>Trench Backfill for Sewers, Watermains, Utilities, Catchbasins, Manholes, Valve Chambers</td>
<td>95% SPMDD</td>
<td>OPSS 514 OPSS 516</td>
</tr>
<tr>
<td>Granular Backfill Form 600</td>
<td>Trench Backfill for Sewers, Watermains, Utilities, Catchbasins, Manholes, Valve Chambers</td>
<td>95% SPMDD</td>
<td>OPSS 514 OPSS 516</td>
</tr>
<tr>
<td>Earth, Soils, and/or Native Materials</td>
<td>Trench Backfill for Sewers, Watermains, Utilities, Catchbasins, Manholes, Valve Chambers</td>
<td>95% SPMDD</td>
<td>OPSS 514 OPSS 516</td>
</tr>
<tr>
<td></td>
<td>Embankment Fill and Subgrade Material for Pavements, Sidewalks, and Bike Paths</td>
<td>95% SPMDD</td>
<td>OPSS 501</td>
</tr>
<tr>
<td></td>
<td>General Fill for Landscaped Areas</td>
<td>90% SPMDD</td>
<td>See Contract Documents</td>
</tr>
<tr>
<td>Granular Backfill around Structures</td>
<td>Fill next to Footings, Bridge Abutments, and behind Retaining Walls</td>
<td>100% SPMDD</td>
<td>OPSS 514</td>
</tr>
<tr>
<td>Granular Bedding</td>
<td>Pipe Bedding for Watermains and Sewers</td>
<td>95% SPMDD</td>
<td>FORM 600 OPSS 701</td>
</tr>
</tbody>
</table>

**Notes:**
1) Unless otherwise directed, compaction will be assessed using a nuclear density gauge, as per ASTM D2922 and D3017.
2) SPMDD refers to Standard Proctor Maximum Dry Density as determined by MTO laboratory test method LS-706.
Compaction Methods

All contract references to % compaction or maximum compacted densities by whatever method specified, shall be interpreted as being “the maximum dry density as determined by current City procedures”.

Current City procedures shall mean the method described in the current Standards:

D.698-70  Moisture – Density Relations of Soils Using 5.5 lb Hammer and 12” Drop
D.2922-71  Determining the Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
D.2950-71T Density of Bituminous Concrete in Place by Nuclear Methods

As an expedient, the City may determine the (degree of compaction) maximum dry density by “the constant dry weight methods” as set out in D.H.O. Research Report No. 141, together with such variations of the above methods as the City may from time to time introduce.

Any such deviation between current City procedures and methods formerly specified or any modifications to current City procedures which may be introduced shall be for the purpose of increasing the reliability of the test result and speed in field testing and will result in no increase in the compactive effort required.

All backfill materials shall be placed in layers not exceeding 300 mm (12”) in depth and compacted to a minimum of 95% Standard Proctor Dry Density – see chart on previous page.
ROW Utility Installation and Permit Manual

ONTARIO PROVINCIAL STANDARD SPECIFICATION

MATERIAL SPECIFICATION FOR UNSHRINKABLE BACKFILL

TABLE OF CONTENTS

1359.01 SCOPE
1359.02 REFERENCES
1359.03 DEFINITIONS
1359.04 SUBMISSION AND DESIGN REQUIREMENTS
1359.05 MATERIALS
1359.06 EQUIPMENT
1359.07 PRODUCTION - Not Used
1359.08 QUALITY ASSURANCE
1359.09 OWNER PURCHASE OF MATERIAL - Not Used

APPENDICES

1359-A Commentary

1359.01 SCOPE

This specification covers the requirements for treated aggregate known as unshrinkable backfill, in underground service and Utility trenches, and around in-ground structures.

1359.01.01 Significance and Use of Appendices

Appendices are not a mandatory part of the specification unless invoked by the Owner.

Appendix 1359-A is a commentary appendix to provide designers with information on the use of the specification in a Contract.
1359.02 REFERENCES
This specification refers to the following standards, specifications, or publications:

**Ontario Provincial Standard Specifications, Material**
- OPSS 1002 Aggregates - Concrete
- OPSS 1301 Cementing Materials
- OPSS 1302 Water
- OPSS 1350 Concrete - Materials and Production

**Canadian Standards Association**
- A23.2-3C Making and Curing Concrete Compression and Flexural Test Specimens [Part of CAN/CSA A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete]
- A23.2-9C Compressive Strength of Cylindrical Concrete Specimens [Part of CAN/CSA A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete]
- A3001-03 Cementitious Materials for Use in Concrete [Part of CAN/CSA A3000-03 Cementitious Materials Compendium]

1359.03 DEFINITIONS
For the purpose of this specification, the following definition applies:

**Unshrinkable Backfill** means a self-compacting cement treated aggregate with flowable consistency and controlled low strength properties.

1359.04 SUBMISSION AND DESIGN REQUIREMENTS

1359.04.01 Submission Requirements
The Contractor shall be responsible for designing the unshrinkable backfill mix and shall submit the unshrinkable backfill mix design data using the Concrete Mix Design Submission forms specified in the Contract Documents.

The mix design submission shall be accompanied by data on 28-Day compressive strengths of the backfill.

1359.05 MATERIALS

1359.05.01 Cementing Materials
Cementing materials shall be according to OPSS 1301.

1359.05.02 Water
Water shall be according to OPSS 1302.
1359.06.03 Aggregates

Aggregates shall be according to OPSS 1002 and shall have a maximum aggregate size of 25 mm. Slag aggregate shall not be used.

1359.06.04 Mix Requirements

Mix requirements shall be according to the following:

a) The unshrinkable backfill shall contain 25 kg/m³ of Type GU Portland cement according to CAN/CSA A3001 and may contain additional supplementary cementing materials.

b) Slump at point of discharge shall be a minimum of 150 mm and the unshrinkable backfill shall be uniformly mixed throughout.

c) The material shall be designed such that it can flow into the excavation and fill the entire space without vibration and segregation.

d) The 28-Day compressive strength shall be a maximum of 0.70 MPa.

e) The mixture may contain foaming agents.

1359.06.05 Unshrinkable Backfill Material Placement Requirements

The material shall be placed into the excavation so that it fills the entire space without voids being created beneath horizontal projections or in other locations within the excavation.

The unshrinkable backfill material shall be completely placed within a period of 2 hours from the time of the batching.

The unshrinkable backfill material shall be protected from cold weather according to OPSS 350.

When shoring, bracing, or sheeting is to be removed, the support system shall be removed prior to or during the backfilling operation.

When placed behind abutment as backfill, layers of unshrinkable backfill material shall be placed alternately at each abutment. The layers shall not exceed 400 mm and the height of the layers shall be approximately the same. At no time shall the difference in elevation be greater than 400 mm. Each layer shall be allowed to set for a period of minimum of 4 hours before a new layer is placed.

Where vehicular traffic, including construction equipment, needs to be accommodated, the unshrinkable backfill shall be protected by covering it with a steel plate suitable for the traffic loading for a minimum of 24 hours.

1359.06 EQUIPMENT

1359.06.01 Mixing Equipment

A central mixing or dry batch plant capable of accurately proportioning aggregate, cement, and water shall be used, according to OPSS 1350.

1359.06.02 Transport Equipment

Unshrinkable backfill shall be transported to the site by means of ready mix trucks.
1359.08 QUALITY ASSURANCE

1359.08.01 Testing Requirements

Compressive strength testing shall be according to CSA-A23.2-3C and CSA-A23.2-9C and with the following requirements:

a) Only cardboard moulds shall be used to cast the test cylinders. A disc of wax paper matching the inside diameter of the cylinder mould shall be placed at the base of the cylinder mould prior to casting. The interior sidewalls of the cardboard mould shall be treated with a light coating of release agent to assist in the demoulding operation.

b) The cylinders shall only be demoulded on the same day of testing for compressive strength.

c) The load indicating mechanism of the compression testing machine shall be capable of showing load changes of 100 newtons or less. The loading rate shall be 0.11 MPa/s or lower.

d) The minimum test requirement shall be one set of two test cylinders, per supplier, per day.

1359.08.02 Acceptance

Unshrinkable backfill shall be accepted when

a) the material does not deform under traffic loading, and

b) the compressive strength requirements are met.
Appendix 1359-A, Commentary for OPSS 1359, November 2006

Note: This appendix does not form part of the standard specification. It is intended to provide information to the designer on the use of this specification in a contract.

Designer Action/Considerations

The designer should specify the following in the Contract Documents:

- Concrete Mix Design Submission forms to be used. (1359.04.01)

For shallow applications within the depth of frost penetration, differential frost heaving may occur.

The designer should ensure that the Ontario Provincial Standards General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

OPSD 509.010 Pavement Reinstatement for Utility Cuts
Appendix F

Tree Protection Policy

The following is according to the City of Hamilton’s special provision SP-97.

General

Tree Protection shall be in accordance with OPSS 801 as amended by this special provision.

Construction

Where indicated on the tree removal and protection plan, all existing trees shall be protected from damage in accordance with the tree protection details given on the Contract drawings before the start of any works on this contract. Once tree protection is in place, the Contractor shall notify the City of Hamilton Forestry Section (see Urban Forestry Contacts list to follow) in order to arrange for inspection of all tree protection measures.

The Contractor shall not trim any trees. Where trimming is necessary, the Contractor shall contact the City of Hamilton Forestry Section to arrange for tree trimming.

Confine movement of heavy equipment and storage of same and materials to a predetermined area. Equipment shall not be placed or move over soil within the dripline of any tree. Do not store materials or place equipment over root systems. No rigging cables shall be wrapped around or on trees.

Contractor shall be responsible for the installation of protective fencing or approved equal, installed in accordance with City of Hamilton Forestry Section requirements, unless directed otherwise. Where the installation of the tree protection fencing is not practical, tree protection shall be placed as close as possible to the leading edge of the crown and never close than 1.85m (6 ft) from the trunk without approval of the Manager of Forestry of his representative.

This item shall include all costs to supply, install, maintain, relocate, and remove all required materials for tree protection, as necessary.
Tree Protection Zone Signing

This item shall include all costs to pick-up, deliver, install, maintain, and remove all Tree Protection Zone sign boards as required. Signs shall be strapped to the tree protection fencing and supported using adequate fasteners to ensure that the sign is secured against any movement and is clearly visible. Signs will be approximately 15 inches by 24 inches and made of lightweight “Coreplast” material. Signs are to be manufactured by the City of Hamilton Traffic Department. In general, the sign will be installed on both sides of the roadway near each intersection within the limit of the project, as directed by the Project Manager.

The Contractor shall pick-up Tree Protection Zone signs at the City of Hamilton’s Traffic Department at 1375 Upper Ottawa Street, Hamilton, deliver and install at the construction site at location to be determined by the Project manager. All Tree Protection Zone signs shall be returned to the Traffic Department for reuse once the project is completed.

Excavation within Tree Driplines

Caution shall be used to minimize injury to trees where excavation within tree driplines is required.

Protection measures may be requested such as temporarily mulching 4 inches to 6 inches within the tree’s dripline or using straw mats or plywood in the ground to alleviate soil compaction. The Forestry and Horticulture sections will also advise if a watering or surface fertilizer program will be required at the completion of construction.

Areas where roots with a diameter of 25 mm (1 inch) or greater are exposed, they must be cut flush with a sharp saw and then backfilled with clean loam to protect from contamination or damage. Roots and root-trunk flares growing over curbs shall be protected in place. Wood and bark issues shall not be injured by striking tissues with equipment in order to break out concrete.

Breaking of the existing concrete, asphalt, or other hard surfaces within the Tree Protection Zone may be done mechanically, but shall be done in a manner that will avoid root damage. Broken up material may be removed mechanically under the direct supervision of the Project Manager, Inspector, or City Arborist. When removing existing sidewalks and curbs, care shall be taken to avoid injury to the roots, trunk, and trunk flare.

In specific cases where the hard surfaces to be removed are adjacent to or in direct contact with critical root zones, the Contractor may be asked to remove those hard surfaces manually. In these cases, equipment such as backhoes or bobcats shall not be used to remove the broken up material. The breaking and removal of hard surfaces manually shall be as directed by the
Project Manager. There will be no separate payment for the breaking or removal of hard surfaces manually.

Motorized equipment and trailers, including tractors, Bobcats, bulldozers, backhoes, trucks, cars, and carts are not to enter the Tree Protection Zone.

**Use the following where there is no “Tree Preservation Drawing”**

In addition to the above, Contractors working in the vicinity of municipally owned trees shall adhere to the Tree Preservation Fence detail (attached to this document) and the following requirements:

- All existing trees to remain on site, or on adjacent properties, shall be fully protected with tree preservation fencing to the satisfaction of the Manager of Forestry and Horticulture or his designate to protect the roots, trunks, and branches during construction. Areas within the protective fencing zone shall remain undisturbed and shall not be used for the storage of building materials, structures, or equipment. This tree protection zone shall be completed prior to the commencement of site clearance, demolition, or any type of construction.

- Surplus soil, equipment, vehicles, tools, debris, or materials shall not be placed over the root system of the trees within the Tree Protection Zone. No contaminants shall be dumped or flushed where feeder roots of trees exist.

- The Contractor shall, wherever possible, avoid cutting surface roots. If root cuts are necessary, they should be done quickly, making smooth flush cuts. The roots shall be backfilled and watered before they have a chance to dry out.

- Where limbs or portions of trees must be removed to accommodate construction work, Forestry personnel in accordance with accepted Arboricultural practices will remove them.

- Where necessary, the trees will be given an overall pruning by the City of Hamilton Forestry personnel at appropriate stages during construction.

- The Contractor shall, wherever possible, avoid disturbing original grades around trees in areas of protective fencing.
• At no time shall the Contractor place, deposit or store of any stone, brick, sand, concrete, soil, or any other material or equipment which may impede the free passage of water, air, or nutrients to the tree.

• No cables or ropes of any type shall be wrapped around or installed in trees.

• At no time, under any circumstances, shall any part of the tree that is to remain after construction is completed have signs or fences nailed to it or survey markings or paint applied to the tree.

• The Manager of Forestry and Horticulture or his designate shall be notified to inspect all Tree Protection measures. These measures shall remain in effect until the completion of construction, at which time authorization from the Manager of Forestry and Horticulture or his designate must be obtained for the removal of the Tree Protection Zone.

• The Manager of Forestry and Horticulture must be notified immediately when any municipality owned tree is injured or destroyed during construction.
Urban Forestry Contacts

**Forestry General Inquiries Line**

905-546-2424 ext. 5524

**Forestry Technical Inquiries**

John Taylor  
*Superintendent*  
Phone: 905-546-2424 *ext. 7378*

Mike McNamara  
*Manager*  
Phone: 905-546-2424 *ext. 3919*
Tree Protection Zone

All trees situated on City property are protected under provisions of City by-laws. In order to protect trees within or near a construction site you must consider the following:

Use the chart below to determine the Tree Protection Zone.

Delinate or fence off the Tree Protection Zone by means appropriate to the project.

Avoid excavating within or near the Tree Protection Zone.

Within the Tree Protection Zone of a tree please remember:

- avoid any alteration or disturbance to existing grade;
- do not change grade by adding fill, excavating or scraping;
- do not store construction materials, soil, waste material or dispose of liquid material;
- if no other options for storing of excavated material is available, place soil on a tarp and avoid the base of the tree as much as possible.
- avoid the movement or parking of vehicles or equipment within the Tree Protection Zone.

**Tree Protection Zone Chart**

<table>
<thead>
<tr>
<th>Trunk Diameter</th>
<th>Protection Distance (minimum required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 cm</td>
<td>1.8 m</td>
</tr>
<tr>
<td>11 - 40 cm</td>
<td>2.4 m</td>
</tr>
<tr>
<td>41 - 50 cm</td>
<td>3.0 m</td>
</tr>
<tr>
<td>51 - 60 cm</td>
<td>3.6 m</td>
</tr>
<tr>
<td>61 - 70 cm</td>
<td>4.2 m</td>
</tr>
<tr>
<td>71 - 80 cm</td>
<td>4.8 m</td>
</tr>
<tr>
<td>81 - 90 cm</td>
<td>5.4 m</td>
</tr>
<tr>
<td>91 - 100 cm</td>
<td>6.0 m</td>
</tr>
</tbody>
</table>

Note:

Most roots of a tree are located within 60 cm of the surface and can extend 2 to 3 times the dripline dimension.

Any area beyond the curb of a road allowance can be excluded from the Tree Protection Zone.

Any area beyond a sidewalk or driveway must be included within the Tree Protection Zone.
When installing new service within or near the Tree Protection Zone, always consider directional tunneling wherever possible. If excavating within or near the Tree Protection Zone cannot be avoided then be sure to:

- First contact the manager of Forestry and Horticulture or their designate for approval to proceed with alternate methods under their on-site guidance
- Hand dig a shovel width wide (or hydrovac a slot trench), 30-40 cm deep, along the tree side edge of the excavation to expose roots;
- Cut exposed roots cleanly with a sharp cutting tool before excavating. This prevents a backhoe from ripping up and damaging roots beyond the excavation;
- Leave larger roots (50 mm or more) across trench, if possible;
- If roots 50 mm or more need to be cut, they should be cut by or under the supervision of a qualified arborist. Call the District Supervisor with any questions or concerns.
- Backfill with native soil or as specified. Backfill in 150 mm lifts, tamping using feet (or equivalent). Soak backfill to achieve proper soil compaction for root growth and avoid settlement;
- See chart above to determine the Tree Protection Zone.

Note: This does not exclude the applicant from conforming to The City of Hamilton Tree By-Law No. 06-251, and its pertaining Policies rendered enforceable by Section 137 of the Municipal Act, S. O. 2001, c. 25.
Tree Preservation Fencing

NOTE:
TREE PRESERVATION ZONE SIGN TO BE INSTALLED AS REQUIRED.
Appendix G
Traffic Control Guidelines for Works Within the Right-of-Way

Scope of Guidelines

These traffic control guidelines cover work performed by utility companies and/or their contractors within municipal right-of-way in the City of Hamilton, and describe the administrative procedures to follow before, during, and after Emergency and Non-Emergency work is undertaken. The procedures to be followed in undertaking Non-Emergency work depend on the degree of traffic disruption caused by the work.

Degree of Disruption

The following guidelines will assist the Utility in establishing degree of disruption. The road classification and the proposed work area are required inputs. The road classification is determined from the City of Hamilton Official Plan.

There are two work area conditions – encroaching and non-encroaching. In general, an encroaching work area is a work area that reduces the capacity, usability, or safety of a roadway or sidewalk. The definition of an encroaching work area in Table 1 depends on the type of roadway. A work area includes the area used by channelling devices, the area used by equipment, and the area used for storage of materials. Non-encroaching work areas include parking lanes that are not used as travel lanes, and boulevards.

There are two degrees of disruption - major and minor. For most situations, the degree of disruption is determined from the road classification and the work area. However, the degree of disruption resulting from encroachments on sidewalks or bicycle lanes is not necessarily related to the road classification, and should be determined on an individual basis through consideration of pedestrian volumes and sidewalk widths, or bicycle volumes. In any case, a sidewalk that is reduced to less than 1.5m wide is unsuitable for wheelchair operation and a bicycle lane that is reduced to less than 1.2m wide is unsuitable for bicycle operation.

The degree of disruption is identified based on Tables 1A and 1B
City Assessment

After receipt of an Application for Construction under the Full Stream process, City staff will assess the project and decide if there will be a major or minor “degree of disruption”, and where there is a major degree of disruption, whether or not a site meeting is required. This evaluation should be considered to be additional to the Utilities evaluation.

<table>
<thead>
<tr>
<th>Road Class</th>
<th>Encroaching Work Area</th>
<th>Degree of Disruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial, Collectors, and Local</td>
<td>Bicycle lane, if reduced to less than 1.2m wide</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Any portion of sidewalk</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Sidewalk reduced to less than 1.5m wide</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Sidewalk reduced 1.5m or more wide</td>
<td>Minor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Road Class</th>
<th>Encroaching Work Area</th>
<th>Degree of Disruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressway</td>
<td>All lanes, median, and shoulders</td>
<td>Major</td>
</tr>
<tr>
<td>Arterial and Collectors</td>
<td>Curb-side travelled lane, if reduced to less than 3.0m wide</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Any portion of a centre lane (including turn lanes)</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Work area reduced travelled portion of cross-street to less than 6.0m</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>City signed permit parking area reduced</td>
<td>Major</td>
</tr>
<tr>
<td>Local</td>
<td>Travelled portion reduced to less than 3.0m wide</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>Travelled portion reduced to 3.0 or more wide</td>
<td>Minor</td>
</tr>
<tr>
<td></td>
<td>Travelled portion reduced and within 50m from a traffic signal</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>City signed permit parking area reduced</td>
<td>Major</td>
</tr>
</tbody>
</table>
Guidelines for Emergency Work

Definition

Emergency work is defined as repairs required as a result of a failure in an existing utility that results in danger to public safety, a loss of an essential service, or risk of damage to the roadway, sidewalk or other utilities.

Essential services are energy, water, sanitary sewage, traffic control, and the following communications: 911 service, communications for financial transactions, business networks, and Internet service.

Procedures

The following traffic control procedures apply to emergency work,

1. The utility must:
   - Immediately notify the City’s Customer Contact Centre at 905-546-CITY (2489).
   - In the event of a medical emergency, call 911.

2. A “best effort” must be made to minimize disruption to vehicles, pedestrians and cyclists throughout the period and activities of the emergency work.

3. Work must be done according to the Special Conditions listed on the Construction Permit, or the verbal Special Conditions given by City staff in the case of a pending Construction Permit.

4. If a Construction Permit has been issued, a copy must be retained on the site.

5. Following completion of the work, the Utility must notify the Permit Office (Appendix A).

Traffic Control

Traffic control is to be provided in accordance with the Ontario Traffic Manual – Book 7 Temporary Conditions, latest edition as published by the Ontario Ministry of Transportation.

Where pedestrians are diverted from a sidewalk, a safe route to alternate existing facilities must be identified, or temporary facilities provided. A temporary sidewalk must be at least 1.5m wide. In the case where the sidewalk must be closed, signs must be erected directing pedestrians to the next protected crossing.

Where a temporary bicycle lane is to be provided, it must be at least 1.2m wide.
Guidelines for Non-Emergency Work

Definition

Non-emergency work is all work that does not meet the definition of emergency work.

Procedures

The following traffic control procedures apply to non-emergency work:

1. The Utility must assess the work to determine the “degree of disruption” and whether or not a site meeting is required. Where an application for municipal consent has been made through the “Full Stream process”, the City will also evaluate the “degree of disruption”.

2. If the work is classified as a Major Disruption, the Utility must contact the Permit Office (Appendix A) to arrange for the site meeting. The work must not be scheduled to commence until at least 3 weeks after the site meeting. Where advance notice signs are not required, the City may allow the work to commence less than 3 weeks after the site meeting. Where the City determines that no site meeting is required, work may proceed as indicated under item 4 below.

3. Work must be done according to the restrictions shown on posted signs and Special Conditions listed on the Construction Permit, such as times of day, days of the week, and other restrictions. Each direction of travel may have different periods. Construction may be permitted/prohibited at specific times and on specific days, in order to co-ordinate with or avoid other work in the area.

4. For works creating a Major Disruption, a fully completed Road Occupancy Permit Application (Appendix U) must be submitted to Corridor Management at least 5 working days (for City of Hamilton staff) before work commences.

For works creating a Minor Disruption, work may commence within 2 working days of submitting a Road Occupancy Permit Application (Appendix U).

Where the City has already received notification of another project (“first” project) in the area, and the projects would be active simultaneously, the City may, within one working day of receipt of the Road Occupancy Permit (Appendix U), advise the Utility of modifications to the Special Conditions that will be effective as long as the “first” project is active.
5. A copy of the Construction Permit, including traffic restrictions and conditions, must be retained on the site.

6. Following completion of the work the Utility must notify the Permit Office (Appendix A).

**Traffic Control**

Traffic control at all construction sites is to be provided in accordance the *Ontario Traffic Manual – Book 7 Temporary Conditions*, latest edition as published by the Ontario Ministry of Transportation.

Where pedestrians are diverted from a sidewalk, a safe route to alternate existing facilities must be identified, or temporary facilities provided. A temporary sidewalk must be at least 1.5m wide. In the case where the sidewalk must be closed, signs must be erected directing pedestrians to the next protected crossing.

Where a temporary bicycle lane is to be provided, it must be at least 1.2m wide.
## Table of Contents

**Topsoil Construction Specification**

- **Scope**
  - 802.01
  - 802.02
  - 802.03
  - 802.04
  - 802.05
  - 802.06
  - 802.07
  - 802.08
  - 802.09
  - 802.10
  - 802.11

- **Definitions**

- **Materials**

- **Equipment - Not Used**

- **Quality Assurance - Not Used**

- **Construction**

- **Design and Submission Requirements - Not Used**

- **Measurement for Payment - Not Used**

- **Basis of Payment - Not Used**

---

**Scope**

This specification covers the requirements for stockpiling, supplying, and placing topsoil. Use of this specification or any other specification shall be according to the Contract Documents.
802.01.02 Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner’s use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

802.02 REFERENCES

When the Contract Documents indicate that provincial-oriented specifications are to be used and there is a provincial-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.PROV, unless use of a municipal-oriented specification is specified in the Contract Documents. When there is not a corresponding provincial-oriented specification, the references below shall be considered to be to the OPSS listed, unless use of a municipal-oriented specification is specified in the Contract Documents.

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standard Specifications, Construction

OPSS 206 Grading

802.05 MATERIALS

802.05.01 Topsoil

Topsoil shall be a fertile loam material that is free of roots, vegetation, or other debris of a size and quantity that prevents proper placement of the topsoil. The topsoil shall not contain material greater than 25 mm in size, such as stones and clogs.

Imported topsoil shall not have contaminants that adversely affect plant growth.

Soil from swamps or muskeg areas may be used in place of topsoil, when approved by the Contract Administrator.
802.07 CONSTRUCTION

802.07.01 Stockpiling Topsoil

Topsoil shall be removed, stockpiled, and managed according to the Contract Documents. Stockpiles shall be constructed neatly with uniform surfaces. When required, the top surface shall be dished.

802.07.02 Preparation for Topsoil

Areas where topsoil is to be placed shall be fine graded to a uniform surface according to OPSS 206. The surface shall be loosened to a depth of 25 mm. It shall be free of all vegetation, debris, and stones which would not be covered by the depth of topsoil specified in the Placement of Topsoil subsection.

These areas shall be maintained in the condition described above until the topsoil is placed.

802.07.03 Placement of Topsoil

Topsoil shall be placed to a uniform depth of 50 mm on areas specified in the Contract Documents and up to the subgrade elevation on the roadway front slope.

Soil from swamps or muskeg areas, when used in place of topsoil, shall be placed according to the Contract Documents to a uniform depth of 75 mm, with no woody material protruding more than 50 mm above the surface.

802.07.04 Management of Excess Material

Management of excess material shall be according to the Contract Documents.

802.09 MEASUREMENT FOR PAYMENT

802.09.01 Actual Measurement

802.09.01.01 Topsoil from Stockpiles

Measurement shall be by volume in cubic metres of topsoil placed from a stockpile.

802.09.01.02 Topsoil, Imported

Measurement shall be by volume in cubic metres of topsoil imported and placed.

802.10 BASIS OF PAYMENT

802.10.01 Preparation for Topsoil - Item

Payment at the Contract price for the above item shall be full compensation for all labour, Equipment, and Material to do the work.

Payment for this item shall be on surfaces graded under a previous Contract that require preparation for topsoil.

There is no payment for this item on surfaces constructed on this Contract.
802.10.02 Topsoil from Stockpiles - Item

Payment at the Contract price for the above item shall be full compensation for all labour, Equipment, and Material to do the work.

802.10.03 Topsoil, Imported - Item

Payment at the Contract price for the above item shall be full compensation for all labour, Equipment, and Material to do the work.
Appendix 802-A, November 2010
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS

Note: This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

Designer Action/Considerations

The designer should specify the following in the Contract Documents:

- Topsoil removal and stockpiling areas. (802.07.01)
- Topsoil placement areas. (802.07.03)

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

No information provided here.
CONSTRUCTION SPECIFICATION FOR SODDING

TABLE OF CONTENTS

803.01 SCOPE
803.02 REFERENCES
803.03 DEFINITIONS - Not Used
803.04 DESIGN AND SUBMISSION REQUIREMENTS - Not Used
803.05 MATERIALS
803.06 EQUIPMENT - Not Used
803.07 CONSTRUCTION
803.08 QUALITY ASSURANCE
803.09 MEASUREMENT FOR PAYMENT
803.10 BASIS OF PAYMENT

APPENDICES

803-A Commentary

803.01 SCOPE

This specification covers the requirements for sodding.

803.01.01 Specification Significance and Use

This specification has been developed for use in provincial- and municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities and the Ontario Ministry of Transportation.

Use of this specification or any other specification shall be according to the Contract Documents.
803.01.02 Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner’s use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

803.02 REFERENCES

When the Contract Documents indicate that provincial-oriented specifications are to be used and there is a provincial-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.PROV, unless use of a municipal-oriented specification is specified in the Contract Documents. When there is not a corresponding provincial-oriented specification, the references below shall be considered to be to the OPSS listed, unless use of a municipal-oriented specification is specified in the Contract Documents.

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standard Specifications, Construction
OPSS 802 Topsoil

Nursery Sod Growers Association of Ontario
Specifications, Classifications and Use of Turfgrass Sod for Ontario

Federal Statute
Fertilizers Act (R.S., 1985, c. F-10)
803.05 MATERIALS

803.05.01 Sod

Sod shall be a Commercial Grade Turfgrass Nursery Sod, either Kentucky Bluegrass or Kentucky Bluegrass/Fine Fescue as specified in the Contract Documents and according to the Specifications, Classifications and Use of Turfgrass Sod for Ontario.

Sod shall be seeded and established in nursery sod fields as a turfgrass sod. Sod shall be uniform in texture, and in good healthy condition with no sign of decay. There shall be no more than 5 broadleaf weeds per 40 m² of sod and up to 20% non-specified grass seed. Sod shall be of sufficient density that no surface soil is visible. The grass height shall be 30 mm minimum and 70 mm maximum.

The soil portion of the sod shall be a good mineral type soil with a thickness of 10 mm minimum and 15 mm maximum. Each sod piece shall be well permeated with roots. Individual sod pieces shall be in such condition so that each may be lifted, rolled, transported, and placed without breaking or tearing and without loss of soil under normal handling conditions.

Sod shall contain sufficient moisture to maintain its vitality during transportation and placement.

803.06.02 Stakes

Stakes for fastening sod to the earth grade shall be a minimum 150 mm in length.

803.05.03 Fertilizer

Fertilizer shall be according to the Canada Fertilizers Act. Fertilizer shall be supplied in bags bearing the manufacturer's label indicating net weight and guaranteed analysis.

Fertilizer shall be in granular form, dry, free flowing without lumps. Fertilizer shall be supplied with a minimum analysis of 16% nitrogen, 3% phosphorus, and 15% potash. The guaranteed analysis ratio shall be 3-1-2.

The total nitrogen component of the fertilizer shall be a minimum 30% water insoluble nitrogen (controlled, slow release nitrogen) by weight.

803.05.04 Water

Water shall not have contaminants or impurities that would adversely affect the germination and growth of vegetation.

803.07 CONSTRUCTION

803.07.01 Operational Constraints

Sodding shall not commence until the surface preparation has been approved in writing by the Contract Administrator.

Sodding shall commence within 7 Days of surface preparation.

The Contractor shall maintain the surface and control erosion until the sod is in place.

Sod shall not be placed when in a frozen condition, under adverse field conditions such as high wind, frozen soil or soil covered with snow, ice, or standing water.
803.07.02  Surface Preparation for Sodding

Where topsoil is specified, it shall be according to OPSS 802.

At the time of sodding, all surface areas designated for sodding shall be free of erosion and shall have a fine graded uniform surface. The surface shall be uniformly cultivated to a minimum depth of 50 mm and shall not have surface materials greater than 25 mm in size, such as stones and clods and weeds or other unwanted vegetation.

Surface litter and debris shall be removed immediately prior to sod placement.

803.07.03  Fertilizer Application

Fertilizer shall be applied uniformly to the surface area designated for sodding, a maximum of 48 hours prior to sod placement, at the rate specified on its bag by the manufacturer.

803.07.04  Placement of Sod

Sod shall be placed in locations and as specified in the Contract Documents. Voids shall not be left between the soil portion of the sod and the underlying ground surface. Sod shall be securely placed lengthwise across the face of slopes and parallel to the centreline of ditches. End joints of adjacent sod pieces shall be staggered. The edges of adjacent sod pieces shall be placed tightly against one another without overlapping. Sod shall be countersunk to existing grade level at all edges. Joints shall be tamped to a uniform surface. Sod shall be placed up to the subgrade elevation on the roadway front slope. Where required, sod should be staked to the grade to avoid movement.

Sod shall not be separated from its mineral soil base and not damaged during transportation, handling, and placement.

803.07.05  Maintenance of Completed Sodding

Sod shall be maintained for 30 Days following completion of placement. During this period, the placed sod shall be kept healthy, actively growing, and green in leaf colour. This requirement shall be suspended during the winter dormant period shown in Table 1.

803.07.06  Management of Excess Material

Management of excess material shall be according to the Contract Documents.

803.08  QUALITY ASSURANCE

803.08.01  Performance Measure

At the end of the 30-Day maintenance period, the Contract Administrator shall make an inspection of all placed sod. The condition of the sod shall be as specified in the Maintenance of Completed Sodding subsection. The sod shall be in the same location as originally placed and shall not have moved, eroded, slipped, or sloughed. Sod shall show evidence of rooting into the underlying soil. The sod shall be of sufficient density that no surface soil is visible and there shall be no competitive growth, beyond that specified in the Sod subsection, emerging from the sod or from between the sod joints.

803.08.02  Acceptance

When the work does not meet the requirements specified herein, the Contract Administrator shall notify the Contractor in writing, and the Contractor shall re-apply the specified materials according to this specification within 14 Days of receiving the notification.
The Contractor shall maintain the site and control erosion as specified in this specification until the sod has been replaced.

Replaced sod shall be subject to the requirements specified herein and to a further maintenance period of 30 Days.

803.09 MEASUREMENT FOR PAYMENT

803.09.01 Actual Measurement

803.09.01.01 Sod

Measurement shall be by area in square metres following the contours of the ground.

803.09.01.02 Plan Quantity Payment

When measurement is by Plan Quantity, such measurement shall be based on the units shown in the clause under Actual Measurement.

803.10 BASIS OF PAYMENT

803.10.01 Sod - Item

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.
<table>
<thead>
<tr>
<th>SOUTH WESTERN ONTARIO</th>
<th>SOUTH ONTARIO</th>
<th>NORTHERN ONTARIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>That area of Ontario south of a line joining Grand Bend and Clarkson</td>
<td>That area of Ontario between the northern and southern boundaries of Southwestern Ontario and Northern Ontario respectively</td>
<td>That area of Ontario north of a line joining Waubaushene, Severn Bridge, Bancroft and Ottawa</td>
</tr>
<tr>
<td>Nov 15 to April 15 inclusive</td>
<td>Nov 1 to April 30 inclusive</td>
<td>Oct 15 to May 15 inclusive</td>
</tr>
</tbody>
</table>
Appendix 803-A, November 2010
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS

Note: This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

Designer Action/Considerations

The designer should specify the following in the Contract Documents:

- The use of either Kentucky Bluegrass sod or a Kentucky Bluegrass/Fine Fescue sod. (803.05.01)
- Location of sod. (803.07.04)

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

None
Appendix J

Depth of Cover

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

MINIMUM DEPTH FOR UTILITIES URBAN & RURAL WIDTH R.O.W.
MUNICIPAL CONSENT
APPLICATION FORM

☐ Short Stream       ☐ Long Stream

Application No.: ____________________________
City MC No.: ________________________________

The applicant hereby requests municipal consent to install the following as shown on the enclosed Plan No. ____________

PLANT:

LOCATION:

APPLICATION FOR CUT PERMIT

<table>
<thead>
<tr>
<th>REF</th>
<th>STREET</th>
<th>LOCATION OF CUT</th>
<th>SIDE</th>
<th>REASON FOR CUT</th>
<th>TYPE</th>
<th>SIZE OF CUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tree Conflict ☐ Yes ☐ No

The applicant will undertake to install the above mentioned plant as shown on the Plan accompanying this application. All installations must comply with the setback and depth of cover standards as outlined on the COH ROW Installation Manual.

It is understood that approval is given subject to application plans meeting plan standards as described in the COH ROW Manual. The applicant is only authorized to install in the approved locations through the permit approval process. In-field adjustment is not authorized and requires amended plan submission and subsequent approval.

Note: Relocation protocol on reverse side

City of Hamilton Approval

The above application is approved.

Name __________________________________________
Position _______________________________________
Signed ________________________________________
Public Utilities Co-Ordinator
Date ____________________________

☐ Without modification
☐ Subject to modifications and conditions as shown overleaf

UTILITY APPLICANT

Name __________________________________________
Position _______________________________________
Signed ________________________________________
Date ____________________________

***This permit expires 6 months from the date of authorization, as identified on this form***
CHECKLIST

☐ Plan
☐ Utility Sign-off
☐ Notification to Residents
☐ Notification to Forestry
☐ Notification to Traffic
☐ Notification to HSR

RELOCATION MATRIX

If the Applicant is not subject to an existing agreement with the City of Hamilton defining relocation cost distribution for the Equipment installed under this permit, the following shall apply:

The Applicant agrees that the relocation costs of Equipment installed as permitted are distributed as follows: Within four years of its installation, the Municipality shall reimburse the Company for 100% of its relocation costs of such Equipment, provided it is installed in the approved locations; and thereafter the Municipality shall reimburse the Company for its relocation cost of such Equipment based upon the following chart:

<table>
<thead>
<tr>
<th>Year After Installation of Equipment</th>
<th>Percentage of Relocation Costs Paid by Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth Year</td>
<td>75%</td>
</tr>
<tr>
<td>Sixth Year</td>
<td>50%</td>
</tr>
<tr>
<td>Seventh Year</td>
<td>25%</td>
</tr>
<tr>
<td>Eighth Year and Subsequently</td>
<td>0%</td>
</tr>
</tbody>
</table>
Appendix L
Control Systems

It is the City of Hamilton’s intention to promote the use of the COSINE system by submitting for inclusion all of our control, both Horizontal and Vertical.

Please familiarize yourself with the COSINE online system by visiting the website at: http://www.cosine.mnr.gov.on.ca

The City of Hamilton is not the only contributor to the Control fabric in this area and to obtain the widest possible result use of this system is required.

- Horizontal Standard = NAD 83
- Vertical Standard = CVGD 28 adjustment

Please note however further to the above, the vertical systems have been renamed. What was previously known as the 1978 adjustment is now known as CGVD28 (Canadian Geodetic Vertical Datum 1928). The 1927 values are referred to as Pre-CGVD28 values on the COSINE system and on our new sketches.

Great caution should be exercised to ensure that the benchmarks used in the projects you undertake are within the same adjustment. Care should also be taken when relating to previous engineering drawings, etc., to confirm the source of the elevations used for the information shown of the drawings, plans, etc.

The City of Hamilton has over 60,000 engineering drawings relating almost exclusively to the 1927 adjustment. This represents thousands of miles of sewers, watermains, and roads related to that adjustment.

Many area municipalities projects relate to the 1978 datum, so any project undertaken that crosses previous Municipal boundaries should be checked thoroughly.

GPS projects that span Municipal boundaries need caution as well.
### Appendix M

**Permits Required to Perform Work**

<table>
<thead>
<tr>
<th>Work Activity</th>
<th>NO Permit or Notification</th>
<th>Notification Only</th>
<th>Excavation Permit</th>
<th>Municipal Consent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerial Service Drops</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulling or placing cabling through or on existing support structures (with pits) – <strong>soft</strong> surface</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulling or placing cabling through or on existing support structures (with pits) – <strong>hard</strong> surface</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree trimming</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance, testing and repair to cabinets, pedestals, poles and other above ground equipment, including replacement (except pole replacement), but with no increase in the size or depth or location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine maintenance and repair where there will be minimal physical disturbance or changes to the ROW or its use, including:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- field testing without test-pitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- installing single service connections or cable inside existing duct structures; or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- replacing “like for like” structures (without adding more Plant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavations <strong>soft</strong> surface (including daylighting) within the ROW to investigate subsurface conditions, or perform installations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavations <strong>hard</strong> surface (including daylighting) within the ROW to investigate subsurface conditions, or perform installations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Activity</td>
<td>NO Permit or Notification</td>
<td>Notification Only</td>
<td>Excavation Permit</td>
<td>Municipal Consent</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| Routine maintenance and repair where there will be minimal physical disturbance or changes to the ROW or its use, including:  
  • field testing and test-pitting  
  • **hard** surface |                          |                   |                   | **X**             |
| Routine maintenance and repair where there will be minimal physical disturbance or changes to the ROW or its use, including:  
  • field testing and test-pitting  
  • **soft** surface |                          |                   | **X**             |                   |
| Buried Service Drops (i.e., single wire containing no more than 4 wires for lengths of greater than 10 m) |                          |                   |                   | **X**             |
| All new direct buried and aerial installations (excluding Service Drops) |                          |                   | **X**             | **X**             |
| Directional boring and associated pits for Work of Installing new Plant                      |                          |                   | **X**             | **X**             |
| New installation of cabinets, pedestals, poles, and other above-ground equipment, or increase in size or location of any of the above |                          |                   | **X**             | **X**             |
| Road crossings, including buried Service Drops crossing the road                              |                          |                   | **X**             | **X**             |
| Relocation of underground or surface Plant                                                   |                          |                   | **X**             | **X**             |

**Excavation Permit**  
*Any work disrupting a hard surface requires an Excavation Permit*  

**Municipal Consent**  
*Any work disrupting a soft surface requires a Municipal Consent*  

*This document is for reference and general guidance only  
The City of Hamilton reserves the right to modify or edit any of the above on a project by project basis.*
Appendix N

Project Information Sign

Company Name
Under Contract To:
Insert Agency Here
For Information Call:

XXX - XXX - XXXX

SPECIFICATIONS:
BLACK ON WHITE ENGINEER GRADE REFLECTIVE SHEETING
FONT: CLEARVIEW ONE UG35 - UPPER AND LOWER CASE LETTERING
TEXT HEIGHT: AS MARKED

PROJECT INFORMATION SIGN
900 mm x 1200 mm
# Appendix O

## Vertical and Horizontal Clearance Guidelines

<table>
<thead>
<tr>
<th>Category</th>
<th>Preferred Vertical Clearance</th>
<th>Preferred Horizontal Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELECTRICITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydro One Networks (Ontario Hydro)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Horizon Utilities Electric System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduits</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Hydro Chambers</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td><strong>City of Hamilton Street Lighting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street Lighting Duct</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td><strong>GAS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Union Gas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas main &lt; 400mm (16&quot;) diameter</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Gas main &gt;= 400mm (16&quot;) diameter</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Above-ground regulator stations</td>
<td>**</td>
<td>1000</td>
</tr>
<tr>
<td><strong>ROAD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance from road, curb, sidewalks</td>
<td>See MCR</td>
<td>500</td>
</tr>
<tr>
<td>Clearance from Catch Basins</td>
<td>**</td>
<td>500</td>
</tr>
<tr>
<td><strong>Traffic Signals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Signal Duct</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Above-ground plant clearance from Controller Boxes</td>
<td>**</td>
<td>Front 1500</td>
</tr>
<tr>
<td>Above-ground plant clearance from Traffic Signal Poles</td>
<td>**</td>
<td>Side/Back 500</td>
</tr>
</tbody>
</table>

All Dimensions in Millimetres (mm)

---

[Appendix O – Page 1] October 2013
<table>
<thead>
<tr>
<th>All Dimensions in Millimetres (mm)</th>
<th>Preferred Vertical Clearance</th>
<th>Preferred Horizontal Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEAM / CHILLED WATER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamilton Community Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chilled Water Pipes</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Steam Lines</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td><strong>TELECOMMUNICATIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bell Canada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All buried infrastructure</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Above-ground infrastructure</td>
<td>**</td>
<td>600</td>
</tr>
<tr>
<td>MTS Allstream (MetroNet, UniTel, AT&amp;T, CNCP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Rogers Cable Communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>150</td>
<td>600</td>
</tr>
<tr>
<td>Telus Communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Cogeco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Source Cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All infrastructure</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td><strong>TREES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer to MCR Appendix F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Dimensions in Millimetres (mm)</td>
<td>Preferred Vertical Clearance</td>
<td>Preferred Horizontal Clearance</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>WATER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Supply</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside Diameter &lt; 100mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>100mm &lt;= Inside Diameter &lt; 400mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Inside Diameter &gt;= 400mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Valve Chamber</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td><strong>Fire Hydrants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer to MCR Appendix P (pages 4 &amp; 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wastewater - Storm (incl. CB and sub-drain)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside Diameter &lt; 150mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>150mm &lt;= Inside Diameter &lt; 750mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Inside Diameter &gt;= 750mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Maintenance Hole</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td><strong>Wastewater - Sanitary / Combined</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside Diameter &lt; 100mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>100mm &lt;= Inside Diameter &lt; 375mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Inside Diameter &gt;= 375mm</td>
<td>300</td>
<td>1200</td>
</tr>
<tr>
<td>Maintenance Hole</td>
<td>300</td>
<td>1200</td>
</tr>
</tbody>
</table>

* Preferred clearances may be reduced with the written permission of the affect plant owners(s)

** Clearance above and below to be determined on a case-by-case basis
Appendix P
Standard Utility Location ROW Drawings

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM GUIDE RAIL SYSTEM, STEEL BEAM WOODEN POST ASSEMBLY

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (IN. E.S.) DATE REV No HAMILTON STD No
June 20 8 P1

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM GUIDE RAIL SYSTEM, STEEL BEAM STEEL POST WITH OFFSET

DIMENSIONS SHOWN ARE IN MILLI MetRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013

HAMilton STD No: P2
**PLAN VIEW**

**SECTION THROUGH CULVERT**

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section.

City of Hamilton
Public Works Department

**MINIMUM CLEARANCE FOR UTILITIES FROM CULVERTS**

Dimensions shown are in millimetres unless otherwise noted (N.T.S.)
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM HYDRANTS WITH SECONDARY VALVES (URBAN SITUATION)

DIMENSIONS SHOWN ARE IN MILLI METRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013

[Appendix P – Page 4]
 ROW Utility Installation
and Permit Manual

Public Works Department
Geomatics & Corridor Management

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM HYDRANTS WITH SECONDARY VALVES (RURAL SITUATION)

Dimensions shown are in millimetres unless otherwise noted (N.T.S.)

Date: June 2013

Rev No

Hamilton STD No P5

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section.
ROW Utility Installation and Permit Manual

Geomatics & Corridor Management

Public Works Department

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM WATER SERVICE CURB STOPS

NOTES:
1. MINIMUM DEPTH OF BURY 1800mm
2. BEDDING DETAILS (WM-000.01 & WM-000.02)
3. INSTALLATION DETAILS (WM-007.01)

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section

City of Hamilton
Public Works Department
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.
Min 3.0m for poles

Min 1.0m for cables/pipes

PLAN

MIN 3.0m FOR POLES

MIN 1.0m FOR CABLES PIPES

SECTION

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITES FROM DITCH INLETS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013

REV No

HAMILTON STD No: P8
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

MINIMUM CLEARANCE FOR UTILITIES FROM WATERMAIN AND SEWERS (VERTICAL AND HORIZONTAL)
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton’s Corridor Management Section.
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

20.0m ROAD CROSS SECTION - RESIDENTIAL, WALK ONE SIDE

DIMENSIONS SHOWN ARE IN MILLI METRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013
REV No: P11

July 2013
Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section.

City of Hamilton
Public Works Department

26.0m ROAD CROSS SECTION - ONE WAY ARTERIAL

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013

REV No

P12

HAMPTON STD No
ROW Utility Installation and Permit Manual

Public Works Department

City of Hamilton
Public Works Department

30.0m ROAD CROSS SECTION - RESIDENTIAL, WALK ONE SIDE

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE June 2013

REV No

HAMeLTON STD No P14

July 2013
36.0m ROAD CROSS SECTION - RESIDENTIAL, WALK ONE SIDE

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)

DATE: June 2013

REV No

HAMLET STD No: P15

City of Hamilton
Public Works Department

[Appendix P – Page 15]
Appendix Q

Permit Drawing Standards

Sketches or drawings submitted with Short or Full Stream Permit Applications shall conform to the standards below. In all cases, the drawing, which shall not exceed 36"x 48", conforming to the following standards, shall accompany the Application.

Emergency Utility Cut Permit Applications

Sketch Requirements

The object of the Sketch for the Emergency Application is to identify the work location, as accurately as possible, for permit issuance, tracking, repair and traffic disruption purposes. The City must be able to determine conflicts with the Moratorium, current Capital programs and previously issued permits.

1. Complete the Application Form. See Appendix K, Municipal Consent Application Form.
2. Mark north point as indicated in sketch box.
3. Dimension with S.I metric units. Requirement is to locate proposed work in terms of X and Y dimensions relative to adjacent street lines.
4. Include building address at/near the proposed work and names of primary street and adjacent side streets. If a municipal address is not available, provide tie-in dimensions from the location of the work to the nearest intersection of street lines or curb lines.
5. Indicate plant length in the text box or on the sketch in the application form. Depth of cover is always assumed to be minimum as per Appendix J, Depth of Cover. Show line location of the proposed work for new laterals, etc., versus X marks the location for spot repairs to existing facilities.
Short Stream Utility Cut Permit Applications

**Drawing Requirements**

The object of the Drawing Short Stream Application is to identify the work location, as accurately as possible, for permit issuance, tracking, repair and traffic disruption purposes. The City must be able to determine conflicts with the Moratorium, current Capital programs and previously issued permits.

1. Complete the Application Form. See Appendix K, Municipal Consent Application Form.
2. Plot the drawing to scale and dimension with S.I. units. Requirement is to locate work in terms of X and Y dimensions relative to adjacent street lines.
3. Include building address at/near the proposed work and names of primary and adjacent side streets. If a municipal address is not available, provide tie-in dimensions from the location of the work to the nearest intersection of street lines or curb lines.
4. Provide a legend on the drawing referencing the planned or typical depth of cover according to Appendix J, Depth of Cover, and any known deviations. Indicate plant length. Indicate type of installation and identify plant to be installed. Drawing must stand alone.
5. Identify horizontal control monuments and trees with their approximate diameter and all known surface and subsurface features that may be impacted by the proposed work, if identified on the base map provided by the City.
6. Provide as-constructed drawing if required by the City when an existing corridor is extended to accommodate new plant or when new Short Stream plant of nonstandard, non-90 degree lateral design is proposed.
7. Drawing Scale:
   - Where City base map is available, use scale of 1:200 horizontal and 1:100 vertical.
   - Where City base map is not available and street is an arterial or collector (MCR Appendix S), use scale of 1:200 horizontal and 1:100 vertical
   - Note: See Pole Drawing Requirements on page 3 of this chapter.
Full Stream Utility Cut Permit Applications

Drawing Requirements

Drawings accompanying Full Stream Permit Applications shall:

1. Be plotted to a scale of 1:200 horizontal and 1:100 vertical and be dimensioned with S.I. units.
2. Include a North arrow pointing up or to the right and a key map.
3. Include street names and building addresses near the proposed work. If a municipal address is not available, provide dimensions from the location of the work to the nearest intersection of street lines.
4. Show horizontal control monuments within 5 metres of the proposed work.
5. Illustrate and clearly label street lines, road pavement, sidewalks, driveways, boulevards and curbs. Identify street furniture including vaults, transformers, pedestals, regulators, hydrants, poles etc., and structures such as areaways, TTC tracks and entrances, tunnels, encroachments etc. which may impact on the work.
6. Identify, either in the body of the drawing or in the Legend Box, the plant or service to be put into the ground. Identify plant to be abandoned.
7. Where above ground plant is proposed, show all existing above ground plant within 10 metres.
8. Provide tie distances from the proposed work to adjacent street lines. Define start and end of the construction with tie-in dimensions to the nearest intersection.
9. Show proposed work with a bold line on the drawing and identify it as such in the legend.
10. Show typical depth of cover as required in Appendix O. Indicate any proposed deviation in depth, approximate length and outer dimensions of plant, including duct size and configuration.
11. Illustrate trees, tree pits and planters.
12. Indicate the construction method and related details for the installation of the underground plant.
13. Provide a cross-section view of proposed plant below grade where required for clarity.
14. Illustrate existing underground services within a 2 metre buffer zone around the proposed underground plant. In lieu of a composite drawing, copies of adjacent utilities' up to date as built drawings may be attached to the application.
15. Include in the General Conditions that minimum clearances from other services as are to be maintained. See Appendix O, Vertical and Horizontal Clearance Guidelines.
Pole Drawing Requirements
Appendix R
Minimum Location Certificate Requirements

All Location Certificates shall conform to all requirements for permit application sketches as noted in Appendix Q, *Permit Drawing Standards*.

**Work Authorized Through Short-Stream Applications**

The Location Certificates shall:

1. Record accurate as-constructed information

2. Include a cover letter that contains, as a minimum, the following:
   - Applicant’s Name
   - Contractor’s Name (where applicable)
   - Name of the Project
   - Permit Number
   - Date of Completion of Construction
   - Location description and key map

3. Be certified by a qualified person

4. Include the certification noted as follows:

   I CERTIFY THAT THIS LOCATION CERTIFICATE DEPICTS THE LOCATION AND CONTENT OF THE CONSTRUCTED PLANT IN ACCORDANCE WITH THE CITY OF HAMILTON’S MUNICIPAL CONSENT REQUIREMENTS

______________________________  _______________________
NAME (PRINT)                  DATE

______________________________
NAME (SIGNATURE)
Work Approved Through Full-Stream Process

The Location Certificates shall:

1. Include a cover letter that contains, as a minimum, the following:
   - Applicant’s Name
   - Contractor’s Name (where applicable)
   - Name of the Project
   - Permit Number
   - Date of Completion of Construction
   - Location description and key map

2. Use the approved permit drawings as the base plan. The Location Certificate must clearly show all additions, deletions and changes made during construction. Revised or irrelevant information pertaining to the Applicant’s Plant shall be struck through.

3. Annotated changes made during construction in as much detail as necessary to clarify the extent of the change.

4. Include the label “Location Certificate“ on each sheet.

5. Indicate in Revision Box, the date the infrastructure was constructed AND the date the Location Certificate was prepared.

6. Accurately identify Applicant’s existing or abandoned plant that was exposed during construction that was not shown on the approved Permit drawing.

7. Label any other plant exposed during construction that was not shown on the approved construction drawing. As a minimum, this should be labelled as “unidentified plant”. However, the Applicant should endeavour include as much information as available on this unexpected plant.

8. Reference all elevations to the same datum as the approved permit plans.

9. Indicate any trench and plant support materials left in place.
10. Where pressure grouting is used, indicate location, type and quantity of grout used.

11. Provide accurate dimensions (horizontal and vertical) of the trench/excavation for the construction and indicate the type of backfill used. Where more than one backfill type has been used, clearly indicate the boundaries of the different types.

12. Be signed by a qualified person that is responsible to ensure that all construction additions, deletions, and changes are accurately reflected in the final Location Certificate drawing.

13. Include the certification noted as follows:

I CERTIFY THAT THIS LOCATION CERTIFICATE DEPICTS THE LOCATION AND CONTENT OF THE CONSTRUCTED PLANT IN ACCORDANCE WITH THE CITY OF HAMILTON’S MUNICIPAL CONSENT REQUIREMENTS.

________________________________________________________
NAME (PRINT)       DATE

________________________________________________________
NAME (SIGNATURE)
## Appendix S
### Classification of City Streets

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Rural Local</th>
<th>Rural Collector</th>
<th>Rural Arterial</th>
</tr>
</thead>
<tbody>
<tr>
<td>traffic service function</td>
<td>traffic movement secondary consideration</td>
<td>traffic movement equal importance with access</td>
<td>traffic movement primary consideration</td>
</tr>
<tr>
<td>land service / access</td>
<td>land access primary consideration</td>
<td>traffic movement equal importance with land access</td>
<td>land access secondary consideration</td>
</tr>
<tr>
<td>traffic volume (veh/day) (typical)</td>
<td>&lt; 1,000</td>
<td>&lt; 5,000</td>
<td>&gt; 5,000</td>
</tr>
<tr>
<td>flow characteristics</td>
<td>interrupted flow</td>
<td>interrupted flow</td>
<td>free flow except at signals</td>
</tr>
<tr>
<td>design speed (km/hr)</td>
<td>60 - 80</td>
<td>80 - 100</td>
<td>80 - 100</td>
</tr>
<tr>
<td>average running speed (km/hr)</td>
<td>50 - 70</td>
<td>60 - 80</td>
<td>60 - 80</td>
</tr>
<tr>
<td>desirable connections</td>
<td>other local and collectors</td>
<td>locals, collectors, and arterials</td>
<td>collectors, arterials, freeways, provincial highways</td>
</tr>
<tr>
<td>transit service</td>
<td>generally not present</td>
<td>typically not present</td>
<td>buses may be present</td>
</tr>
<tr>
<td>right-of-way width (m) (typical)</td>
<td>20 - 26</td>
<td>20 - 26</td>
<td>20 - 36</td>
</tr>
<tr>
<td>traffic calming (default)</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td>vehicle type (default)</td>
<td>passenger and service vehicles</td>
<td>passenger and service vehicles</td>
<td>all types, truck route</td>
</tr>
<tr>
<td>accommodation of cyclists (default)</td>
<td>no restrictions or special facilities</td>
<td>paved shoulders if traffic volume &gt; 1000 veh/day; otherwise no restrictions or special facilities</td>
<td>paved shoulders</td>
</tr>
<tr>
<td>accommodation of pedestrians (default)</td>
<td>pedestrians permitted, no special facilities</td>
<td>Walkway/sidewalk on one side if it connects rural settlement area to school or community facility less than 2.5 km away; otherwise pedestrians permitted, no special facility</td>
<td>pedestrians permitted, no special facilities</td>
</tr>
<tr>
<td>parking (default)</td>
<td>prohibited</td>
<td>prohibited</td>
<td>prohibited</td>
</tr>
</tbody>
</table>

**Note:** These default categories may be varied depending on area characteristics and requirements and where supported by planning study.
## CORE ROAD CLASSIFICATION - URBAN - RESIDENTIAL

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Residential Local</th>
<th>Residential Collector</th>
<th>Minor Arterial</th>
<th>Major Arterial</th>
</tr>
</thead>
<tbody>
<tr>
<td>traffic service function</td>
<td>traffic movement secondary consideration</td>
<td>traffic movement and land access of equal importance</td>
<td>traffic movement major consideration</td>
<td>traffic movement primary consideration</td>
</tr>
<tr>
<td>land service / access</td>
<td>land access primary consideration</td>
<td>traffic movement and land access of equal importance</td>
<td>permitted, with some access control</td>
<td>permitted, but with rigid access control</td>
</tr>
<tr>
<td>traffic volume (veh/day)(typical)</td>
<td>&lt; 1,000</td>
<td>&lt; 8,000</td>
<td>5,000 - 20,000</td>
<td>&gt; 10,000</td>
</tr>
<tr>
<td>flow characteristics</td>
<td>interrupted flow (driveways, stop controlled intersections)</td>
<td>interrupted flow</td>
<td>predominantly uninterrupted flow</td>
<td>uninterrupted flow except at signals</td>
</tr>
<tr>
<td>design speed (km/hr)</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>70 - 100</td>
</tr>
<tr>
<td>average running speed (km/hr)</td>
<td>40 - 50</td>
<td>50 - 60</td>
<td>50 - 60</td>
<td>60 - 80</td>
</tr>
<tr>
<td>desirable connections</td>
<td>other local and collectors</td>
<td>locals, collectors, and arterials</td>
<td>collectors, arterials, and expressways</td>
<td>collectors, arterials, and expressways</td>
</tr>
<tr>
<td>transit service</td>
<td>generally avoided</td>
<td>permitted</td>
<td>express and local buses permitted</td>
<td>express and local buses permitted</td>
</tr>
<tr>
<td>right-of-way width (m)(typical)</td>
<td>18 - 20</td>
<td>20 - 26</td>
<td>20 - 36</td>
<td>26 - 36</td>
</tr>
<tr>
<td>min. intersection spacing (m)</td>
<td>60</td>
<td>60</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>traffic calming (default)</td>
<td>where required</td>
<td>where required, horizontal features only</td>
<td>where required, gateway features</td>
<td>not applicable</td>
</tr>
<tr>
<td>vehicle type (default)</td>
<td>passenger and service vehicles</td>
<td>passenger and service vehicles</td>
<td>all types, truck route</td>
<td>all types, truck route</td>
</tr>
<tr>
<td>accommodation of cyclists (default)</td>
<td>no restrictions or special facilities</td>
<td>wider lanes or separate facilities where required</td>
<td>wider lanes or separate facilities where required</td>
<td>wider lanes or separate facilities where required</td>
</tr>
<tr>
<td>accommodation of pedestrians (default)</td>
<td>sidewalks on one or both sides</td>
<td>sidewalks on both sides</td>
<td>sidewalks on both sides</td>
<td>sidewalks on both sides</td>
</tr>
<tr>
<td>parking (default)</td>
<td>no restrictions or restrictions one side only</td>
<td>few restrictions other than peak hour</td>
<td>peak hour restrictions</td>
<td>prohibited or peak hour restrictions</td>
</tr>
<tr>
<td>boulevards between walk &amp; curb (default)</td>
<td>1.5 - 2.5 metres</td>
<td>1.5 - 3.0 metres</td>
<td>1.5 - 3.0 metres</td>
<td>1.5 - 3.0 metres</td>
</tr>
</tbody>
</table>

**Note:** These default categories may be varied depending on area characteristics and requirements and where supported by planning study.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Ind./Com. Local</th>
<th>Ind./Com. Collector</th>
<th>Minor Arterial</th>
<th>Major Arterial</th>
</tr>
</thead>
<tbody>
<tr>
<td>traffic service function</td>
<td>traffic movement secondary consideration</td>
<td>traffic movement and land access of equal importance</td>
<td>traffic movement major consideration</td>
<td>traffic movement primary consideration</td>
</tr>
<tr>
<td>land service / access</td>
<td>land access primary consideration</td>
<td>traffic movement and land access of equal importance</td>
<td>permitted, with some access control</td>
<td>permitted, but with rigid access control</td>
</tr>
<tr>
<td>traffic volume (veh/day)(typical)</td>
<td>&lt; 3,000</td>
<td>&lt; 12,000</td>
<td>5,000 - 20,000</td>
<td>&gt; 10,000</td>
</tr>
<tr>
<td>flow characteristics</td>
<td>interrupted flow (driveways, stop controlled intersections)</td>
<td>interrupted flow</td>
<td>predominantly uninterrupted flow</td>
<td>uninterrupted flow except at signals</td>
</tr>
<tr>
<td>design speed (km/hr)</td>
<td>60</td>
<td>60</td>
<td>70</td>
<td>70 - 100</td>
</tr>
<tr>
<td>average running speed (km/hr)</td>
<td>50</td>
<td>60</td>
<td>50 - 60</td>
<td>60 - 80</td>
</tr>
<tr>
<td>desirable connections</td>
<td>other local and collectors</td>
<td>locals, collectors, and arterials</td>
<td>collectors, arterials, and expressways</td>
<td>collectors, arterials, and expressways</td>
</tr>
<tr>
<td>transit service</td>
<td>generally avoided</td>
<td>permitted</td>
<td>express and local buses permitted</td>
<td>express and local buses permitted</td>
</tr>
<tr>
<td>right-of-way width (m)(typical)</td>
<td>20 - 26</td>
<td>20 - 26</td>
<td>20 - 36</td>
<td>26 - 36</td>
</tr>
<tr>
<td>min. intersection spacing (m)</td>
<td>60</td>
<td>60</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>traffic calming (default)</td>
<td>not provided</td>
<td>not provided</td>
<td>where required, gateway features</td>
<td>not applicable</td>
</tr>
<tr>
<td>vehicle type (default)</td>
<td>all types</td>
<td>all types</td>
<td>all types, truck route</td>
<td>all types, truck route</td>
</tr>
<tr>
<td>accommodation of cyclists (default)</td>
<td>wide lane</td>
<td>wider lanes or separate facilities where required</td>
<td>wider lanes or separate facilities where required</td>
<td>wider lanes or separate facilities where required</td>
</tr>
<tr>
<td>accommodation of pedestrians (default)</td>
<td>industrial sidewalks provided where required - commercial, both sides</td>
<td>industrial sidewalks provided where required - commercial, both sides</td>
<td>sidewalks on both sides</td>
<td>sidewalks on both sides</td>
</tr>
<tr>
<td>parking (default)</td>
<td>no restrictions or restrictions one side only</td>
<td>no restrictions or restrictions one side only</td>
<td>peak hour restrictions</td>
<td>prohibited or peak hour restrictions</td>
</tr>
<tr>
<td>boulevards between walk &amp; curb (default)</td>
<td>1.5 - 2.5 metres</td>
<td>1.5 - 3.0 metres</td>
<td>1.5 - 3.0 metres</td>
<td>1.5 - 3.0 metres</td>
</tr>
</tbody>
</table>

**Note:** These default categories may be varied depending on area characteristics and requirements and where supported by planning study.
Key Map

Legend

- Major Arterial
- Minor Arterial
- Collector
- Provincial Highway (Controlled Access)
- Provincial Highway
- Parkway

Proposed Roads

- Major Arterial
- Minor Arterial
- Collector

Other Features

- Rural Area
- John C. Munro Hamilton International Airport
- Niagara Escarpment
- Urban Boundary
- Municipal Boundary
- Subject to Future OMB Hearing

Terms & Conditions

Government of Ontario © 2007

MODIFICATION #54

Delete include lands known as 970 Barton Street, 1361 Barton Street, and 347 Fifty Road within the urban boundary.

MMAH APPROVED
March 16, 2011

Note: For Rural Functional Road Classification, refer to Schedule C-1 (Future amendment).
Appendix T

Minimum Requirements for Visibility Clearance

**CONDITION 1:** Intersection of a two-way through street with a stop street or driveway

**CONDITION 2:** Intersection of a one-way through street with a stop street or driveway

**CONDITION 3:** Intersection of two stop street

**NOTE:** All dimensions are in metres

**LEGEND:**
- [ ] Area within which no object obstructing vision should be placed

---

City of Hamilton
Public Works Department

**STANDARD CRITERIA FOR EVALUATION OF SIGHT LINE**

Dimensions shown are in millimetres unless otherwise noted (M.T.S.)

<table>
<thead>
<tr>
<th>Date</th>
<th>REV No</th>
<th>Drawing: T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2013</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

July 2013
Company: ___________________________  Contact Name: ___________________________
Address: ___________________________  Phone: ___________________________  Cell: ___________________________
City: ___________________________  Postal Code: ___________________________  Email: ___________________________

Instructions:

a) A $50.00 fee is required upon issuance of permit.
b) Cash, Cheques, or Visa and Master Card are accepted. Cheques should be made payable to the City of Hamilton.
c) Permit will be issued with a signature from the Public Works Department, Corridor Management Section. Permit is not valid until signed by and returned by fax by applicant.
d) It is the Applicant’s responsibility to ensure that the permit is on-site at all times and available for review by City of Hamilton Enforcement Staff.
e) In addition to the processing fee above, the Applicant will be responsible for reimbursing the City for any lost revenue from occupying a parking meter space, and the applicant is responsible for the validation, meter bags, and payment at the Hamilton Municipal Parking System office.

general Conditions:

1) Site must be left in the same condition as existed at time of permit issue. All damage to city property shall be made good or paid for.
2) All signing/delineation must conform with the Ministry of Transportations’ Book 7 Signing Requirements for Temporary Conditions at the applicant’s cost.
3) The applicant will be liable for, and shall indemnify and save harmless the City for, any damages or injuries which may arise through the execution of the work for which this permit is issued.
4) The applicant when requested shall provide proof of $2,000,000 public liability insurance naming the City of Hamilton as an added insured.
5) The occupancy of the highway is only permitted on the condition that the requirements of the City By-laws are complied with. All works must be in accordance with and subject to the approval and satisfaction of the General Manager of Public Works.
6) Unless specifically noted below in the "as follows" section, vehicles are not to be parked any closer than 3m from fire hydrants; 6m from crosswalks (marked or unmarked). No Stopping Zones (Full-Time, Part-Time, or rush hour) must be adhered to. Any hoses or cords or pipes that cross the sidewalk must be ramped.
7) Pedestrian traffic must be controlled on the pedestrian right-of-way when it is necessary to cross the right-of-way.
8) This permit is for use by personal vehicles. Active loading and/or unloading of tools and/or materials is required for the parking of Commercial vehicles.

Location of Work:

For the purpose of using _______m by _______m (area required) Parking/Stopping Restrictions?

of:  q BOULEVARD  q SIDEWALK  q ROADWAY

to erect:  q SCAFFOLDING  q HOARDING  q BARRICADE  q DUMPSTER/CONTAINER
*owner of Dumpster/Container must apply

For the period from: ___________________________ to ___________________________
(Note: Permits are issued for a maximum of 14 consecutive days)

Reason for Permit:

__________________________________________________________

All information must be printed and legible. Failure to meet this condition may result in a delay in processing and/or your request being denied. Also, please include which side of street to be used.

Sketch:

[Diagram of location and work area]

Applicant by signing below agrees to the conditions as set out in the general conditions above.

Signature ___________________________  Date ___________________________

July 2013
### EXCAVATION PERMIT

**NAME OF CONTRACTOR:**

**CONTRACTOR NO.**

**PERMIT NUMBER**

**YOU ARE HEREBY GIVEN PERMISSION TO MAKE THE FOLLOWING CUTS:**

<table>
<thead>
<tr>
<th>STREET LOCATION</th>
<th>DISTRICT</th>
<th>SURFACE TYPE</th>
<th>SIDE OF STREET</th>
<th>REASON FOR CUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ROADWAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SIDEWALK</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALLEY</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>APPROACH</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PVD. BLVD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DRIVEWAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PRIVATE WALK</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OTHER CURB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DESCRIPTION OF REASON**

**ESTIMATED SIZE OF CUTS TO BE MADE (M)**

<table>
<thead>
<tr>
<th>NO. OF CUTS</th>
<th>SIZES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

**I HEREBY AGREE THAT THIS WORK WILL BE CARRIED OUT IN ACCORDANCE WITH THE REGULATIONS OF THE CITY OF HAMILTON AND I WILL BE RESPONSIBLE FOR THE REPAIR OF THIS CUT IN ACCORDANCE WITH BY-LAW NO. 9329 AND/OR BY-LAW NO. R77-109 OR ALL APPLICABLE BY-LAWS OF THE FORMER AREA MUNICIPALITIES IN WHICH THE WORK IS BEING PERFORMED.**

**PRINT & SIGNED**

**CONTRACTOR**

**APPROVED**

**GENERAL MANAGER OR DESIGNATE**

---

### NOTIFICATION OF COMPLETED CUT, MAIL OR FAX IN (SEE BACK)

<table>
<thead>
<tr>
<th>CONTRACTOR</th>
<th>NO. OF CUTS</th>
</tr>
</thead>
</table>

**TYPE OF CUT CODE**

<table>
<thead>
<tr>
<th>TYPE OF CUT</th>
<th>CODE</th>
<th>ACTUAL SIZE OF CUTS MADE (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ASPH. ON CONC.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2. ASPH. ON GRAN.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>3. CONC. SDWK.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4. CONC. APPR.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5. CONC. PVMNT.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>6. SOD</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>7. OTHER</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**SIGNED**

---

**THIS PERMIT EXPIRES ONE (1) YEAR FROM DATE OF ISSUE**

[Appendix V - Page 1] August 2013
Traffic Operations must be notified **48 hours prior** to commencement of any work that may disrupt traffic.....

- Road closures require permission from the General Manager of the Public Works Department and must be co-ordinated through the Traffic Section. Contact (905) 546-2424, Extension 3909.

- HSR requires 7 days notice if work is on a bus route and/or interferes with a bus-stop – 905-528-4200 for lane restrictions or 14 days for road closure.

- No Utility and/or Contractor is permitted to commence any works on major arterial streets during the hours of 7:00am to 9:00am and 3:00pm to 6:00pm Monday to Friday. With the exemption of emergencies on special permission from the Traffic Department and Operations Section.

- Contractor identification sign including **24 hour emergency number** must be displayed at all times whether the site is attended or not.

- Wherever roadway plates are required, they must be saw cut in, flush with the road surface and be skid resistant.

- Please note: Anyone found responsible of having made a road cut without prior securing an excavation permit will be invoiced a surcharge or fifteen (15) percent over and above our 15% overhead charge on the total amount of the final restoration.

- The permit holder shall provide Traffic Protection Plans, for each cut location as required, to meet all requirements of the Ministry of Labour (Book 7 of the Ontario Traffic Manual, issued by the Ministry of Transportation) and the Occupational Health and Safety Act. A copy of each for the purposes of record shall be provided to the City inspector at the time of inspection.

- **Contractor is responsible for the safe maintenance of the temporary cut until the City carries out final restoration. Normally within but not limited to one (1) calendar year.**

- If emergency repairs are required to make a cut safe, and the responsible contractor is not available to respond immediately, the Road Operations Division will undertake the temporary repairs and invoice the contractor accordingly and will include 15% overhead charge.

**Maintenance of Cuts**

- **In order for final restoration to be scheduled, the lower portion of completed Road Cut Permit must be returned to:**

  The City of Hamilton  
  Public Works Department  
  77 James Street North, Suite 320  
  Hamilton, ON  
  L8R 2K3  
  Fax: (905) 546-2463

- Regardless, the permit holder is responsible to maintain all temporary restored areas until permanent repairs are initiated by the City.
## Appendix Z

### Document History

<table>
<thead>
<tr>
<th>DATE</th>
<th>UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>