

City of Toronto
**Downsview Area Secondary Plan
Phase 1 Servicing Review**

Prepared by:

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Project Number:

109414

Date:

September 2009

Statement of Qualifications and Limitations

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September 15, 2009

Project Number: 109414

Sharon Hill
Project Manager
City of Toronto
5100 Yonge Street
Toronto, Ontario M2N 5V7

Dear Ms. Hill:

Re: Downsview Area Secondary Plan Review – Phase 1 Report

Please find attached the final copy of the Phase 1 Report for this project.

Sincerely,

Ian Roger, P.Eng
AECOM Canada Ltd.

IBR
Encl.

cc: Emma West, Planning Alliance

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Revision Log

Revision #	Revised By	Date	Issue / Revision Description
1	IBR/SCR	July 2009	Client Comments
2	IBR	Sept. 14, 2009	Client Comments

Signature Page

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1. Introduction

1.1 Purpose and Objectives

The Downsview Area Secondary Plan lands encompass a unique natural, cultural and heritage landscape in the City of Toronto. The current Plan was approved by City Council in 1999 to provide direction for the redevelopment of the former base lands as well as adjacent lands owned by Bombardier and the City of Toronto and its agencies. The Plan comprises approximately 530 hectares (1,309 acres) in the north central part of the City. As a point of reference, its area is approximately equal to that of downtown Toronto.

Since the approval of the existing Secondary Plan, changes have occurred that warrant its review and update. The key change is the approval of the Spadina Subway extension which will include a new subway station within the Secondary Plan area that will directly connect to a new GO Transit station on the Toronto to Barrie rail corridor. As well, Parc Downsview Park Inc. has evolved their vision for their lands and is seeking to have this updated vision recognized in the Secondary Plan.

In light of these changes City of Toronto Council authorized a review and update of the Secondary Plan in 2008. The purpose of the review is to reassess the existing Secondary Plan in the context of the City's planning goals and objectives. The City Planning Division has retained a consulting team led by planningAlliance to carry out this review. AECOM forms part of the consulting team and has responsibility for assessing existing infrastructure and developing options to address the possible changes to the Secondary Plan.

The purpose of this Phase 1 Report is to identify existing water, wastewater, and storm sewer infrastructure that will serve the Secondary Plan and establish the issues that will need to be addressed as various land use options are evaluated. This servicing review is also being undertaken to fulfill the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment Process.

1.2 Background

The Federal government announced the closure of the former Canadian Forces Base Downsview in 1994 and their intention that the lands be held in perpetuity and trust as a unique urban recreational space on a self-financing basis. The majority of the Downsview Area Secondary Plan lands are managed by Parc Downsview Park Inc. (PDPI). PDPI reports to the Parliament of Canada through the Minister of Transport, Infrastructure and Communities. The Department of National Defence (DND) continues to retain some lands to accommodate ongoing military needs and to maintain an important presence in Toronto. In addition, Bombardier Aerospace owns and maintains jurisdiction of their manufacturing plant and associated airport runway and are considered a major employer in the City of Toronto. Other major land-owning stakeholders are:

- i) The City of Toronto (Build Toronto) who own lands around the Downsview subway station between Allen Road and Wilson Heights Boulevard,

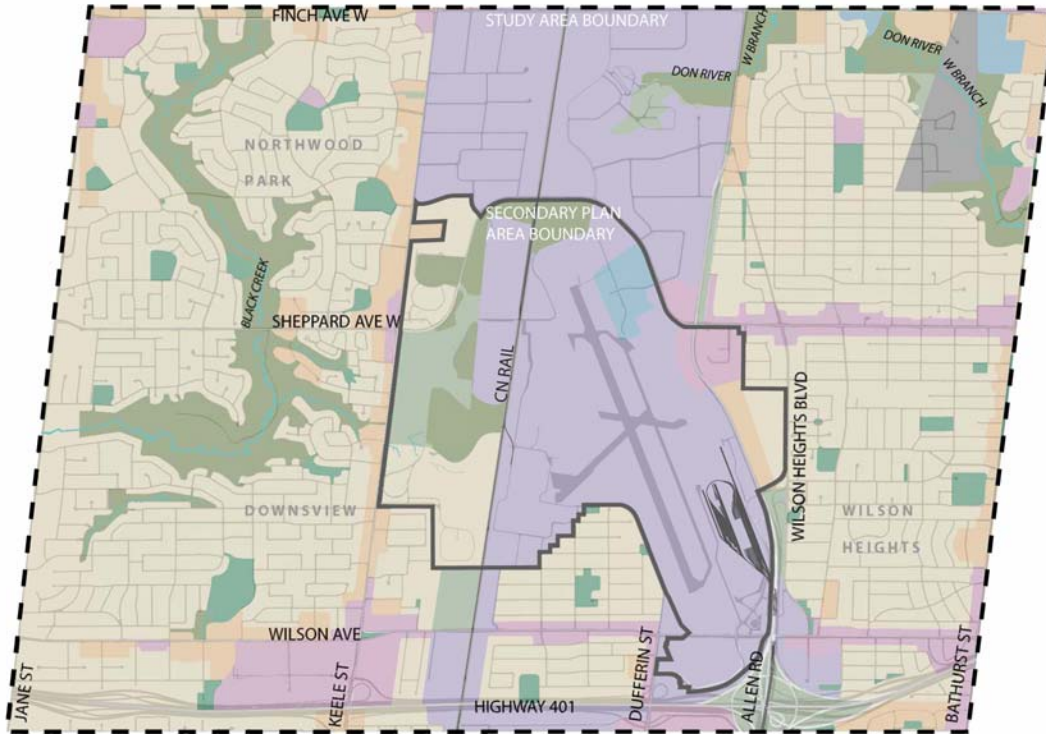
- ii) The Toronto Transit Commission (TTC) who own and operate the Downsview and Wilson subway and bus stations and the Wilson Railway Yards,
- iii) The Canadian National Railway (CN) who own and operate the regional freight and passenger rail line in conjunction with GO Transit,
- iv) Canada Lands who own the former Denison Armoury, and
- v) Smart Centres Inc. who own and lease land to various big-box retailers, located in the southeast portion of the Secondary Plan area near Dufferin Street and Highway 401.

The current Downsview Area Secondary Plan was approved by City Council in 1999 (OPA 464) as an amendment to the former City of North York Official Plan. As part of the Downsview Area Secondary Plan, a Transportation Master Plan was prepared for the Downsview area. In 2001, the Plan was amended (OPA 504) to include the approval of a mix of uses for the lands at the southwest and southeast corners of Allen Road and Sheppard Avenue West. The new City of Toronto Official Plan was approved by the Ontario Municipal Board in July 2006 and contains the Downsview Area Secondary Plan, Part 7 of Chapter 6 of the Official Plan, mostly in its original form.

1.3 Study Area

The Downsview Area Secondary Plan is located in the north central part of Toronto and is bounded by Highway 401 to the south, Keele Street to the west, W.R. Allen Road and Wilson Height Boulevard to the east, and Sheppard Avenue West to the north. The lands within the Plan area total approximately 530 hectares. A larger study area, extending from Highway 401 to Finch Avenue and Bathurst Street to Jane Street was also identified to provide a broader context for the study. The boundaries of the Study Area and the Secondary Plan area are shown in Figure 1.

Figure 1 Downsview Area Secondary Plan and Study Area



land use
pA 08 dec 08

0 500 1000 1500m

CITY OF TORONTO OFFICIAL PLAN LAND USE DESIGNATIONS

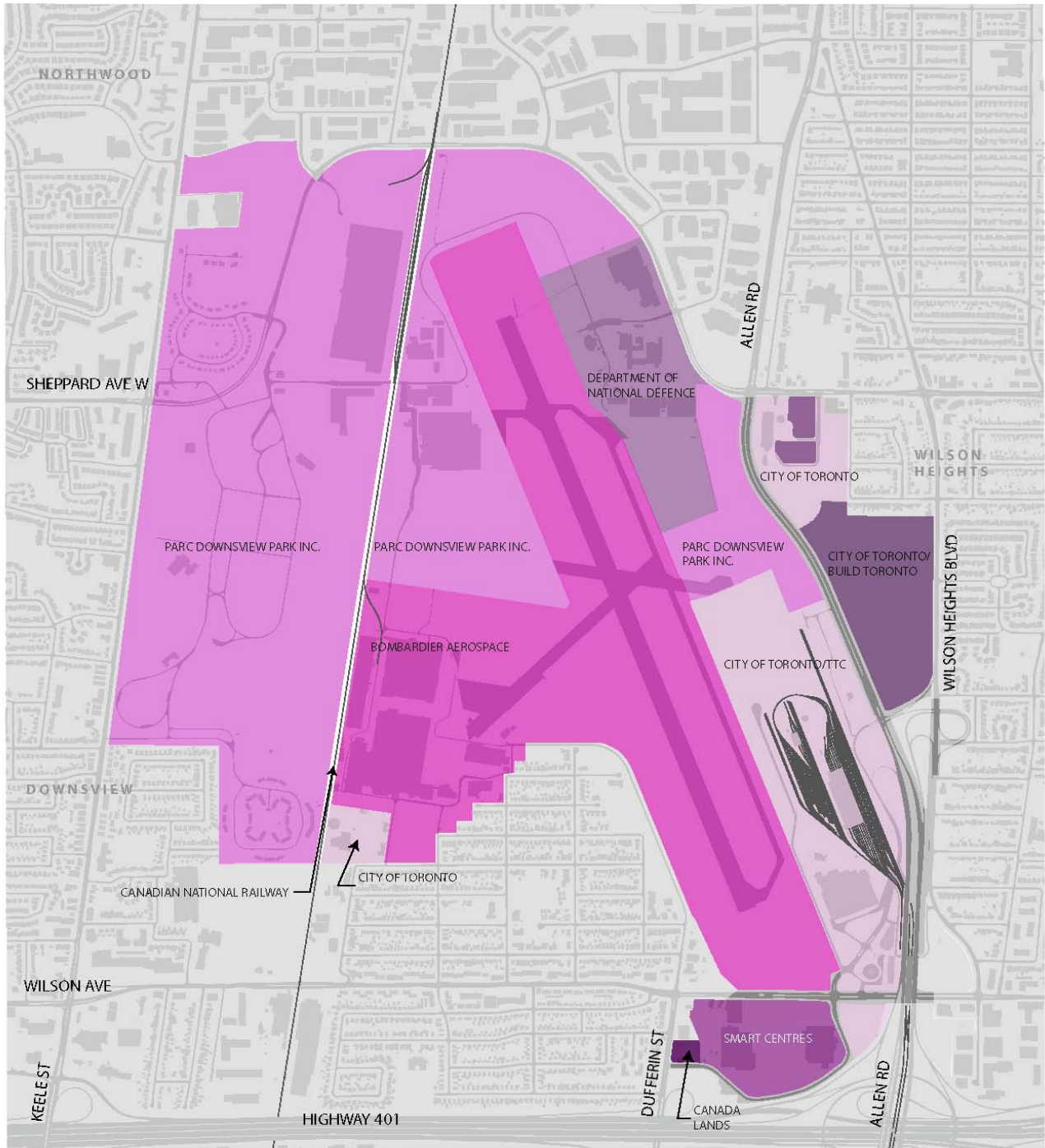
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|--|--|
|  NEIGHBOURHOODS |  PARKS |
|  APARTMENT NEIGHBOURHOODS |  NATURAL AREAS |
|  MIXED USE AREAS |  OTHER OPEN SPACE |
|  EMPLOYMENT AREAS |  UTILITY AREAS |
|  INSTITUTIONAL AREAS | |

The major landowners within the Secondary Plan area are summarized in Table 1 below and illustrated in Figure 2:

Table 1 Major Downsview Area Secondary Plan Landowners

Landowner	Description	Area
Parc Downsview Park Inc. (PDPI)	On behalf of the Federal government	232 ha/ 573 acres
Bombardier Aerospace	Maintains a manufacturing plant and associated airport runway	151 ha/ 373 acres
City of Toronto	On behalf of TTC including the Wilson station and associated rail yards and the Downsview station and associated commuter parking lot	71 ha/ 175 acres
Canadian National Railway (CNR)	Operates the CN Rail Barrie GO train line (Newmarket Subdivision) that runs through the Secondary Plan area	5.5 ha/ 14 acres
Department of National Defence (DND)	Maintains ownership of lands on the south side of Sheppard Avenue West, on the east side of the CN rail line	29 ha/ 72 acres
Canada Lands	Maintains ownership of the former Denison Armoury on Dufferin Street south of Wilson Avenue	0.66 ha/ 1.6 acres
Build Toronto	Has authority for the City of Toronto lands at the southeast corner of W.R. Allen Road and Sheppard Avenue West	20 ha/ 50 acres
Federal government	Retains ownership of the lands under the W. R. Allen Road	11.5 ha/ 28 acres
Smart Centre	Privately owned and leased lands for retail and commercial uses	13 ha/ 32 acres

Figure 2 Downsview Area Secondary Plan Landowners



landowners

pa 20 jan 09 0 250 500 750 1000m

2. Existing Water, Wastewater and Storm Servicing

2.1 Existing Water Supply Network

Information about the existing internal and external water supply networks are shown in **Figure 3**. City of Toronto staff has advised that the existing servicing on the privately held lands should not be considered part of any looped systems due to municipal backflow prevention requirements, and these watermains will almost certainly be replaced with new servicing meeting municipal standards as development occurs.

2.1.1 Downsview Area Secondary Plan Connections to City Watermains

Currently there is an existing 300 mm diameter watermain that runs east-west across the Downsview Area Secondary Plan area and connects to the City's network at Keele Street in the west and to the intersection of Sheppard Avenue West and WR Allen Road in the east. The Stanley Greene District in the southwest is serviced from a branch line from this east-west watermain and has a dead-end in the southwest of this area. The potential exists to link this subsystem with the neighbouring Bombardier lands water network and thereby create an internal looped system.

2.1.2 City Watermains on the Perimeter of Downsview Area Secondary Plan

The City of Toronto watermains on the perimeter of the DASP that could service this area are as follows:

West of DASP

Watermains to the west of the DASP run on the western side of Keele Street and are the following:

- a 400 mm diameter watermain from Wilson Avenue to Calvington Street
- a 300 mm diameter watermain northerly from Calvington Street.

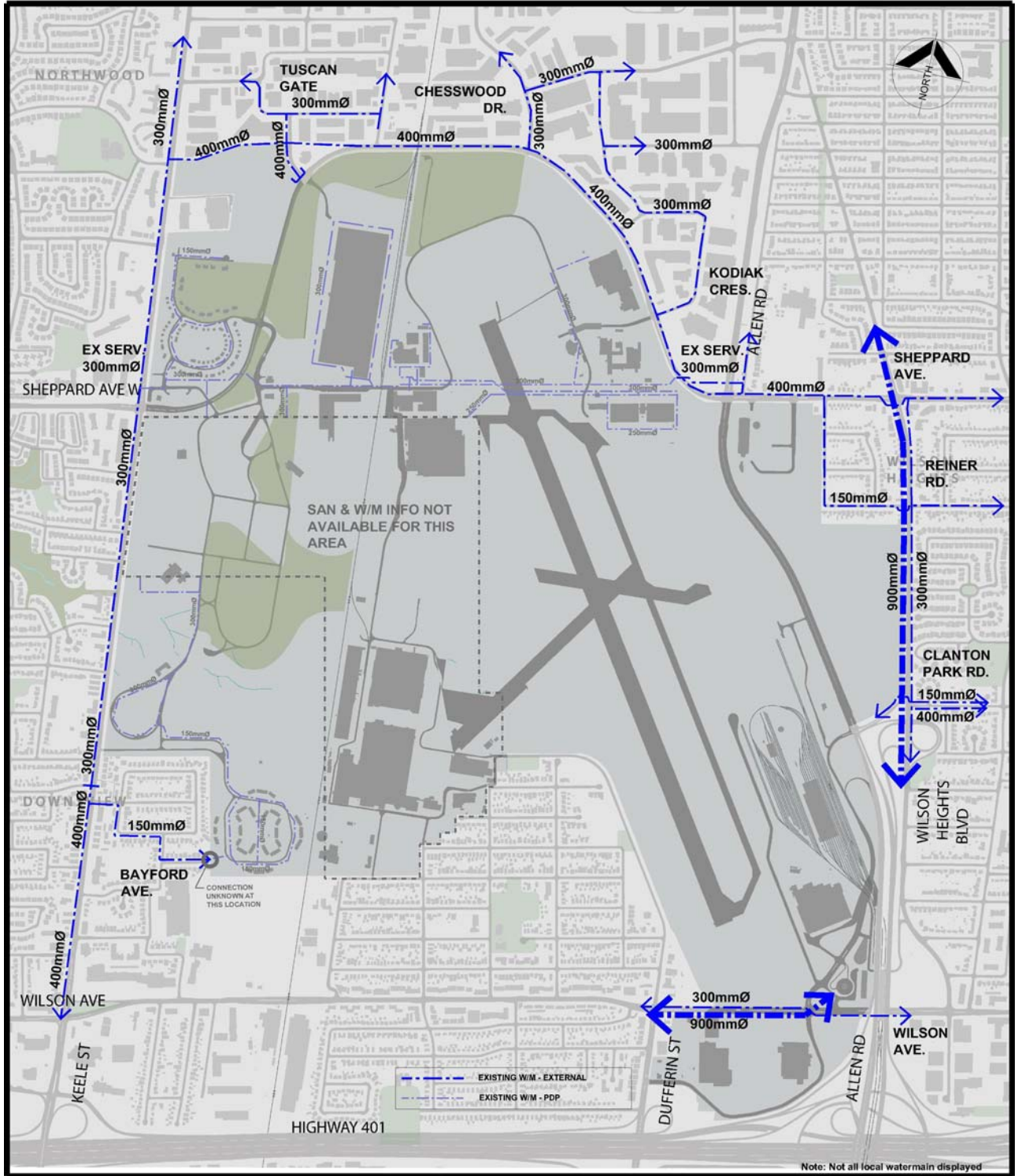
North of DASP

- North of the DASP a 400 mm diameter watermain runs easterly from the Grandravine Drive/Keele Street intersection to Sheppard Avenue West and
- A 400mm along northern side of Sheppard Avenue West to beyond eastern boundary of the DASP.

South of DASP

- There is no watermain on the southern boundary of the DASP, on the west side of the study area south of the Stanley Greene District.
- A 300 mm diameter watermain is located on the north side of Wilson Avenue.
- A 300 mm diameter watermain also services the Bombardier Lands to the southwest of the DASP.

Figure 3 Existing Watermains Adjacent to Study Area



East of DASP

- There is no watermain along Allen Rd.
- There is a 300 mm and a 900 mm diameter watermain along Wilson Heights Boulevard. The 900 mm watermain is a transmission watermain without any connections. City staff has indicated that before a connection to this watermain to provide service to the DASP may be considered, it will require the requisite justification, design, and approvals as part of any development.

The DASP currently lies within the boundaries of Pressure District 5 (PD-5) of the water supply network of the City of Toronto. PD-5 is a large pressure district and areas therein are reported to experience lower pressures than the supply norm in the city. The north-eastern part of DASP is affected by a low pressure zone and any development in the DASP that increases water demand from the PD-5 network will aggravate the pressure problems. The City is undertaking the calibration of a simulation model of the PD-5 network (**RVA, 2008**) which will thereafter be used as a tool for assessing best strategies for rectifying the pressure deficiencies. Prior to allowing any development that will negatively impact PD-5, the City will have to be satisfied that adequate water supply and pressure are available to serve present users and further development.

2.2 Existing Wastewater Discharge Network

Information about the existing internal and external wastewater discharge networks are shown in **Figure 4**. All sewers within the existing privately held DASP lands are considered private sewers.

2.2.1 Parc Downsview Park Connections to City Sewers

Wastewater on the existing Parc Downsview Park property flows from the north, south and east areas of the site and are drained or pumped to the Maryport Avenue Sub-trunk which flows westerly and discharges into Black Creek Trunk Sewer. The entry point of this sub-trunk is on Keele Street south of Maryport Avenue. This sub-trunk has a diameter of 525 mm for the first 242 m stretch and 600 mm on the final 558 m stretch. Total length is 800 m.

2.2.2 DND Connections to City Sewers

Buildings of the Department of National Defence (DND) are situated in the east of the DASP and sanitary flows outlet easterly towards the trunk sewer system on the West Don River.

2.2.3 City Sewers on Perimeter of Downsview Area Secondary Plan

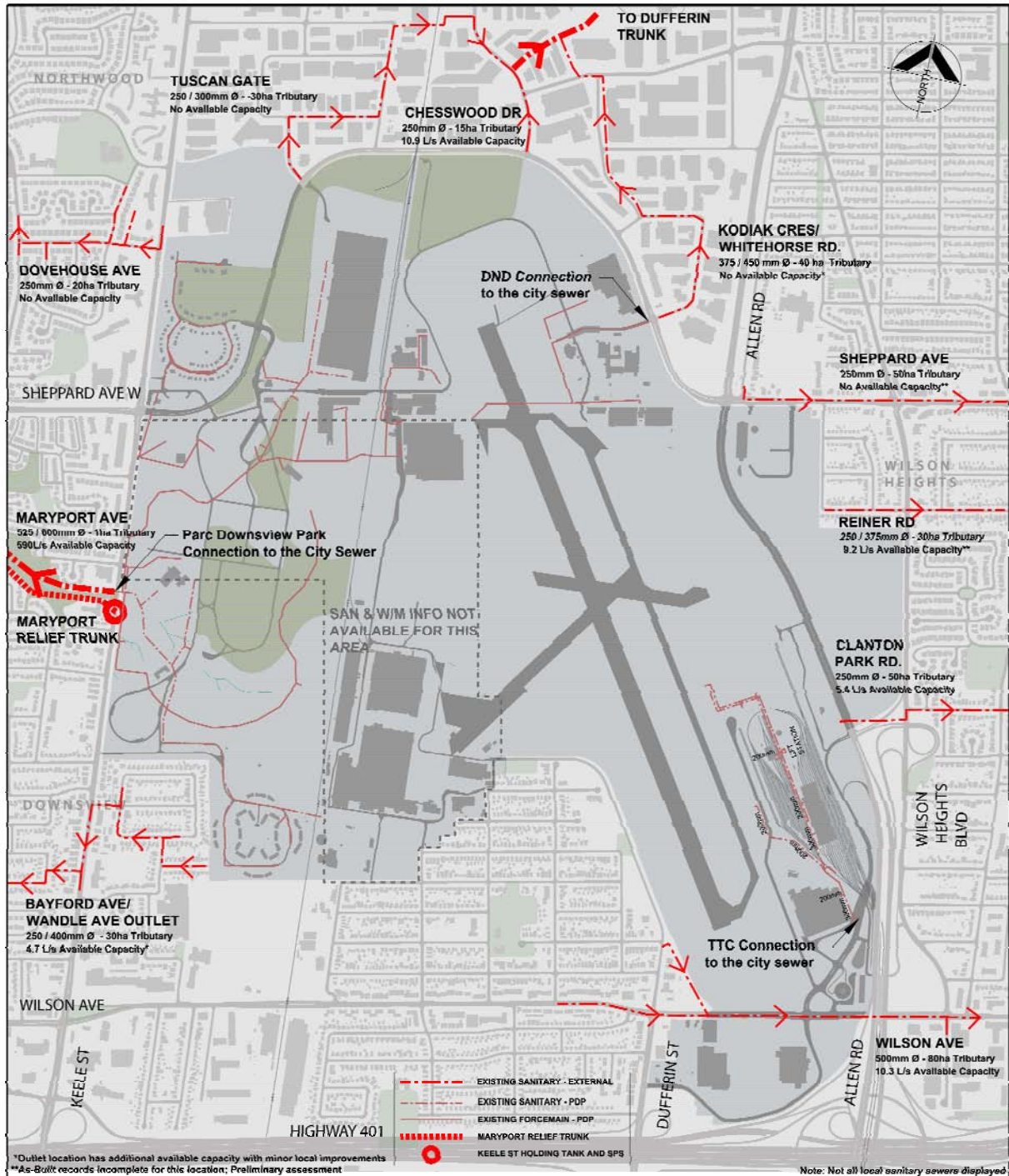
2.2.3.1 Trunk sewers

The Secondary Plan area is located at the boundary of two trunk sewer systems: the West Don Trunk in the east and the Black Creek Trunk in the west. The West Don Trunk is a tributary of the Don Trunk system which discharges to the Ash Bridges Bay Water Pollution Control Plant. The Black Creek Trunk is a tributary of the Humber Trunk which discharges to the Humber Water Pollution Control Plant. The external sewers on the northern, eastern, and south-eastern sides of the DASP drain to the West Don Trunk that runs southerly in the Don Valley. External sewers on western and south-western sides of the DASP drain to the Black Creek Trunk that runs southerly in the Black Creek Valley.

Both the trunk sewer systems are reported to experience capacity problems under certain wet weather conditions. In some parts of the Black Creek system, basement flooding occurs several times annually (**UMA, 1998**).

Information from city sources indicate that a few combined trunk sewers in the Don and Humber trunk systems have enough capacity to convey additional dry weather flow (DWF), but would increase overflow to receiving water bodies under wet weather flow (WWF) conditions if no control measures are taken (**IAM, 2004**). It has been a requirement of the City in approval of new development that the developer is responsible to control the total discharge (DWF plus WWF) into a combined sewer from any new or redevelopment and not exceed the pre-development total flow under WWF conditions.

Figure 4 Existing Sanitary Sewers Adjacent to Study Area



An infrastructure solution to address the capacity problems in the Black Creek trunk sanitary sewer system has been proposed and described in an Environmental Study Report that was completed in 1990 for the Metropolitan Toronto Works Department by RV Anderson Associates Ltd (**RVA, 1990**). The planned solution is for the construction of Keele Street Trunk Relief Sewer which includes a connection between the existing Black Creek trunk sewer and the proposed Keele Street Trunk sewer in the easement area south of Maryport Avenue. The connection sewer, herein referred to as the Maryport Trunk Relief Sewer, was constructed in 1993 and is currently used as a detention facility (2800 m³) which can store a portion of the 0.26 L/s/ha infiltration/inflow displaced by the additional wastewater from new developments. This will allow new development, up to 45,000 population (**IAM 2004**), to proceed without worsening the surcharge condition of the Black Creek Trunk sewer under wet weather conditions. The surcharging will only be reduced when the Keele Trunk Sewer is constructed which will allow the Maryport Trunk sewer to act as a diversion to relieve the flow from the Black Creek Trunk to the Keele Trunk sewer.

Under the existing conditions when flow is high in the Black Creek Trunk it spills into the Maryport relief sewer. Since this sewer is not completed, the sewage spills therein are pumped out at the existing shaft at Keele Street and discharged into the existing Maryport sub-trunk to flow back to the Black Creek Trunk sewer.

2.2.3.2 Maryport Avenue Sub-Trunk

Apart from the DASP flows, the Maryport Avenue Sub-trunk also receives one 250 mm diameter contributory sewer that services a large building complex located west of Keele St and South of Maryport sub-trunk easement which enters the sub-trunk in the 525 mm diameter section.

2.2.3.3 Collectors

The existing external collector sewers are shown in **Figure 4** and also briefly described below:

West of DASP

- Southwest: Local sewer on Bayford Avenue (in Bombardier Lands), commencing nearby the Stanley Greene District development and flowing westerly
- Central west: Maryport Avenue Sub-trunk, as reported above
- West and Northwest: Local sewers flowing westerly from Keele Street on Tavistock Road, Whitburn Crescent, Denbigh Crescent, Maryport Avenue, Diana Drive, Wycombe Road, Sheppard Avenue West, Dovehouse Avenue and Grandravine Drive.

North and Northeast of DASP

- Local sewers flowing northerly and then easterly towards the West Don Trunk, commencing nearby the street intersections of Tuscan Gate Road/ Sheppard Avenue West, Chesswood Drive/ Sheppard Avenue West and Kodiak Crescent/Sheppard Avenue West.
- This existing connection from the DND facility to the local sewers flowing northerly and then easterly towards the West Don Trunk sewer was made to service the existing facility only and no future servicing is permitted along this external collector system.

East of DASP

- Local sewers flowing easterly towards the West Don Trunk sewer, commencing nearby the street intersections of Sheppard Avenue West/ WR Allen Road; Reiner Road/Banting Avenue; and WR Allen Road/Wilson Heights Boulevard/Clanton Park Road.

South of DASP

South of DASP is a set of two sewers flowing easterly towards the West Don Trunk Sewer as follows:

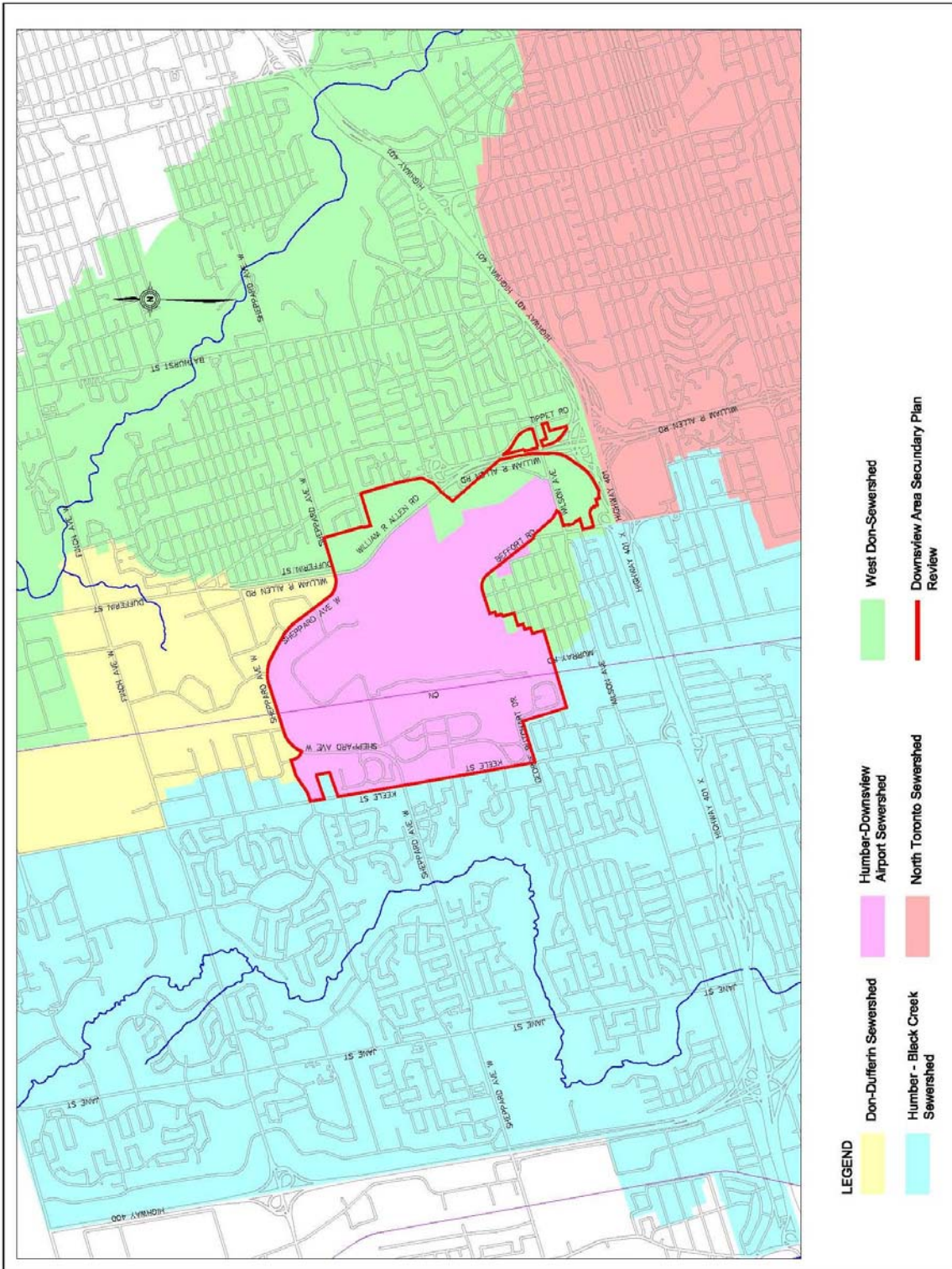
- 500 mm diameter sub-trunk on the northern side of Wilson Avenue flowing into a reduced diameter (375 mm) sewer at the Wilson Avenue/WR Allen Road intersection.
- 300 mm diameter sewer on the southern side of Wilson Avenue flowing into the same 375 mm diameter sewer at the Wilson Avenue/WR Allen Rd intersection.

The location and diameter of existing trunk and collector sewers on the perimeter of the DASP development area that were reviewed for capacity are summarized in **Table 2**.

Table 2 Spare Capacity of Existing Sewers on the Perimeter of the DASP

Location	Direction	Size (mm)	Spare Capacity (L/s)
Bayford Ave	Black Creek Trunk	250	4.7
Maryport Ave.	Black Creek Trunk	525/600	596.7
Dovehouse Rd.	Black Creek Trunk	250	0
Tuscan Gate	Dufferin Trunk	300	0
Chesswood Dr.	Dufferin Trunk	300	10.9
Kodiak Cres.	Dufferin Trunk	375/450	0
Sheppard Ave	West Don Trunk	250	0
Reiner Rd	West Don Trunk	250	9.2
Clanton Park Rd.	West Don Trunk	250	5.4
Wilson Ave	West Don Trunk	500	10.3

Figure 5 Sewersheds and Study Area



2.3 Existing Stormwater Infrastructure

Historically the lands have grown and developed around the Downsview Secondary Plan Area during the 50's, 60's and 70's with the corresponding drainage design. Generally storm sewers located beneath the roadways convey the "2 year storm" or minor system while the larger storms are conveyed by the roadways all ultimately ending at one of two watersheds; Black Creek, a tributary of the Humber River and the West Don River. Storm drainage on the Downsview lands is split between these two watersheds, both within the jurisdiction of the Toronto Region Conservation Authority (TRCA).

The Downsview Secondary Plan Area is approximately 530 hectares of land surrounded by a highly urbanized area within the City of Toronto. West of Keele Street to the Black Creek the land is mostly single family residential with clusters of multifamily residential and associated commercial uses clustered along Keele Street. South of Downsview and north of Wilson Avenue as well as east of Allen Road and Wilson Heights Boulevard are more single family residential lands. North of Sheppard and south of Finch Avenue the land is mainly industrial/commercial uses resulting in a large amount of impervious area. Additional existing land uses include the Toronto Transit Commission works yard, the Bombardier Manufacturing facility and associated airport runway, Department of National Defence Lands and the former Downsview Base lands.

2.4 Existing Minor System

The minor system within the City of Toronto is generally conveyed by a storm sewer collecting drainage from roadways, residential lots and buildings as well as commercial and industrial sites. Due to evolving standards in drainage design, foundation drains may be connected to the storm sewers, sanitary sewers or pumped to discharge at ground level. Roof drainage may also be connected to the storm sewer system, the sanitary system or discharge to the ground. The typical minor system was designed to convey a 2 year storm as calculated by the rational method.

Drawing 1 located in the back of this report depicts the existing minor system surrounding the DASP lands.

Existing drainage to the surrounding minor system from the study area is split into ten different sub-catchments as shown in Figure 6.

- Area 1 - North of Carl Hall Road and east of Sheppard Avenue. The large industrial building and lands west of the CNR drains to a 1350mm storm sewer at Sheppard Avenue. East of the CNR and north of the runway a second inlet to the same sewer collects drainage from the field area. Drainage from Sheppard Avenue between Allen Road west to John Drury Drive is also collected in this sewer. Just west of Chesswood Drive a large trunk sewer runs northerly by way of easement to discharge to a tributary of the Don River in the Vanley Crescent area. The industrial/ commercial area between Sheppard Avenue and Finch Avenue is collected in this trunk system to the outlet. An additional area north of Finch Avenue is also tributary to this trunk sewer.

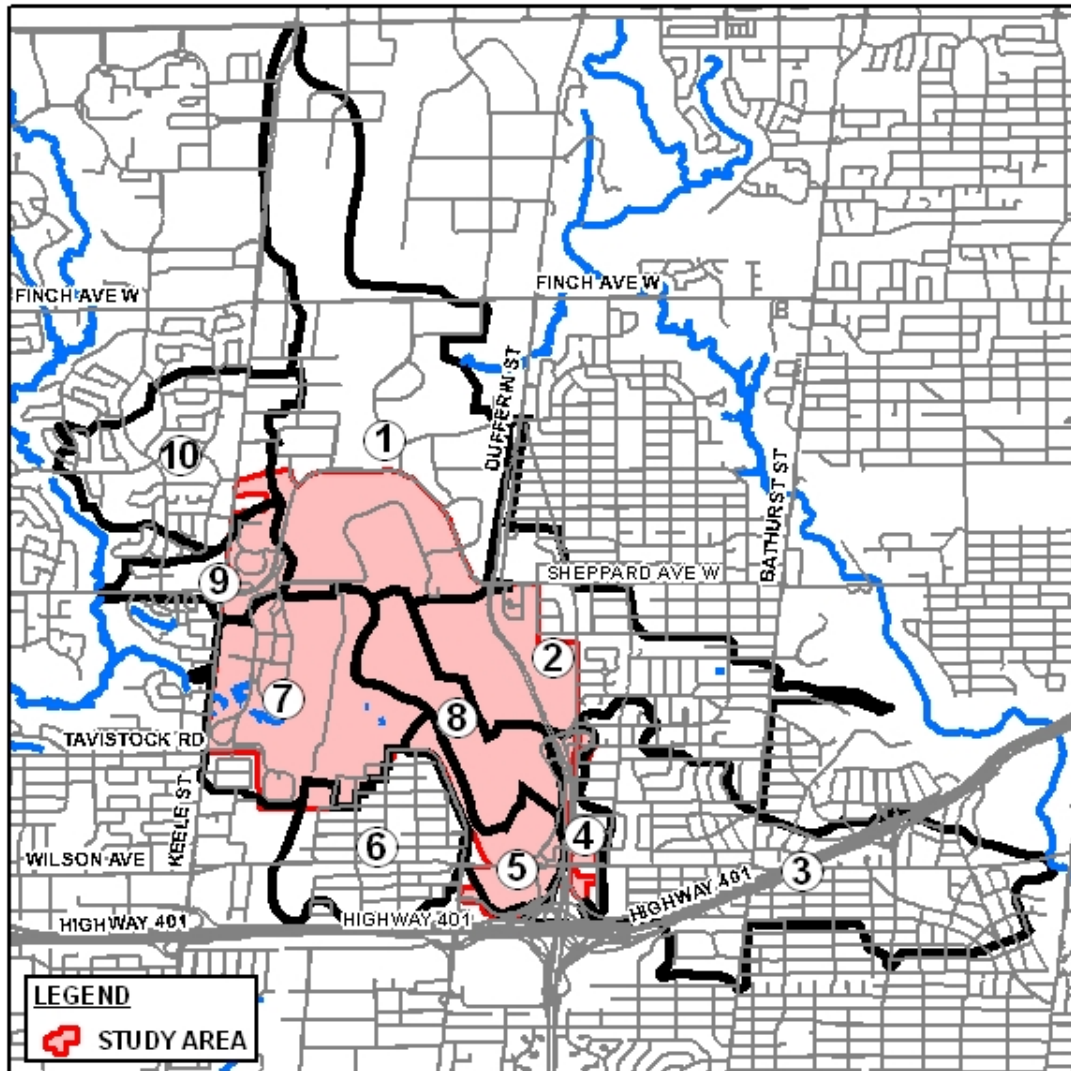


Figure 6 Minor System Drainage Catchments

- Area 2 - East and West of Allen Road, north of the TTC yard and south of Sheppard Avenue West. A large trunk sewer runs east on Almore Avenue to discharge to the Don River west of Bathurst Street within Earl Bales Park. Earl Bales Park has been identified in the 25 year Wet Weather Flow Master Plan (WWFMP) as a site for storm water enhancement of existing outfalls. An Environmental Assessment has been completed for the Stormwater Management Plan for Earl Bales Park by Marshall Macklin Monaghan in December 2007. A solution was selected that involved construction of an end of pipe water quality/ erosion pond with diversion of some minor system flows. Area 4 also drains into this trunk sewer.
- Area 3 – Land that is tributary to the Wilson Heights trunk sewer. This area is located downstream of the study area. The Wilson Heights trunk sewer area has experienced significant basement flooding in the past.

- Area 4 – Allen Road south is drained to the Allen Road Sewer, 2100mm diameter which ultimately drains to the Almore Avenue Trunk sewer.
- Area 5 – located south of the TTC lands is also tributary to the Almore Avenue Sewer. The southwest quadrant bounded by Wilson Avenue and Dufferin Street has been developed as big box commercial. On site quantity control has been applied here and cash-in-lieu has been collected for quality control.
- Area 6 – located south of the Bombardier lands and consists of mostly residential lands. This area is drained southwards to the trunk sewer that parallels the CNR tracks along the east side eventually discharging to Black Creek south of Highway 401.
- Area 7 – The existing Downsview lands including the Stanley Greene District currently drains to a low point just south of Maryport Avenue at Keele Street. Much of the on-site drainage is in the PDPI lands accomplished through features such as ditches and culverts. Localized areas, such as the DND Barracks in the south-western part of the site, have underground systems, with manholes, catchbasins and pipes. The Bombardier Lands are discharged to the Stanley Greene District.
- Area 8 – consists of the runways and TTC lands west of Allen Road that discharges to the Wilson Heights Trunk Sewer. The runway is served by a storm collection system that discharges through the Toronto Transit Commission (TTC) lands and then across Allen Road. The Wilson Heights trunk sewer, 1500 mm diameter, invert elevation 184.6m, crosses the Allen Road Sewer, 2100mm diameter, invert 172.03m elevation, at Allen Road with a clearance between the two sewers of 10.5m.
- Area 9 - West of the runway and north of Carl Hall Road the drainage is served by an onsite perimeter drainage system that discharges to the Sheppard Avenue Sewer that discharges to the Black Creek.
- Area 10 - The northwest corner of land between Sheppard Avenue and Keele Street is tributary to a sewer on Dovehouse Road and eventually to the Black Creek, a tributary of the Humber River. The Dovehouse Road Sewer lies in lower portion of Area 14 of the basement flooding investigations. The study on this area has recently been completed. For this particular sewer branch there has been one reported instance of basement flooding in August 1995. Evaluation of the sewers and roadways for this branch show no particular problems from surcharging or road flooding during a 2-year design storm.

The catchment areas and impervious characteristics are shown in **Table 3**.

2.5 Existing Major System

Due to the urbanized nature of the surrounding area the external major system is conveyed by the existing roadways as shown in Drawing 2. Several low points where drainage is trapped exist. For example, the construction of the TTC Wilson Yard and Transit Road/TTC Track Grade Separation has created a condition whereby there is no existing major storm overland flow route for the lands generally west of the Transit Road. As such, the major storm event needs to be managed by on-site storage and control to existing piped drainage systems.

Table 3 Downsview Secondary Plan Catchment Land Cover Analysis

Catchment ID	Total Catchment Area (ha)	Total Area within Study Area (ha)	Impervious Area within Study Area (ha)	% Impervious within Study Area	Pervious Area within Study Area (ha)	% Pervious Within Study Area (ha)
1	420.62	110.28	47.71	43.3%	62.58	56.7%
2	254.35	85.65	14.06	16.4%	71.62	83.6%
3	328.46	0	0.00	0.0%	0.00	0.0%
4	41.40	4.42	2.76	62.5%	1.66	37.6%
5	53.67	49.63	26.75	53.9%	22.87	46.1%
6	122.29	5.11	5.07	99.3%	0.02	0.4%
7	177.21	165.31	60.99	36.9%	104.34	63.1%
8	87.23	87.23	37.57	43.1%	49.64	56.9%
9	51.52	28.47	6.29	22.1%	22.22	78.0%
10	147.38	5.94	0.93	15.7%	5.01	84.4%

2.5.1 Downstream Constraints and Flooding Issues

Most sewers downstream of the Secondary Plan Area are running at full capacity. Building larger trunk sewers to service the lands would be cost prohibitive and disruptive to the existing neighbourhoods. In addition construction of new trunk sewers would be contrary to the City of Toronto Wet Weather Flow Management Policy. Instead development in the Secondary Plan Area will need to deal with the quantity and quality of stormwater discharges within the confines of its site.

2.5.2 Soils

Detailed soil information within the study area is not available at this time for the Districts surrounding the Downsview Park Area. A geotechnical study by SNC-Lavalin was completed in April 2008 for PDPI for a portion of their lands so information about the surrounding soils may be inferred. The soils on site were found to be highly weathered silty clay till of hydraulic conductivity of 1.3×10^{-5} to 2×10^{-6} cm/s, indicating low infiltration of rainwater. At a depth of 12.8m to 20 m, sandy silt/ silty sand layer was encountered of thickness from 0.14m to 7.9m.

2.5.3 Terrestrial Ecology

A terrestrial ecology report was completed for PDPI in September 2006 by Dougan and Associates noting that the site is highly disturbed with no significant natural areas that would constrain development. A subsequent report prepared in 2008 by Dougan identified the existing woodlots that will need to be protected/considered for any servicing options. Most of the site has been planted with turf grass and other ornamental species with an efficient stormwater system that encourages site runoff.

3. Summary

Development of the Downsview Area Secondary Plan up to full build out will require redevelopment of the internal water, wastewater, and stormwater servicing and strengthening of the external water supply and wastewater collection/disposal systems.

In this Phase 1 of the project, the existing services have been identified. In the next study phases, the existing capacities and constraints will be further evaluated, the alternatives for addressing these challenges from a servicing perspective will be stated, and the preferred servicing alternatives will be developed for the preferred land use and road layout option.

4. Next Steps

The next steps are the further identification and quantification of the servicing constraints, both internally and externally to the DASP. The Phase 2 work will involve further assessment of the existing infrastructure and how it is impacted by the various development scenarios being considered for the DASP. During Phase 3 the servicing team will be working closely with the land use and transportation team members to select and refine the most appropriate servicing alternatives. Work and outcomes will include:

- Water network analyses to review available water supply and pressure in the DASP for the proposed development scenarios and recommend necessary improvements to the water supply system within the DASP;
- Preparation of preliminary functional drawings and reports of the recommended infrastructure improvements within the DASP ;
- Preparation of a preliminary order-of-magnitude cost estimate of servicing infrastructure improvements within the DASP;
- Identification of any issues related to crossing the CN rail line, the number and location of crossings and approval requirements and approval time frames;
- Contributions to preparation of applicable environmental schedules;
- Assessment of anticipated timing and phasing of services and the development trigger to initiate subsequent phases; and
- Contribution to formulation of recommended strategies and policies to implement and effectively manage the development.

5. References

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