TOWN OF AJAX

DESIGN CRITERIA

SECTION D

STORM DRAINAGE CONNECTIONS

D 1.00 SINGLE FAMILY AND SEMI-DETACHED LOTS

D 1.01 GENERAL

Minor systems include the direct connection of front and rear roof leaders and foundation drains to the minor system. The Town of Ajax requires that all foundation drains must be located a minimum of 0.3 m above the 25 year Hydraulic Grade Line. The hydraulic grade line shall be calculated using the sample calculation format provided in Section C of the Design Criteria.

All front roof water leaders shall be connected to the storm sewer and rear rain water leaders shall be disconnected and discharged onto concrete splash pads at the discretion of the Town of Ajax. Discharge shall be located so as not to adversely affect abutting properties.

Storm sewers shall be designed with the capacity to accept direct roof leader discharge, should the future need arise.

Retrofit and Brownfield Developments

Generally, direct gravity connections of foundation drains to the storm sewers are not permitted in Brownfield or retrofit developments as the storm sewer system has typically not been designed to accommodate these flows. Foundation drains (weeping tile) may be connected to the storm sewer only in accordance with the Town of Ajax Standard Drawings.

The Town preference is that sump pumps be discharged to a splash pad immediately outside of the foundation wall in accordance with the Town of Ajax Standard Drawings (see AS-170).

D 1.02 CONNECTION SIZE AND GRADE

Storm drain connections shall be constructed of minimum 125 mm polyvinyl chloride (SDR 28) pipe. Storm laterals from the storm sewer main in the road allowance shall be **white** in colour. The storm drain connections shall be installed at a minimum grade of 2 percent.

D 1.03 DEPTH OF CONNECTION

The storm drain connection shall be installed to a sufficient depth to provide for the drainage of the weeping tile around the foundation of the house. Measured from the crown of the road to the invert of the connection at the street line, the minimum depth shall be 1.5 m and the maximum depth shall be 2.5 m.

Risers shall be used on all drain connections when the depth to invert of the storm sewer exceeds 4.5 m. The riser shall be constructed as per OPSD requirements.

D 1.04 CONNECTION TO THE STORM SEWER

The connection of the storm drain to the storm sewer shall be made by means of a manufactured tee on the storm sewer main line pipe up to and including 900mm diameter. For storm sewers over 900 mm diameter, the connection is to be cored before the saddle is placed. Core and seal products are permitted.

All connections are to be made at 45 degrees above the springline**.**

Riser connection pipes are to be installed where the sewer depth exceeds 4.5 metres.

D 1.05 LOCATION

Storm drain connections shall be installed to the location as shown in the Town of Ajax Standard Drawings (see AS-165).

After construction, the end of the connection shall be marked by a suitable length of 50 mm x 100 mm lumber extending from the invert of the connection to a point 0.9 m above grade minimum. The top of this marker shall be painted green.

Invert of sewer connections shall be shown on the individual Lot Siting Plan. Storm drain connections shall be installed with a manufactured watertight plug.

D 1.06 AS-BUILT SKETCHES

As-built sketches are to be produced for all storm sewer work and are to include a sketch of the road plan indicating lot lines and numbers. The storm sewer main is to be drawn on the plan indicating size, class and direction of flow in the pipe along with manhole numbers.

All service and catch basin connections are to be shown on the drawings with a measurement along the sewer main between all service connections. The services at property line are to be tied in with distance between services and a measurement to a perpendicular projection from the manhole. The inverts of all connections and stubs must be shown to two decimal places.

D 2.00 MULTI-FAMILY, HIGH RISE, INDUSTRIAL, INSTITUTIONAL, COMMERCIAL, AND OTHER BLOCKS

D 2.01 GENERAL

All blocks of land within the plan of subdivision intended for use other than for park purposes shall have a storm drain installed from the storm sewer to the street limit. This service is to be used to provide site drainage until the property in question is built upon and shall be placed close to the low point of the property in anticipation of the future system draining to this point.

D 2.02 CONNECTION

The storm drain connection to all multi-family, high rise, and other blocks shall be sized individually according to the intended use of the lands.

The minimum grade for a storm drain connection to any block shall be 1.0 percent provided that the minimum velocity criteria have been satisfied.

D 2.03 DEPTH OF CONNECTION

The depth of the storm drain connection shall be governed by the grading of lands and the extent of the area to be served. The depth of the connection shall be sufficient to provide for drainage of all lands within the block, but in no case shall the depth to the top of the pipe be less than 1.5 m.

D 2.04 CONNECTION TO MAIN SEWER

The connection of the storm drain to the storm sewer may be made at a manhole, or directly to the storm sewer if the size of the connection is less than one half the size of the storm sewer. If

the connection size is greater than one half the size of the main sewer, the connection must be made to a manhole on the storm sewer.

For all connections to the storm sewer main, a manhole must be installed on the private lands within 1.5 m of the street limit.

D 2.05 STORM DRAIN MATERIALS

Concrete or PVC pipe shall be used for a storm drain connection to all blocks in the class and size as required by design.

D 3.00 BEDDING FOR STORM DRAIN CONNECTIONS

All storm drain connections shall be installed using Type 'B' bedding using crusher run limestone conforming to OPSS Granular 'A' as the granular material with 300 mm of sand cover as shown in the OPSD.

D 4.00 CONSTRUCTION

All storm drain connections shall be constructed in accordance with the Standards and Specifications of the Town of Ajax and/or OPSS, whichever is applicable, current at the time of approval of the engineering drawings by the Town.