

City of Richmond Hill Infrastructure Inspection Checklist

General Information

- (1) The City has the right to require changes in the work that are not in accordance with the Engineering Standards or the approved construction plans and which would, in the opinion of the City Engineer, negatively impact the ability of the City to provide normal maintenance in the City right-of-way.
- (2) Any work rejected by the City's Inspections Department shall be removed and reworked to the satisfaction of such Department.
- (3) The City's Inspections Department shall have the right to require any work be uncovered. If defective work is suspected or to correct defects discovered during inspection, the City's Inspections Department may require testing of such work.

Applicant's Engineer's Responsibility

- (1) Applicant's Engineer will review all phases of the work in progress and will be responsible for ascertaining whether or not the work is performed in accordance with Applicant's plans and specifications and the City's requirements.
- (2) Applicant's Engineer shall promptly furnish the City Engineer with pertinent information concerning changes made during the progress of the work. No changes shall be performed without the prior approval of the City Engineer or his field representative.

Construction Inspection

- (1) The City of Richmond Hill Inspections Department shall be given at least twenty four (24) hours notice prior to the need for all construction inspections.
- (2) Proof-rolling of the sub-grade base shall be performed in the presence of a representative of the City's Inspections Department, the Design Engineer and the Contractor. Any unsatisfactory areas shall be corrected to the satisfaction of the City's Inspections Department prior to proceeding with the next pavement course. Proof rolling shall be done as follows: a loaded tandem dump truck shall make two passes over the area to be tested while a representative of the City's Inspection Department is present. On the third pass the representative of the City's Inspection Department, Design Engineer and Contractor will walk behind the dump truck and observe for any unsatisfactory areas.
- (3) Prior to backfill of any cross-drain pipe, the installation shall be inspected and approved by the City's Inspections Department.
- (4) When requested by the City's Inspection Department, pavement design reports prepared by an independent laboratory shall be submitted to them for approval prior to paving.

- (5) Laboratory compaction, stability and density testing is required for pavement. Compressive strength testing is required for concrete curb and gutter. Pavement core sample reports are required at three hundred (300) feet spacing to show thickness of bases and surface. Reports shall include a map showing core locations. Additional pavement core samples may be required if the City's Inspection Department considers it necessary. Sub-grade and base material laboratory compaction testing shall be required at three hundred (300) feet (more testing locations may be required if the City Inspections Department considers it is necessary). Reports shall include a map showing testing locations. 100% compaction is required for sub base and base material.
- (6) All test results must be submitted to the City of Richmond Hill Inspections Department prior to proceeding with the next sequence of construction. Specifically, compaction results must be submitted and approved prior to placement of curb and gutter, all sub-grade test results prior to placement of base material, and base thickness and compaction results prior to asphalt surface pour.
- (7) If any of the above tests show substandard conditions, then additional tests may be required by the City's Inspection Department to reveal the extent and cause of the substandard condition. All tests shall be performed by a qualified independent testing laboratory approved by the City Engineer.
- (8) A proposed plan to correct substandard conditions shall be submitted by Applicant's Engineer for approval by the City Engineer prior to beginning work.
- (9) Each of the following items that need to be inspected shall pass inspection before the next step in construction shall take place:
 - *1. Pre-development testing of twenty four (24) inches of sub-grade material directly under proposed curb and gutter, base and pavement areas to see if the existing material is suitable for curb and roads. See City of Richmond Hill Engineering Design Standards Article 8 pavement design.
 - *2. Curb and gutter area compaction test. One hundred (100%) percent compaction, standard proctor, required.
 - **3. Curb and gutter area material testing. A bore is done on the twenty four (24) inches of material that will be directly under the curb and gutter to make sure the material is suitable.
 4. Curb and gutter area proof roll with a loaded tandem dump truck.
 - *5. Roadway sub-grade compaction test. One hundred (100%) percent Compaction, standard proctor, required.

- **6. Roadway sub-grade area material testing. A bore is done on the twenty four (24) inches of material that will be directly under the base and paving to make sure the material is suitable.
7. Roadway sub-grade proof roll with a loaded tandem dump truck.
- *8. Roadway base compaction test. One hundred (100%) percent compaction, standard proctor, required.
- *9. Roadway base bore test to check thickness of base material.
10. Roadway base proof roll with a loaded tandem dump truck.
11. Roadway visual check before asphalt paving is put down.
- *12. Asphalt pavement core test to check thickness of asphalt.
13. Storm sewer lamp and mirror test. (see # 21)
14. Water pressure and leakage test. One hundred fifty (150) PSI for two (2) hours.
- *15. Water sample test.
16. Fire hydrant flow rate test (G.P.M.)
17. Force main pressure test. One hundred (100) PSI for two (2) hours.
18. Sanitary sewer mandrel test. Five (5%) percent deflection.
19. Sanitary sewer lamp and mirror test.
20. Sanitary sewer lateral tennis ball drop test.(curb and stone base in place)
- **21. Sanitary sewer video and storm sewer video.
22. Sanitary sewer lift station inspection.
23. A final inspection will be scheduled after certification is received from the Applicant's Engineer confirming that the improvements have been built in accordance with the approved plans and specifications. Record Drawings or as built will have to be submitted before a final inspection will be approved.

Notes:

- * Test done by a certified laboratory recognized by the City of Richmond Hill.
- ** Test done by a certified laboratory, recognized by the City of Richmond Hill, if the City of Richmond Hill Inspections Department considers it necessary to insure that adequate work has been done.

Also:

1. #1 required inspection can be disregarded if all areas, twenty four (24) inches below proposed curb and gutter and base and paving areas, are agreed to be mucked out and backfilled with suitable material. (See City of Richmond Hill Engineering Design Standards Article 8 pavement design).
2. Notify the City of Richmond Hill Inspections Department no less than forty eight (48) hours before any excavations in city right of ways take place. A right of way permit is required to work in any City of Richmond Hill right of way.
3. All road crossings shall be inspected by a representative of the City's Inspection Department before cover is applied.
4. All tie into existing utilities shall be done in the presence of the City of Richmond Hill Inspections Department.
5. Sanitary sewer has to be in place a minimum of 30 days and all road mucking and backfilling complete with crusher run stone base in place before being inspected.

Criteria for Requiring Replacement of Curb and Gutter

- (1) Improper contraction joints.
- (2) "Y" cracks.
- (3) Spalling cracks.
- (4) Off-grade or misaligned sections.
- (5) Any crack within two (2) feet of an expansion or construction joint (remove half, with saw cut joint).
- (6) Two or more cracks of any size within ten (10) feet.
- (7) Failure to meet strength or location specifications.
- (8) If any crack exceeds 1/8" in width.

Construction Failures

City approval of the constructed improvements shall not relieve the Developer of responsibility for construction failures. The Developer shall repair any failure or deficiencies that occur during the warranty period.

Additional Information Required

1. Engineering Inspections Services Letter
2. Design Engineer Sanitary and Storm Sewer Invert Elevation Certification
(See City of Richmond Hill Engineering Design Standards)
3. Copies of all test results
4. Record Drawings (Asbuilts)
(See City of Richmond Hill Engineering Design Standards for Required Information)
5. Three Year Maintenance Bond/Letter of Credit
6. Certification of Non-Litigation
7. The City of Richmond Hill reserves the right to require additional documentation, test results and/or inspections as needed to verify compliance with the EDS and UDO.