

## **Appendix J GEOTECHNICAL AND HYDROGEOLOGICAL DESKTOP REVIEW**





GeoPro Consulting Limited

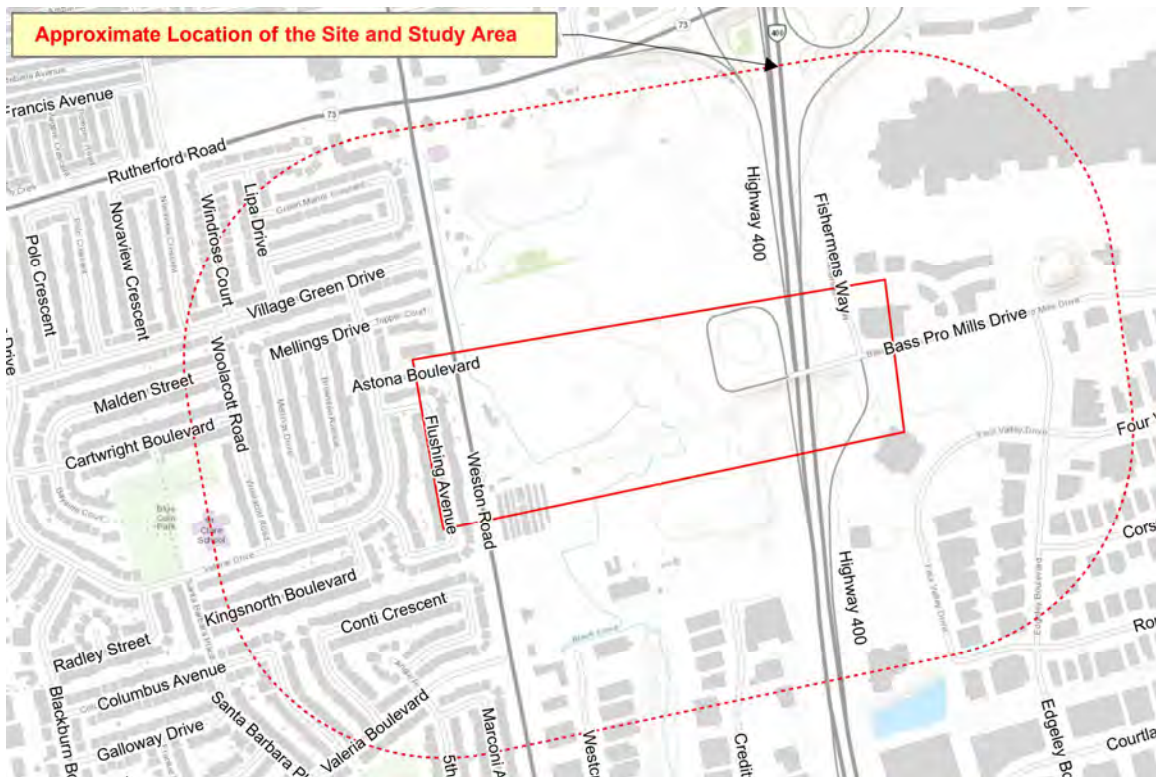
Geotechnical-Hydrogeology-Environmental-Materials-Inspection

## Geotechnical and Hydrogeological Desktop Review

**Bass Pro Mills Drive Extension  
Between Highway 400 and Weston Road  
City of Vaughan, Ontario**

Prepared For:

**Stantec Consulting Limited**



GeoPro Project No.: 17-2162GH04

Report Date: May 17, 2022

*Professional, Proficient, Proactive*

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**GeoPro**  
CONSULTING LIMITED

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## **1.0 INTRODUCTION**

GeoPro Consulting Limited (“GeoPro”) was retained by Stantec Consulting Limited (the “Client”) to conduct a geotechnical and hydrogeological desktop review for the Bass Pro Mills Drive Extension located between Highway 400 and Weston Road, City of Vaughan, Ontario (the “Site”). The approximate site location is shown on Drawing No. 1. The desktop study was conducted focusing on the area within a 500 m radius of the Site (the “Study Area”).

The desktop study is a combined geotechnical and hydrogeological assessment which includes comments and observations made from a site walk-by on March 8, 2021. The objective of the desktop study is to provide a review of available site information, preliminary geotechnical and hydrogeological issues, and assessment of the likely risks associated with potential soil and groundwater contamination within the study area. No site-specific geotechnical and hydrogeological field investigation was carried out as part of this desktop study.

## 2.0 SCOPE OF WORK

The scope of the work was limited to a desktop study (i.e., without any intrusive fieldwork) based on available information and a one-day site visit (site walk-by) by an engineer of GeoPro. The work was completed consisting of the following tasks:

- Conducting a search and review of the available data resources for the site background information, including geology, hydrogeology and Ministry of the Environment, Conservation and Parks (“MECP”) Water Well Records (“WWR”);
- Conducting site visit to observe the site features for potential constrains and impact to the proposed development from a geotechnical and hydrogeological perspective;
- Completing data processing, interpretation and report preparation;
- Provide a proposed borehole location plan.

### 3.0 RECORDS REVIEW

#### 3.1 Aerial Photograph

Aerial photographs were reviewed for a visual chronology of previous land uses on the Site and its surrounding area. Aerial photographs for the years 1954, 1970, 1978, 1988, 1995, 2002, 2007, and 2020 were obtained from the York Region Interactive Map. Copies of the aerial photographs are presented in Figures No. 1 to No. 8. A summary of the observed features in the aerial photographs of the Site and its surrounding area are presented in the following table.

Year	Site Property	Study Area
1954	The resolution of the aerial photograph is poor	The resolution of the aerial photograph is poor
	The Site appeared to be vacant or for agricultural use	A majority of the study area appears to be vacant or for agricultural use
	Weston Road crosses the west portion of the Site. Highway 400 crosses the east portion of the site	Residential houses and agricultural facilities appeared to be scattered throughout the Study Area
	Likely building structures can be observed on the southwest corner of the Site on both sides of the Weston Road	
1970	The resolution of the aerial photograph is very poor	The resolution of the aerial photograph is very poor
	Similar to the 1954 aerial photograph	Development, potentially agricultural facilities, appeared on the east portion of the Study Area
	A creek (Black Creek) can be observed running north/south on the west side of the site and east of Weston Road	Some development and or construction activity can be observed in the south portion of the Study Area
1978	The resolution of the aerial photograph is very poor	The resolution of the aerial photograph is very poor
	Similar to the 1970 aerial photograph	Similar to the 1970 aerial photograph
1988	The likely building structures at southwest corner of the Site were demolished	Ongoing residential subdivision construction was observed in the west and southwest portions of the Study Area with Conti Crest, Valeria Blvd, and 5 <sup>th</sup> Ave labelled on the figure
	Commercial or industrial structures and development appeared along the south boundary of the Site east of Weston Road	
	The land along the west boundary of the Site has been cleared for development	Development and or construction activities in the south portion of the Study Area
1995	Residential subdivision appeared along the west boundary of the Site west of Weston Road	Residential subdivision was developed at the west portion of the Study Area with Topper Crt, Browniee Ave, Velmar Dr., Kingsnorth Blvd, and Mellings Dr. labelled on the figure
	Flushing Ave and Astona Blvd were labelled on the figure	
	The land just east of Weston Road within the Site appeared developed	Ongoing commercial and or industrial developments in the south and southeast portions of the Study Area

Year	Site Property	Study Area
2002	The resolution of the aerial photograph is poor.	The resolution of the aerial photograph is poor
	Similar to the 1995 aerial photograph	Village Green Dr, Windrose Dr, and Lipa Dr were labelled on the figure in the northwest corner of the Study Area where the residential subdivision continues to be expanded
		Ongoing commercial and or industrial developments in the south and southeast portions of the Study Area. Westcreek Dr, Creditview Rd, Edgedley Blvd and Cornstate Ave were labelled on the figure
2007	Fishermens Way and Bass Pro Mills Drive were labelled on the figure	A commercial mall appeared in the northeast portion of the Study Area
	Commercial developments appeared in the east portion of the Site	Commercial development appeared in north portion of the Study Area along Weston Rd
	Addition of a Highway 400 southbound entrance ramp from Bass Pro Mills Drive and a northbound exit ramp to Fishermans Way	Four Valley Dr was labelled on the figure where commercial or industrial developments continue in the east and southeast portion of the Study Area
	A pond appeared at the center portion of the south boundary of the Site and surrounded by what appears to be a wetland	The on-site potential wetland along the south-central boundary of the Site extends beyond the Site into the Study Area
	A tributary of Black Creek runs approximately east to west across the center of the Site connecting the potential wetlands to Black Creek	Additional residential units can be observed on the northwest corner of the Study Area
	A second pond appeared at the northwest corner of the Site surrounded by the Highway 400 entrance ramp	
2020	A commercial or industrial building appeared in the southeast portion of the Site	Additional commercial or industrial buildings appeared in the east and southeast portion of the Study Area
	A portion of the development just east of Weston Road has been demolished	
	The pond along the south boundary of the Site has decreased in size	

### 3.2 Local Physiographic, Geological, Geotechnical and Hydrological Information

As shown on Drawing No. 2, the Site is located within the physiographical regions of the Peel Plain in an area comprised of Bevelled Till Plains according to the “Physiography Map of South Central Portion of Southern Ontario” prepared by the Ontario Department of Mines and Northern Affairs, and based on the database maintained by Ontario Geological Survey (“OGS”).

Surficial geology of the Site and the surrounding area is shown on Drawing No. 3, obtained through the surficial geology information database maintained by OGS. The Site and its surrounding area are located in an area covered with clay to silt-textured till, coarse- and fine-textured glaciolacustrine deposit and modern alluvial deposits.

Based on the “Bedrock Geology of Southern Ontario”, and the database maintained by OGS, the bedrock beneath the Site consisted of the Upper Ordovician shale, limestone, dolostone and siltstone, as shown on Drawing No. 4.

The Site is located within the boundary of the Black Creek Subwatershed in the Humber River Watershed, under the jurisdiction of Toronto and Region Conservation Authority (“TRCA”). Black Creek, located within the west central portion of the Site, runs southerly and drains into Lake Ontario about 22 km southwest of the Site. In addition, a tributary of Black Creek runs approximately east/west across the center of the Site. A copy of the watershed and subwatershed maps are included in Appendix A. The flood plain of the Black Creek is shown in Drawing No. 5.

As shown on Drawing No. 6, the east portion of the Site slopes towards the southwest with the elevations changing from 214 m above sea level (“mASL”) to 206 mASL. The elevation of the west portion of the Site ranges from 211 mASL to 206 mASL. The shallow groundwater flow at the Site is expected to flow in a general direction of southwest, towards Black Creek.

Based on the data obtained from the Natural Heritage Areas database maintained by Ministry of Natural Resources and Forestry (“MNRF”), the woodlands located north of the Site within the Study Area are considered as a feature pertaining to the Natural Heritage System. The on and off-site wetlands observed in the aerial photos were not indicated as a wetland or part of a TRCA regulated area according to TRCA Regulated Mapping online interactive map or the MNRF Natural Heritage Areas online interactive map. The wetlands, however, appear to be headwater feature as they are connected to Black Creek through the on-site tributary. A copy of the Natural Heritage Areas Map is included in Appendix B and a copy of the TRCA Regulated Areas is included in Appendix E.

### **3.3 Ministry of the Environment, Conservation and Parks (MECP) Water Well Records**

A search of the Ministry of the Environment, Conservation and Parks Water Well Records (“MECP WWR”) database was conducted focusing on the area within a 500 m radius of the Site. A total of thirty-five (35) water well records were found. Seven (7) were recorded for domestic use, five (5) were recorded as monitoring and test holes, seven (7) were recorded as test holes, nine (9) were recorded as not used, and seven (7) were recorded as unknown use. The locations of the MECP water wells are shown on Drawing No. 6. A summary of water well records is included in Appendix C and presented in the following table.

### MECP Water Well Record Summary Table

Type of Well Record	Number of Record
Domestic	7
Monitoring and Test Hole	5
Test Hole	7
Not Used	9
Unknown Use	7
<b>Total</b>	<b>35</b>

Based on the water well records, water was found at the depths ranging from about 3.0 meters below ground surface (“mBGS”) (Well ID 7339982) to 61.0 mBGS (Well ID 6911886 and 6915407) in overburden deposits or bedrock. The soils in the Study Area generally consist of a loam topsoil and or fill materials underlain by cohesive clayey soils, cohesionless silty/sandy/gravelly soils, and till deposit. Shale bedrocks were encountered at the depths ranging from 55.5 mBGS (Well ID 6911696) to 56.4 mBGS (Well ID 6915407). No wells were presented in close proximity to the Ministry of Transportation bridge over Highway 400 based on the MECP WWR; as such, the localized water levels and stratigraphy may vary. In addition, the MECP WWR coordinate data may not be accurate based on our previous experiences, as such, the wells plotted on the drawing should be considered as reference only.

#### 3.4 Highly Vulnerable Aquifer (“HVA”)

Based on the Ontario Source Protection Information Atlas, the southeast corner of the Site is located in an area with a Highly Vulnerable Aquifer (“HVA”) as delineated according to Technical Rules under the Clean Water Act.

In general, a HVA consists of source granular aquifer materials or fractured rock. HVAs have a high permeability and are exposed near the ground surface with a relatively shallow water table. HVAs are vulnerable to contaminants which can migrate into and through the aquifer quickly, thus impacting water quality.

#### 3.5 Wellhead Protection Area (“WHPA”) (Water Quality)

Based on the Ontario Source Protection Information Atlas, the Site and its neighboring properties are not located within a municipal Wellhead Protection Area (“WHPA”).

WHPAs are areas designated for protection surrounding a municipal well. WHPAs may be subject to a variety of additional water quality management measures under Ontario regulations.

#### 3.6 Wellhead Protection Area-Q (“WHPA-Q”) (Water Quantity)

Based on the Ontario Source Protection Information Atlas and CTC Source Protection Region, the Site and its neighboring properties are located within a municipal Wellhead Protection Area Q1

and Q2, where taking water without returning it to same source and reductions in recharge may be a threat.

Any water taking activities within a WHPA-Q should return the same amount of water into the aquifer and maintain pre-development recharge to the greatest extent feasible through best management practices such as, Low Impact Development (“LID”), minimizing impervious surfaces, and lot level infiltration. Where pre-development recharge cannot be maintained on site, implementing and maximizing off-site recharge enhancement (within same WHPA-Q2) to compensate for any predicted loss of recharge from development should be considered.

### **3.7 Intake Protection Zone (“IPZ”)**

Based on the information obtained from the Ontario Source Protection Information Atlas, the Site is not located within a water intake protection zone (“IPZ”).

### **3.8 Significant Groundwater Recharge Area (“SGRA”)**

Based on the Ontario Source Protection Information Atlas, the Site is not located within a Significant Groundwater Recharge Area (“SGRA”).

#### 4.0 SITE RECONNAISSANCE

Visual inspection of the Site and the Study Area was conducted by an engineer of GeoPro on March 8, 2021. The site-walk observations were summarized as follows:

- The Site is situated in a future development zone between Highway 400 and Weston Road. The Site is predominantly of grassland properties with a few business establishments within the site area. Residential and/or commercial properties were observed East of Highway 400 and West of Weston Road.
- A creek (Black Creek) was observed running North to South on the West end of the Site then turns East towards Highway 400.
- Catch basins, pipe culverts and manholes were observed along Weston Road, West of site.
- A pond was observed East of site located at the Northwest corner of Bass Pro Mills Drive and Highway 400.

In addition, a landscaping supply store and topsoil supplier facilities which may result in environmental concerns were observed within the Study Area and are summarized below:

- Weston Garden Center at 9011 Weston Road located Northwest of Site.
- Vaughan Garden Centre Ltd/My Disposal Bins and My Big Dirt Bag at 8955 Weston Road located West of Site.

#### 4.1 Site Feature Observations

Based on the Ontario Source Protection Information Atlas and aerial photographs for the Site, two ponds without names are located within the Site, one at the southern central portion of the Site and the other at the northwest corner of Bass Pro Mills Drive and Highway 400. However, only the pond located at the northwest corner of Bass Pro Mills Drive and Highway 400 was observed at the Site during the Site walk-by.

No gas stations, auto garages (auto service shops) or dry cleaners which may result in environmental concerns were observed on or near the Site.

The site walk-by photos are included in Appendix F.



## 5.0 PRELIMINARY GEOTECHNICAL AND HYDROGEOLOGICAL INPUT

The following section of this desktop study report provides preliminary geotechnical and hydrogeological comments regarding the suitability of the site for the proposed development, as well as potential constraints to development, from a geotechnical and hydrogeological engineering perspective. The preliminary comments provided herein are based only on the available subsurface data available in the vicinity of the site, previously published information, site reconnaissance, our experience on similar projects, and our understanding of the project requirements.

### **Summary of the Anticipated Subsurface Conditions**

Based on the assessment of the available hydrogeological and geotechnical information, the local surficial geology information and the site reconnaissance, the subsurface soil and bedrock conditions at the site are anticipated to consist of fine textured glaciolacustrine deposits of clayey/silty/sandy/gravelly soils and clay to silt textured till. It should be noted that cobbles and boulders are usually anticipated within the glacial tills. The shallow groundwater flow at the site is expected to flow in a general direction towards Black Creek.

### **Preliminary Geotechnical and Hydrogeological Input**

1. The new pavement structure thickness should be based on the anticipated traffic volumes on the road section, type and strength of subgrade soils and the City of Vaughan Design Guidelines. The recommended pavement materials are Hot-Mix Asphalt (OPSS1150/OPSS 1151) and Granular A Material (OPSS 1010) as base/subbase course. Existing topsoil, organic matter and any deleterious materials need to be completely removed to the depth required to accommodate the new pavement structure.
2. Provisions for drainage improvements are recommended to control surface water. Subdrains should be designed and constructed in accordance with OPSS or local municipality specifications, and the subdrain pipe should be connected to a positive outlet. Use of properly constructed side ditch leading to a positive outlet should be considered for the section of roadway.
3. Installation sewer/watermain can be carried out by conventional open trench method. In consideration of the anticipated silty/sandy/granular deposits at shallow depths and anticipated groundwater tables at the site, groundwater seepage may be expected from the wet silty/sandy/granular deposits encountered at the site, which may pose difficulties in the sewer installations.
4. For trenching options, conventional bedding consisting of at least 150 mm of TS 1010 Granular A or 19 mm crusher run limestone material. The thickness of the bedding may, however, have to be increased (i.e. 300 mm to 450 mm) depending on the pipe diameter or in accordance with local standards or if wet or weak subgrade conditions are

- encountered, especially when the soils at the trench base level consists of wet sandy/silty deposits.
5. Where the sewer/watermain lies within the existing roadway allowance, the backfilling and the roadway restoration should be carried out in accordance with the City of Vaughan standard procedures and specifications.
  6. Based on the local geological information, cobbles and boulders are anticipated and the amount of the cobbles and boulder could be significant. Should this be the case, it will pose a great difficulty should any trenchless installation be considered.
  7. Subject to the extent and thickness of the shallow cohesionless silty/sandy deposits and the groundwater tables, the groundwater control may be handled by conventional sump pumping. For the clayey deposits and glacial tills, the groundwater control should be able to be handled by conventional sump pumping. However, should extensive thick cohesionless silty/sandy deposits be present below groundwater, a positive groundwater control measures, such as deep wells and well points would be required. Significant groundwater seepage may be expected at the interface of overburden and shale bedrock.
  8. Proposed LID designs shall consider an overflow outlet in case for large storm event. The subsurface conditions are anticipated to vary, as such, a sufficient factor of safety may be considered by the designer. In addition, it should be noted that for most of LID measures, the bottom of the facility should be set at least 1 m above the highest groundwater tables at the Site.
  9. As discussed previously, an area of HVA is present beneath the Site, which indicates that contaminants could potentially affect the aquifer if contamination occurs at the Site. Also, commercial/industrial properties which may have potential contamination and/or environmental concern was noted to be located close to the Site. Preventative measures such as implementation of safe equipment fueling practices, maintenance of minimum setback distances from all surface water features for refueling/maintenance sites and storage of equipment/chemicals, etc. shall be in place during excavation and construction, and spill management equipment shall be readily available on-site during the project. Any contaminated groundwater should not be discharged at the Site without proper treatment.
  10. All channel crossing designs should comply with relevant regulations and guidelines, including the TRCA channel crossing and modification guidelines.

The information in this portion of the report is provided for the guidance of the proposed development and preliminary design or planning purposes and is not sufficient for detailed design purposes. In this regard, a site-specific intrusive geotechnical and hydrogeological investigation will be required prior to carrying out detailed designs for the proposed development.

## 6.0 LIMITATIONS

This desktop study report was prepared for the exclusive use of the Client. This report is based on data and information collected during the preliminary hydrogeological and geotechnical site assessment (site reconnaissance) of the Site carried out by GeoPro as described above and is based solely on the information reviewed as described herein.

In assessing the Site, GeoPro has relied in good faith on information provided by others as noted in this report. We assume the information is factual and accurate. We accept no responsibility for any deficiency, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretations or fraudulent acts of others.

GeoPro accepts no responsibility for the consequential effects of this report on the real or perceived value of the property, on its saleability, or on the ability to gain financing.

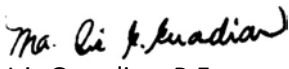
No direct subsurface hydrogeological and geotechnical investigation has been completed by GeoPro at the site. No further studies were conducted to assess the extent or significance of the natural features on the Site. As previously noted, a site-specific geotechnical and hydrogeological investigation must be carried out prior to the detailed design of the proposed development. If new information is discovered during any future work, GeoPro should be requested to re-evaluate the preliminary input presented in this report and provide amendments as required.


## 7.0 CLOSURE


We trust that the information contained in this report is complete within our terms of reference. If you have any questions or require further information, please do not hesitate to contact our office.

Sincerely,

**GeoPro Consulting Limited**

  
Iris Guardian, P.Eng.  
Geotechnical Group

  
Nick Lan  
Hydrogeological Group

  
David Liu, P. Eng., QP  
Principal



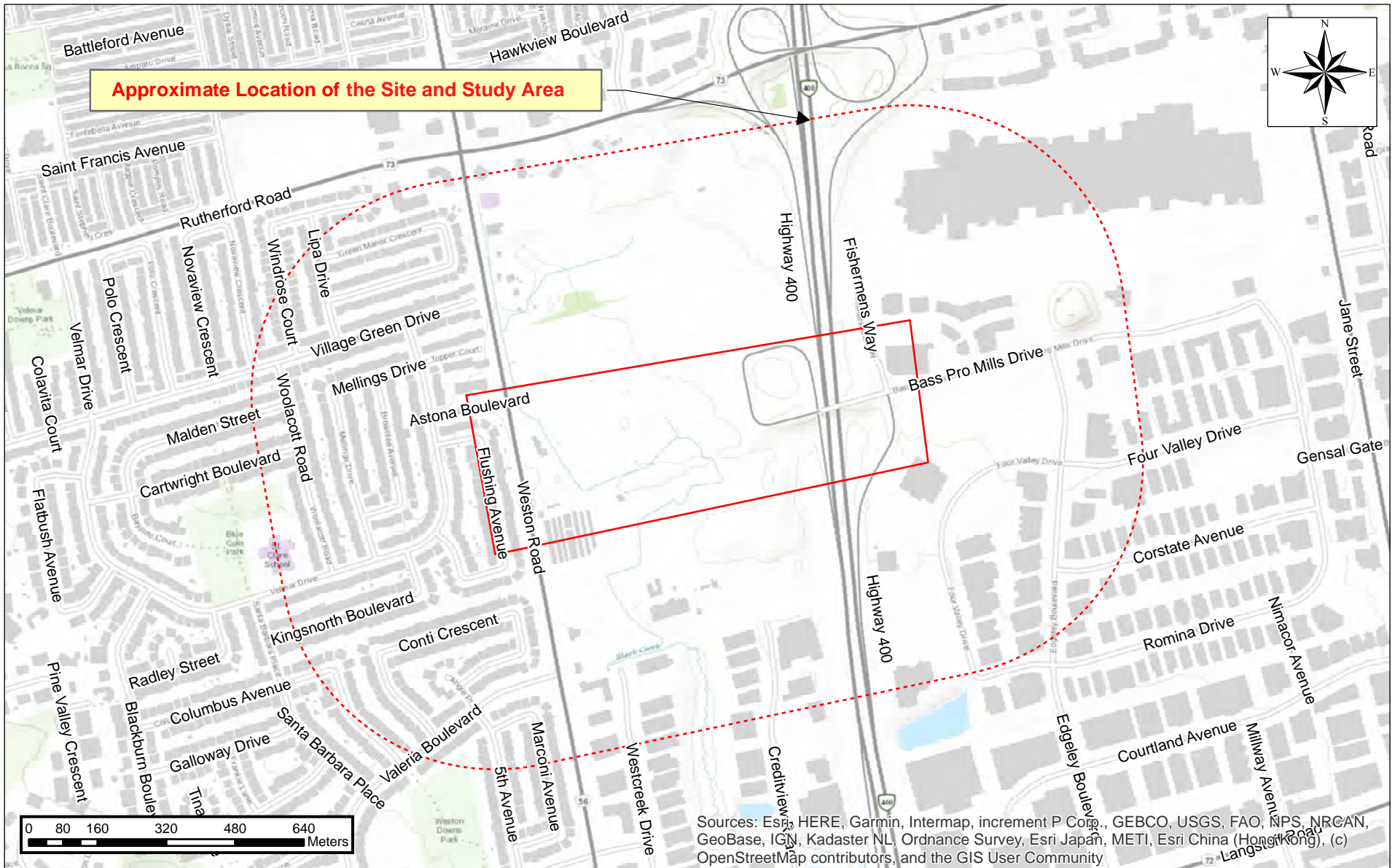





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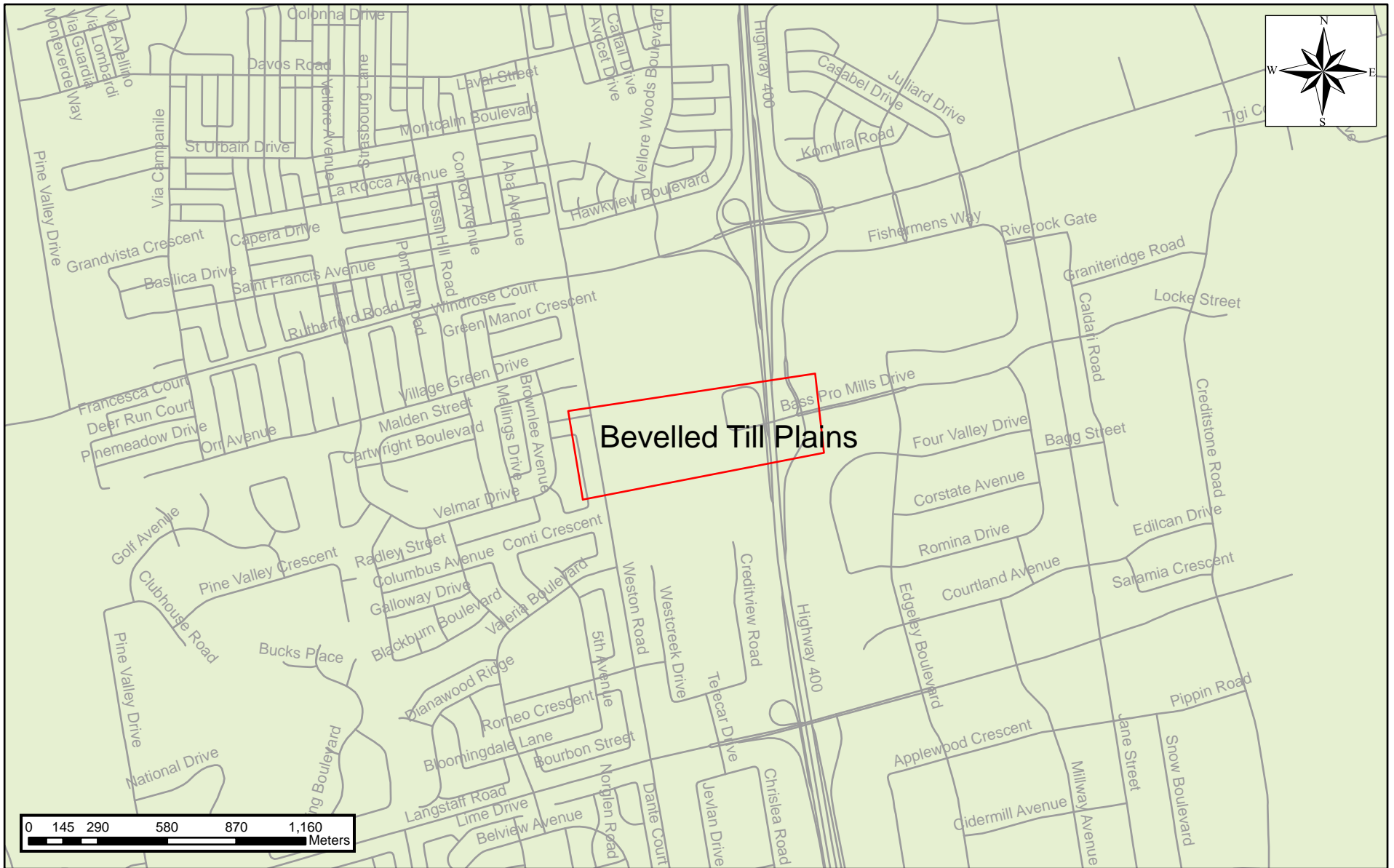
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## **DRAWINGS**

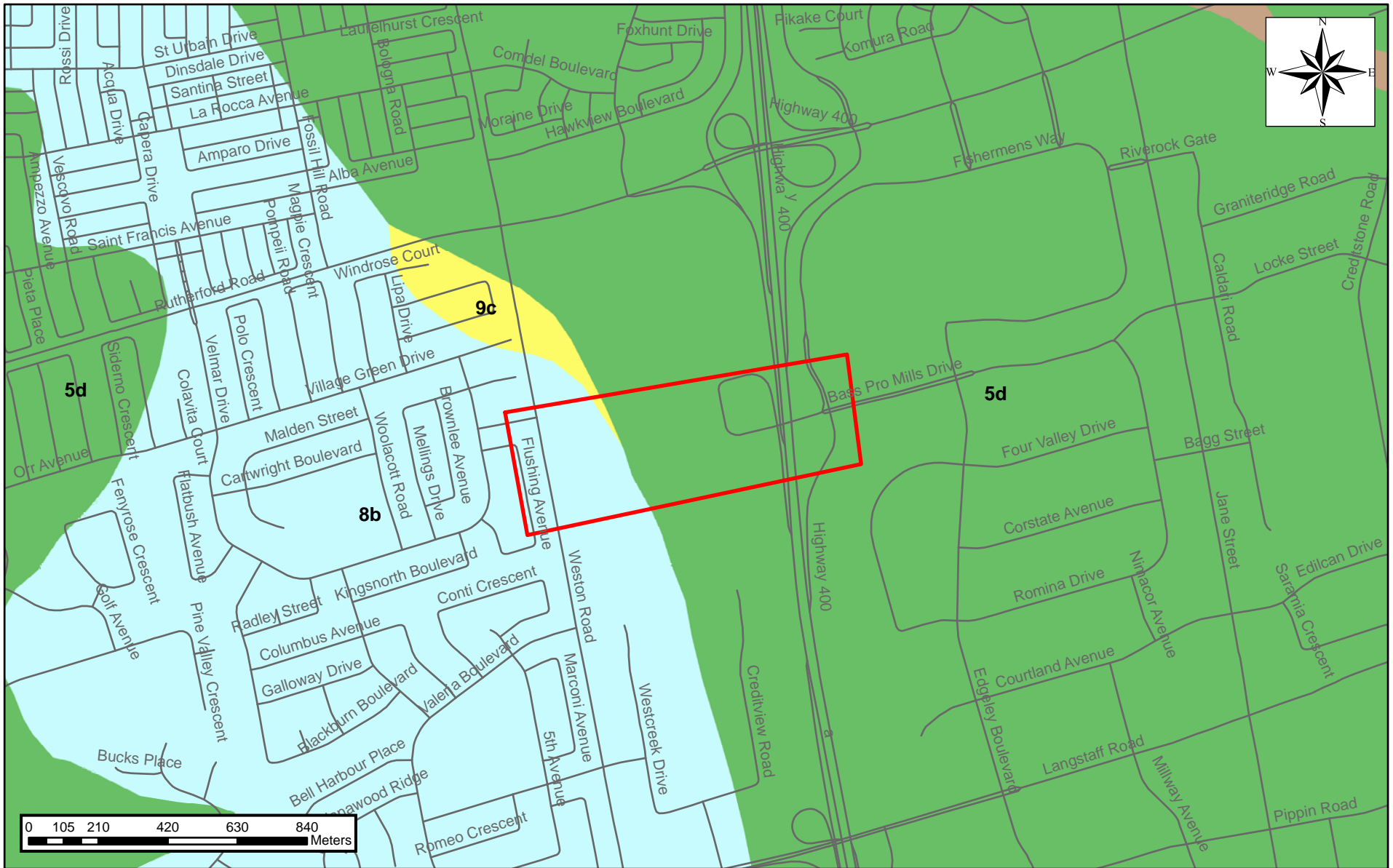


<b>Legend</b>  Site Location  500m Radius from the Site			Map Sources: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 1	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Site Location Plan	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			





<b>Legend</b>  8: Bevelled Till Plains  Site Location			<b>Map Sources:</b> 1. Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release Data 228 2. Natural Resources Canada - Geospatial Data Extraction - Atlas of Canada - Toporama			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 2	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Physiographic Geology	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			



**Legend**

- Site Location
- 9c: Coarse-textured glaciolacustrine deposits: sand, gravel, minor silt and clay, foreshore and basinal deposits
- 5d: Clay to silt-textured till (derived from glaciolacustrine deposits or shale)
- 19: Modern alluvial deposits: clay, silt, sand, gravel, may contain organic remains
- 8b: Fine-textured glaciolacustrine deposits: silt and clay, minor sand and gravel, interbedded silt and clay and gritty, pebbly flow till and rainout deposits




**Map Sources**  
 1. Ontario Geological Survey - Surficial Geology of Southern Ontario  
 2. Natural Resources Canada - Geospatial Data Extraction

Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 3	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Surficial Geology	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

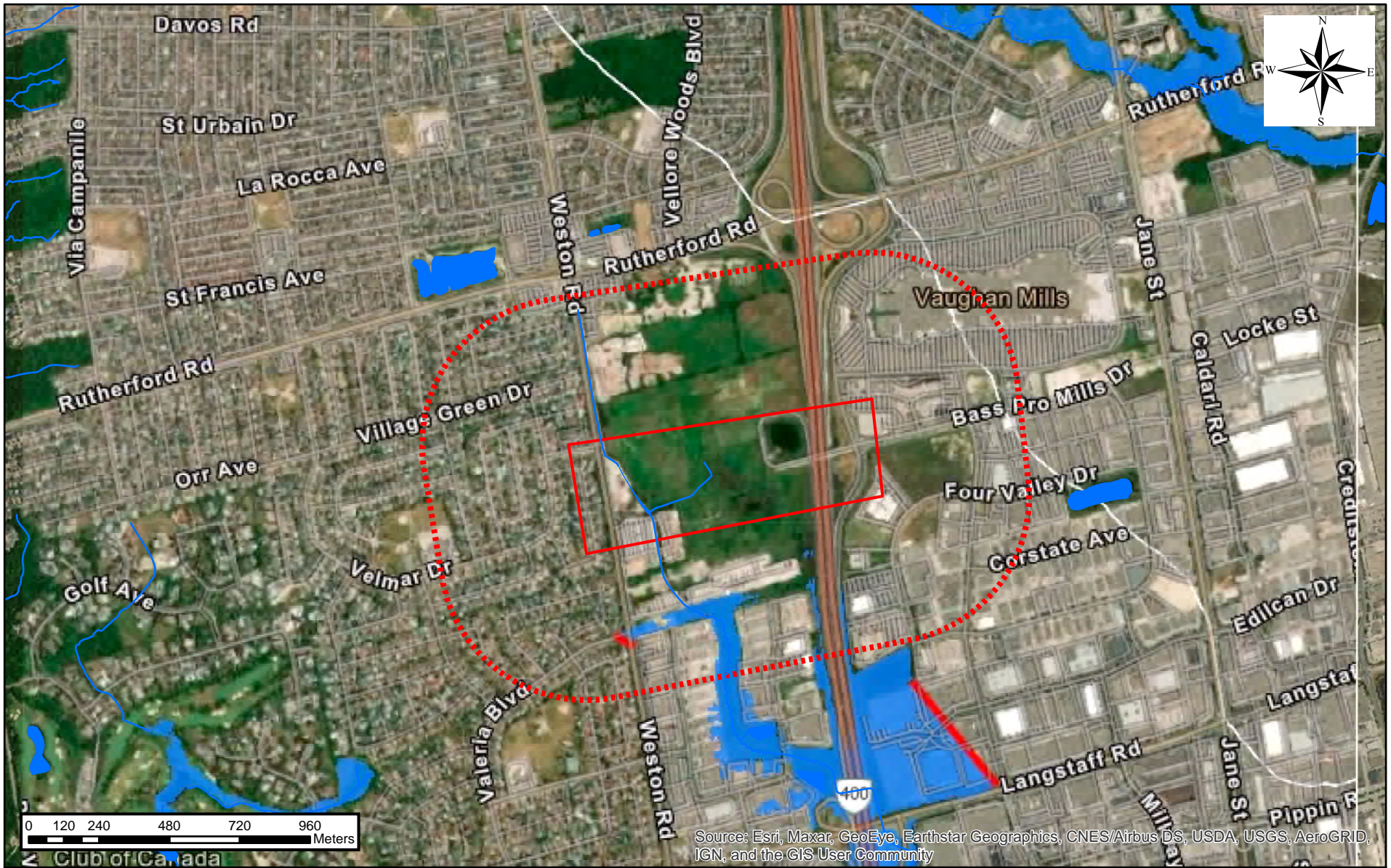




Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

<b>Legend</b>  Site Property  55b: Upper Ordovician, shale, limestone, dolostone, siltstone. Georgian Bay Fm.; Blue Mountain Fm.; Billings Fm.; Collingwood Mb.; Eastview Mb.			<b>Map Sources</b> 1. ArcGIS Basemap - Topographic 2. Ontario Geological Survey - Bedrock Geology of Ontario 3. Natural Resources Canada - Geospatial Data Extraction			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 4	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Bedrock Geology	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

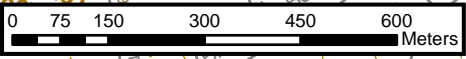
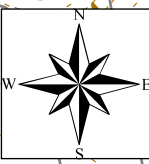
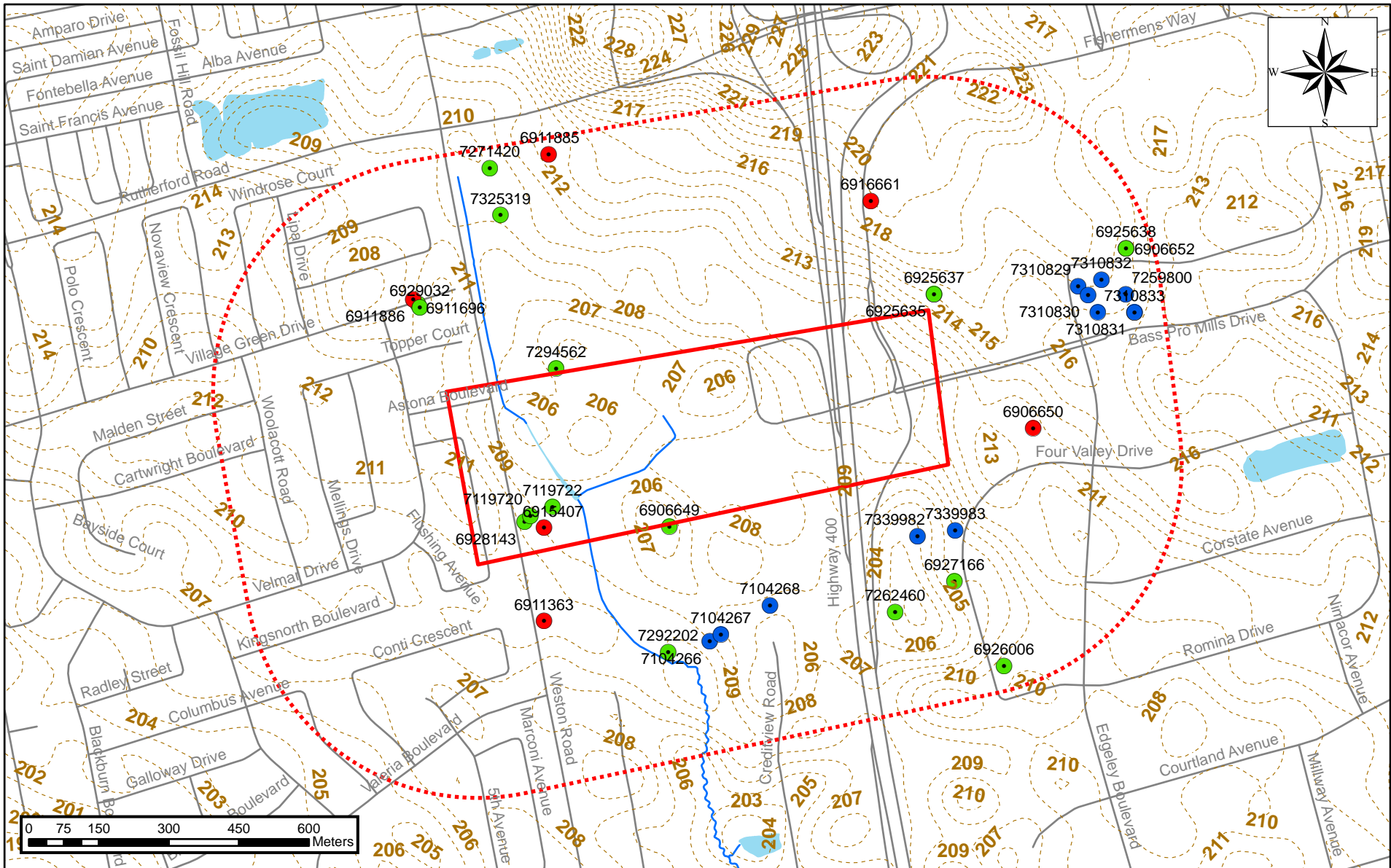




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site Boundary of The Flood Plain		<b>Map Sources:</b> 1. ArcGIS Basemap projected in NAD83 UTM Zone 17N - Imagery 2. Natural Resources Canada - Geospatial Data Extraction 3. Toronto and Region Conservation Authority - Flood Plain Map				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 5	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Flood Plains	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			





<b>Legend</b> Site Property 500m Radius from the Site Waterbody Surface Contour Road Watercourse		<b>Well Type</b> Domestic Monitoring and Test Hole/ Test Hole Unknown/Not Used		<b>Map Sources:</b> 1. Natural Resources Canada - Geospatial Data Extraction - Atlas of Canada - Toporama 2. MECP Water Well Information System	
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Drawing No.: 6
Date: March 2021	Client: Stantec Consulting Limited	Title: MECP Well Location Plan	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario		Original Size: Letter

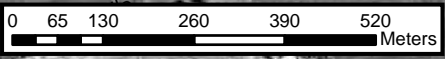


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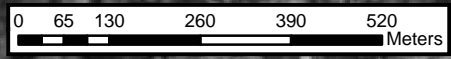
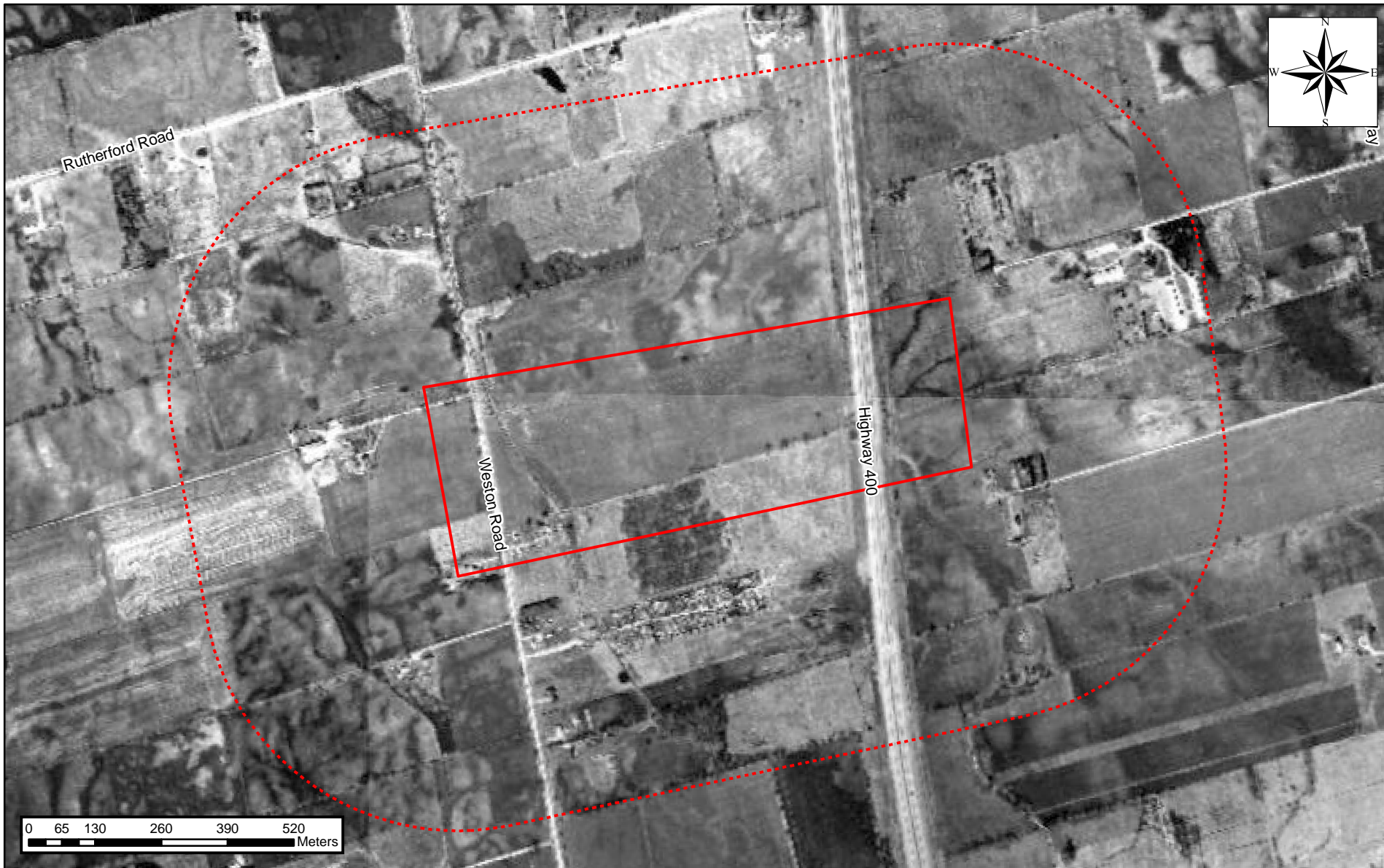
## FIGURES



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b>  Site Location  500m Radius from the Site			Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 1	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (1954)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			





<b>Legend</b> Site Location 500m Radius from the Site			Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps			
Prepared by: TG	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 2	Original Size: Letter
Date: March 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (1970)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site			Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 3	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (1978)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

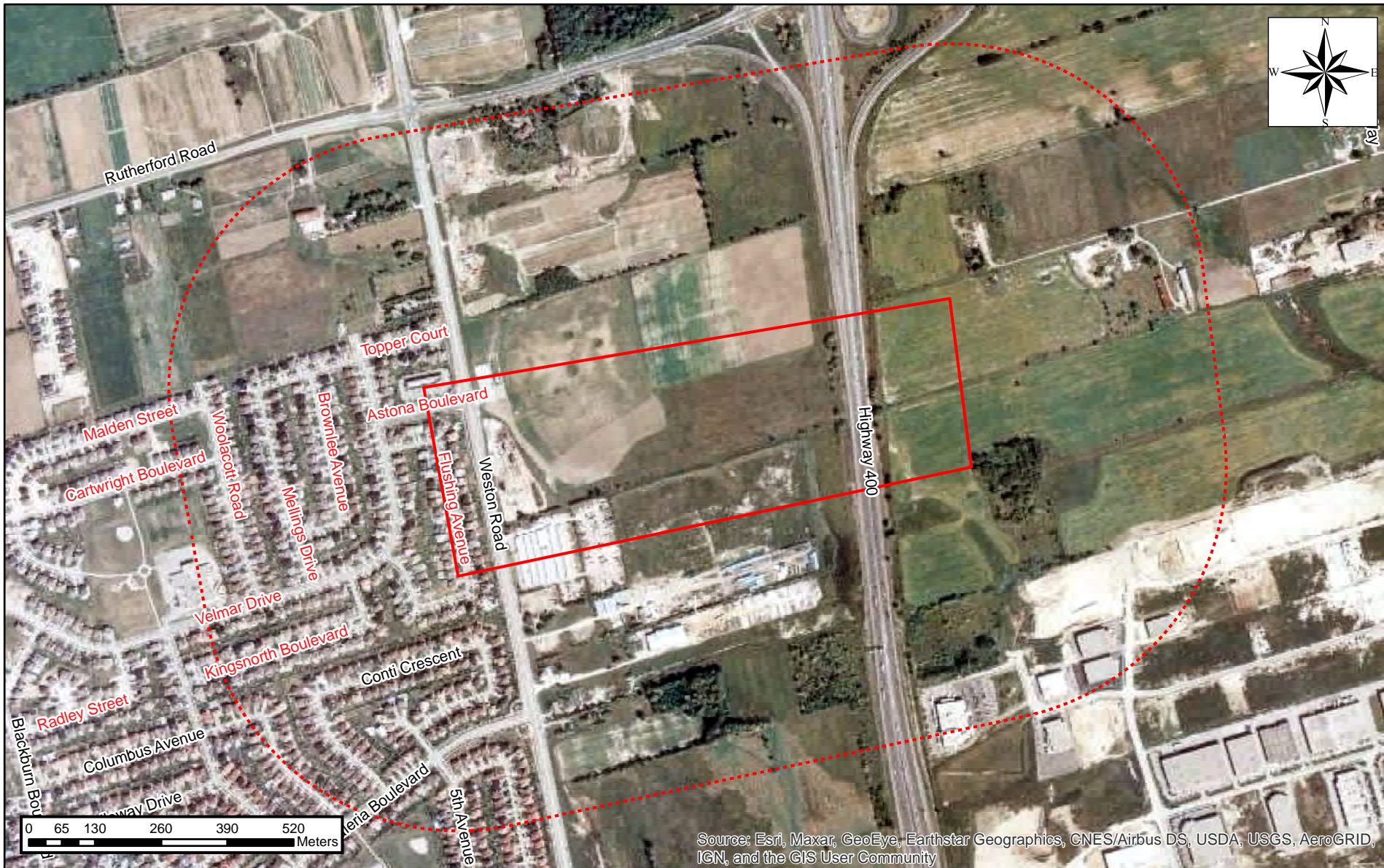




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site <b>Conti Crescent</b> : Name of newly developed road		Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 4	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (1988)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

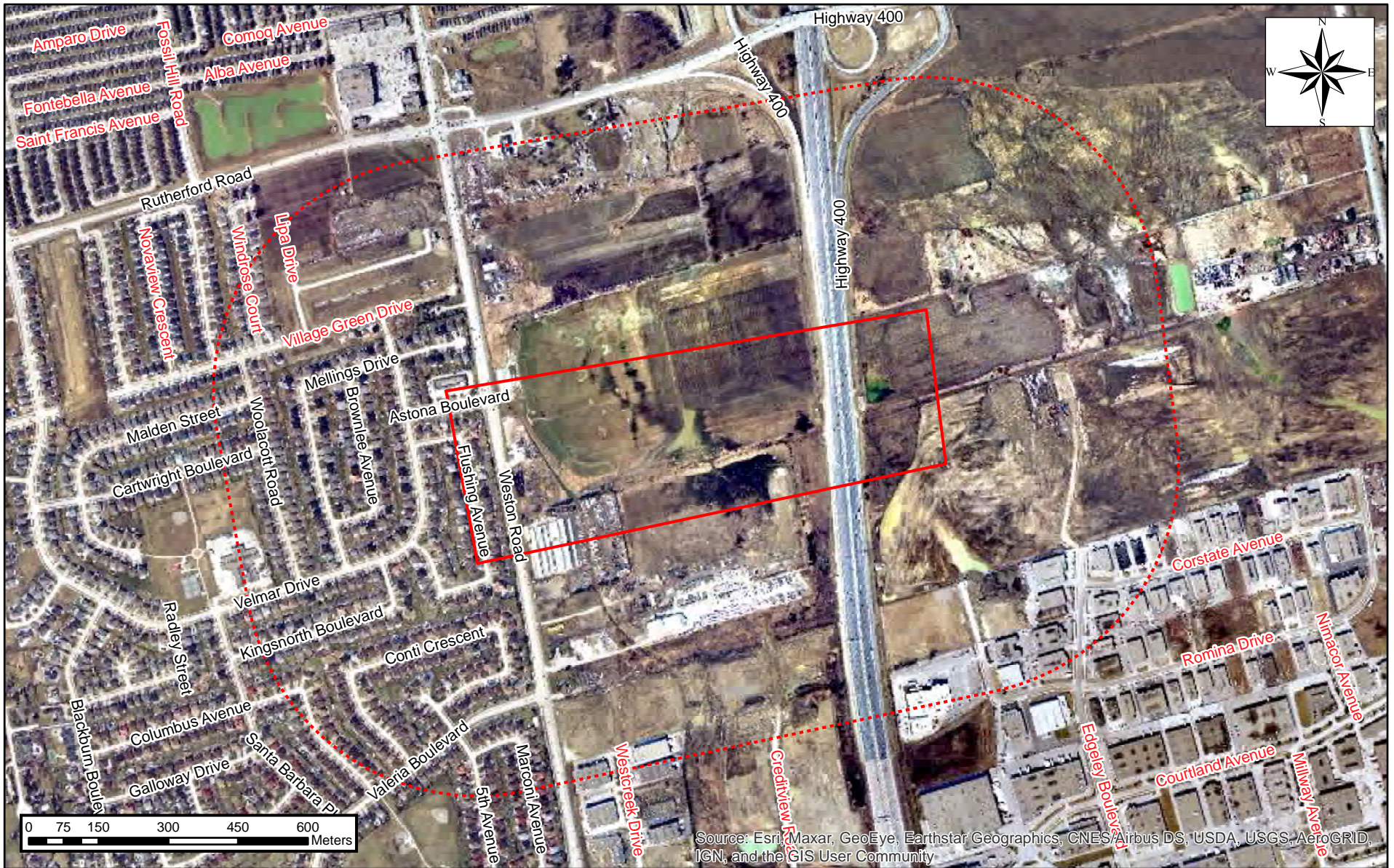




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site <b>Radley Street</b> : Name of newly developed road		Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 5	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (1995)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

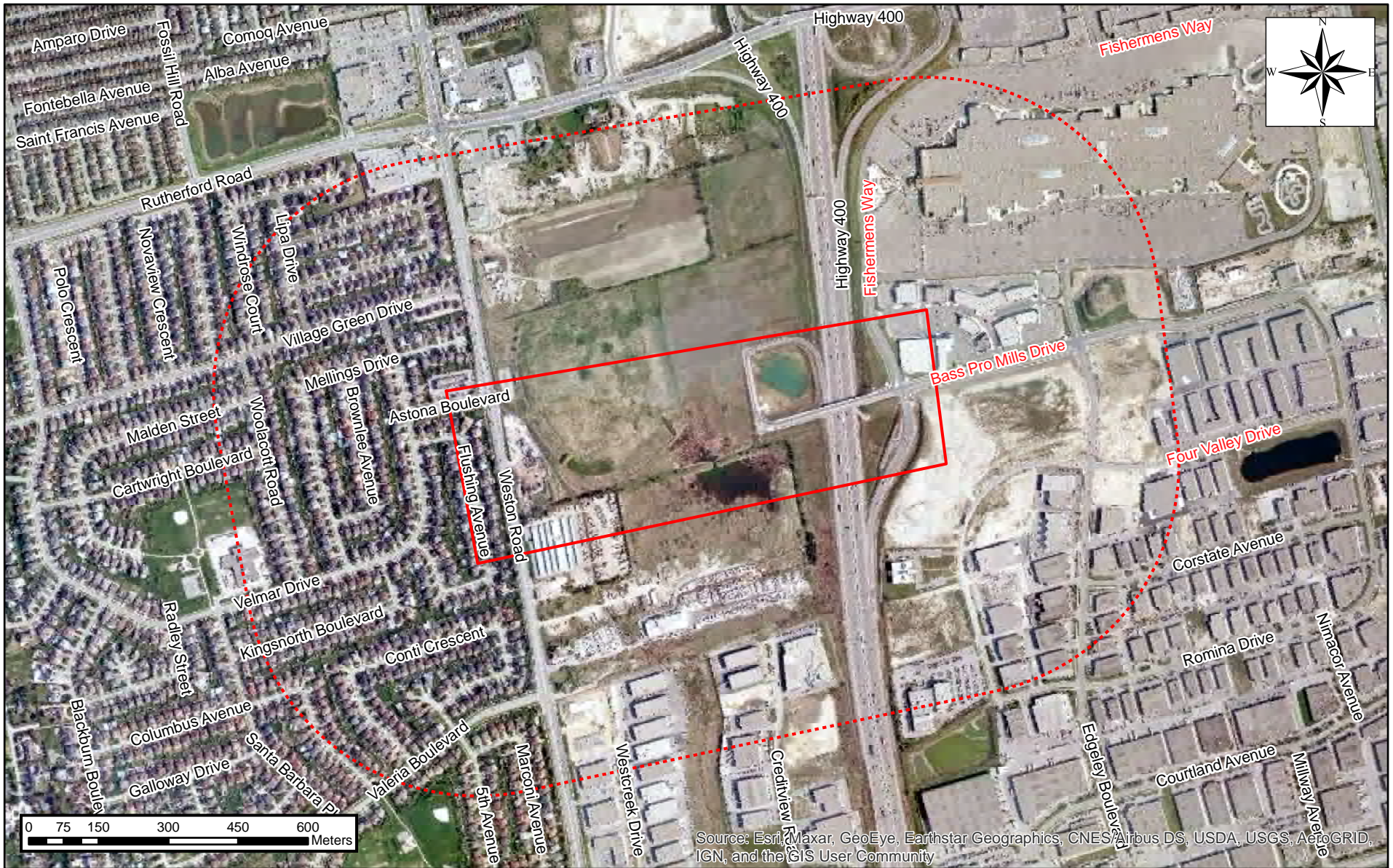




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site <b>Village Green Dr:</b> Name of newly developed road		Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 6	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (2002)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			

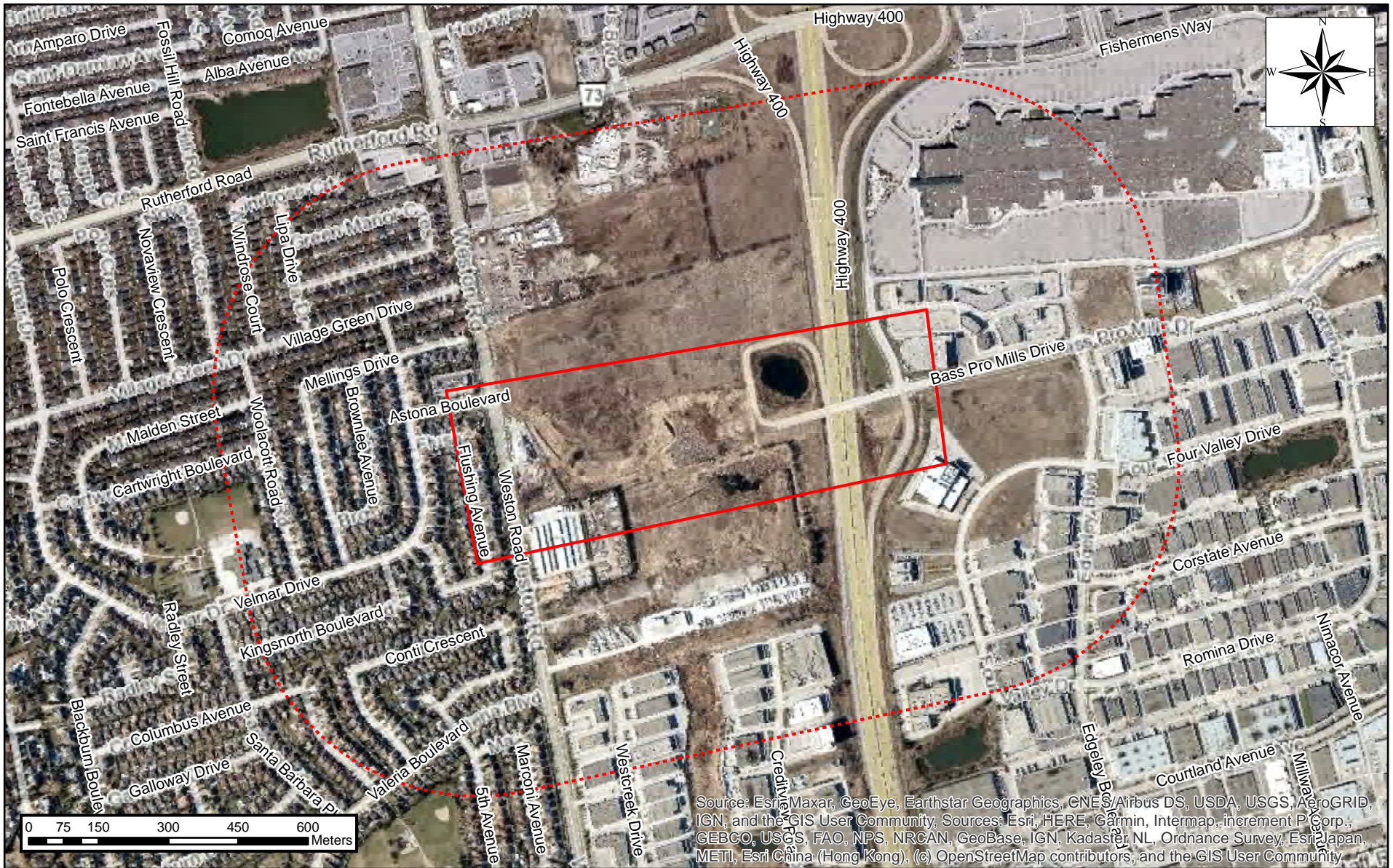




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site <b>Fishermens Way:</b> Name of newly developed road		Map Source: ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic Aerial Photo Source: York Region Interactive Maps				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 7	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (2007)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

<b>Legend</b> Site Location 500m Radius from the Site			<b>Map Source:</b> ArcGIS Basemap projected in NAD83 UTM Zone 17N - Topographic <b>Aerial Photo Source:</b> York Region Interactive Maps			
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Figure No.: 8	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Aerial Photograph (2020)	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			



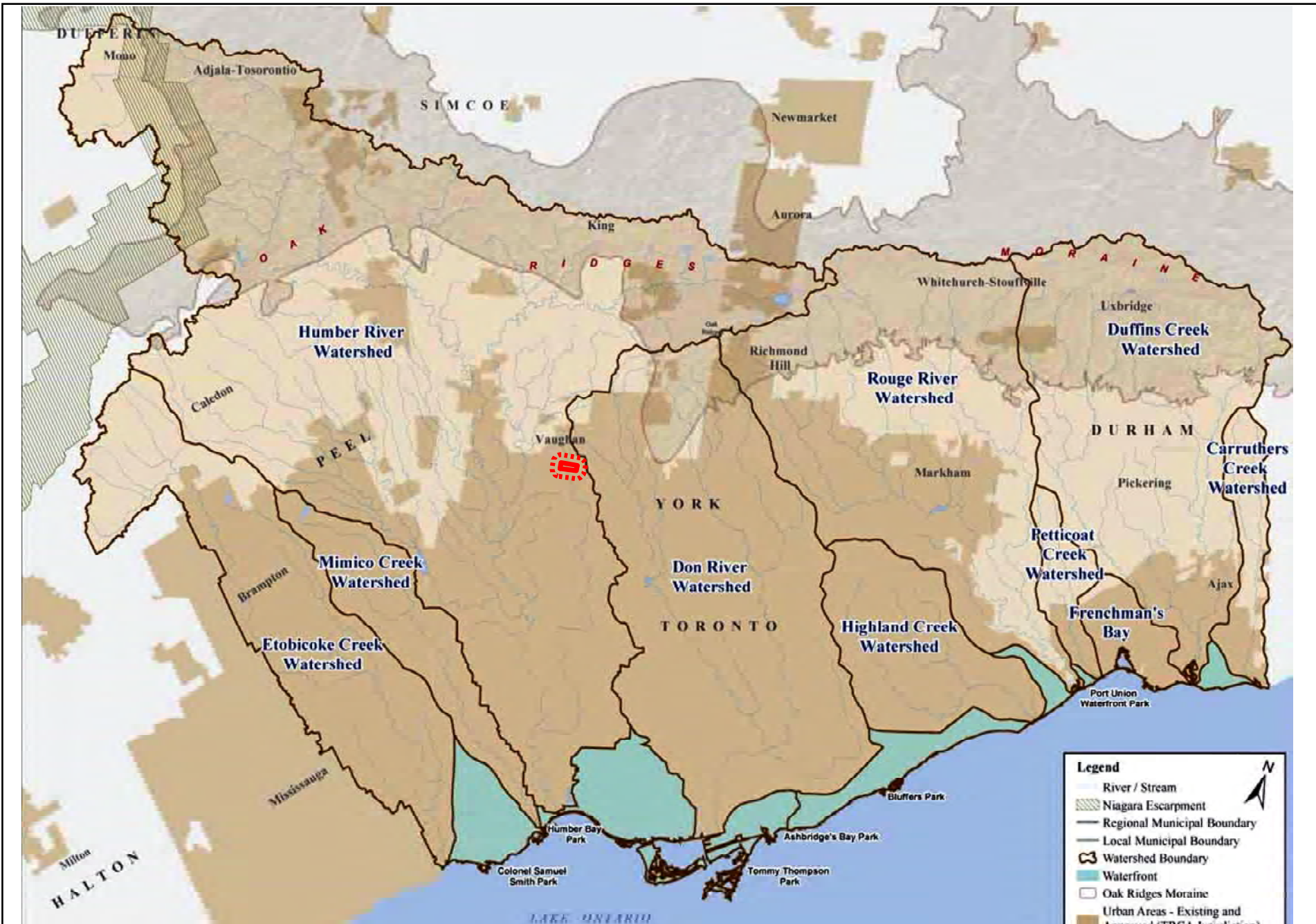
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## **APPENDIX A**





**Legend**

- River / Stream
- Niagara Escarpment
- Regional Municipal Boundary
- Local Municipal Boundary
- Watershed Boundary
- Waterfront
- Oak Ridges Moraine
- Urban Areas - Existing and Approved (TRCA Jurisdiction)
- Rural Areas (TRCA Jurisdiction)

**Legend** Site Location 500m Radius from the Site

Map Source: Toronto and Region Conservation Authority

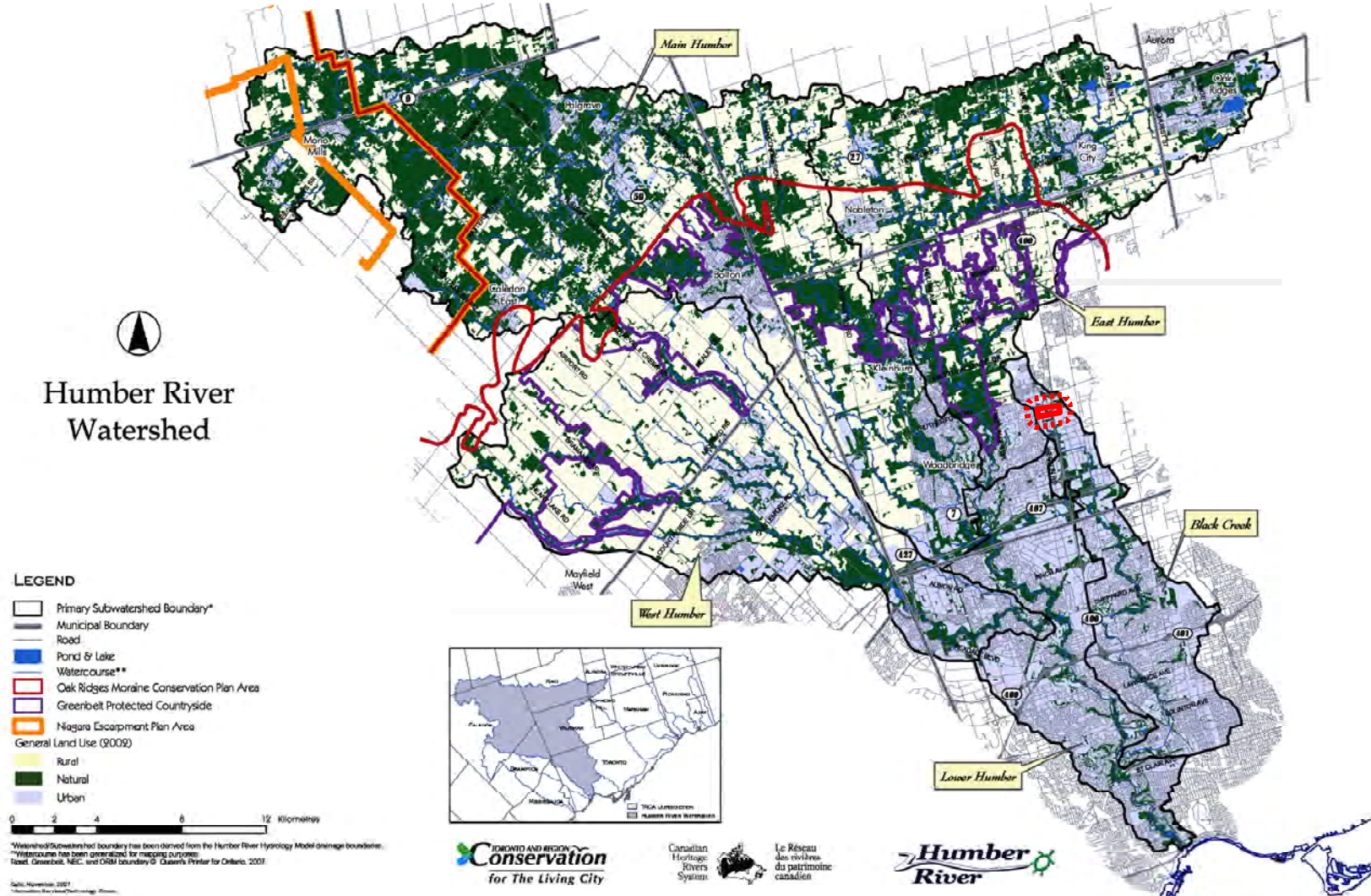
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Appendix A	Original Size: Letter
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Date: February 2021	Client: Stantec Consulting Ltd.	Title: Watershed Map	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			
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Figure 1-2: Study area



<b>Legend</b> Site Location 500m Radius from the Site		Map Source: Toronto and Region Conservation Authority				
Prepared by: BN	Rev: DB	Approved: SC	Scale: As Shown	Project No.: 17-2162GH04	Appendix A	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Subwatershed Map	Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			



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## **APPENDIX B**



**Legend**

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

**Wetland**

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

**Area of Natural Heritage & Scientific Interest (ANSI)**

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

**Greenbelt Plan**

- Boundary
- Greenbelt External Connections

**Land Use Designations**

- Protected Countryside
- Greenbelt Towns and Villages
- Greenbelt Hamlets
- Urban River Valley
- Greenbelt Specialty Crop Area

**Niagara Escarpment Plan (NEP)**

- Boundary
- Parks and Open Space System

**Land Use Designations**

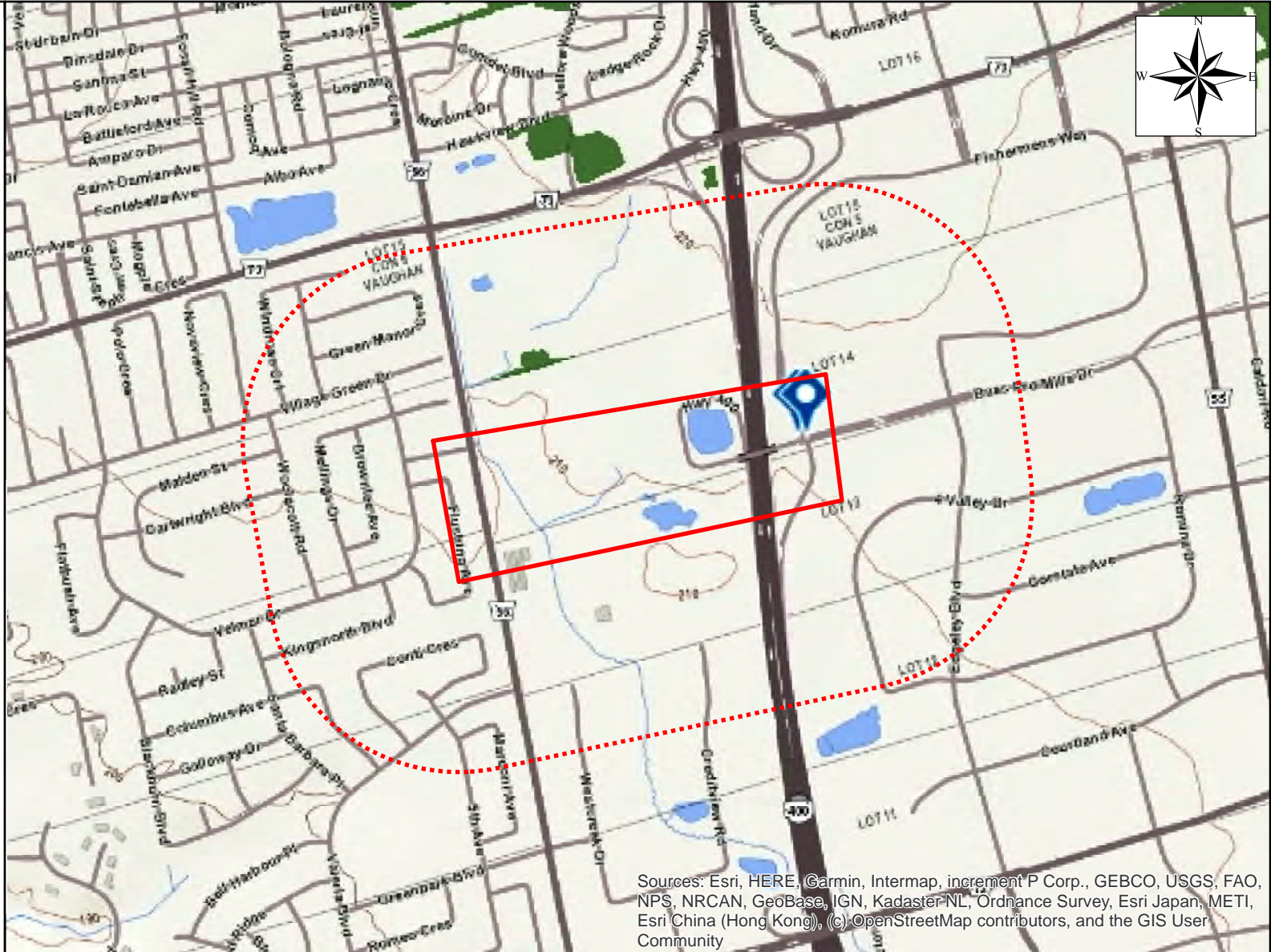
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

**Oak Ridges Moraine Conservation Plan (ORM)**

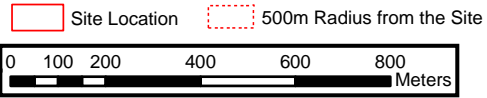
- Boundary

**Land Use Designations**

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster-NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Map Sources:  
 1. ArcGIS Basemap projected in NAD83 UTM Zone 17N  
 2. Ministry of Natural Resources and Forestry - Natural Heritages Areas

Prepared by: BN		Approved: SC		Scale: As Shown	Project No.: 17-2162GH04	Appendix B	Original Size: Letter
Date: February 2021	Client: Stantec Consulting Ltd.	Title: Natural Heritage Areas		Project: Geotechnical and Hydrogeological Desktop Review Bass Pro Mills Drive Extension, Between Highway 400 and Weston Road, Vaughan, Ontario			



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## APPENDIX C

# Water Well Records

March 10, 2021

2:42:26 AM

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
VAUGHAN TOWN (VAUGHA)	17 616799 4852557 W	2008-03 7241	2.04			MT	0009 10	7104268 (Z92114) A048376	BRWN SAND GRVL SOFT 0009 GREY SILT CLAY SOFT 0019
VAUGHAN TOWN (VAUGHA)	17 616694 4852495 W	2008-03 7241	2.04			MT	0009 10	7104267 (Z92116) A048377	BRWN SAND GRVL SOFT 0009 GREY SILT CLAY SOFT 0019
VAUGHAN TOWN (VAUGHA)	17 617480 4853222 W	2018-03 7383	2			TH MO	0015 10	7310830 (Z283465) A239235	FILL SILT CLAY 0025
VAUGHAN TOWN (VAUGHA)	17 617561 4853223 W	2015-11 7230	2.04	FR 0017		MT	0010 10	7259800 (Z230852) A199754	BRWN CLAY SILT PCKD 0006 BRWN CLAY SILT 0007 BRWN SILT SAND DNSE 0018 GREY SAND SILT DNSE 0020
VAUGHAN TOWN (VAUGHA)	17 617067 4852543 W	2015-10 7464						7262460 (C30358) A191958 P	
VAUGHAN TOWN (VAUGHA)	17 616199 4853494 W	2016-07 7215						7271420 (C34136) A206758 P	
VAUGHAN TOWN (VAUGHA)	17 616341 4853065 W	2017-07 7215						7294562 (C37380) A218505 P	
VAUGHAN TOWN (VAUGHA)	17 617501 4853185 W	2018-03 7383	2			TH MO	0015 10	7310828 (Z283466) A239048	FILL SILT CLAY 0025
VAUGHAN TOWN (VAUGHA)	17 617580 4853185 W	2018-03 7383	2			TH MO	0015 10	7310831 (Z283189) A245152	FILL SAND TILL 0025
VAUGHAN TOWN (VAUGHA)	17 617509 4853255 W	2018-03 7383	2			TH MO	0015 10	7310832 (Z283467) A239043	FILL SAND TILL 0025
VAUGHAN TOWN (VAUGHA)	17 617580 4853185 W	2018-03 7383	2			TH MO	0015 10	7310833 (Z283468)	FILL SAND TILL 0025
VAUGHAN TOWN (VAUGHA)	17 616222 4853393 W	2017-10 7437						7325319 (C38267) A227628 P	
VAUGHAN TOWN (VAUGHA)	17 616670 4852480 W	2008-03 7241	2.04			MT	0007 10	7104266 (Z92115) A070199	BRWN SAND GRVL SOFT 0009 GREY SILT CLAY SOFT 0017

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
VAUGHAN TOWN (VAUGHA	17 617459 4853240 W	2018-03 7383	2	0023		TH MO	0015 10	7310829 (Z283464) A239328	FILL SILT CLAY 0025
VAUGHAN TOWN (VAUGHA 06 015	17 616049 4853195 W	2005-06 1663	1.97		71///:	NU		6929032 (Z24746) A	
VAUGHAN TOWN (VAUGHA CON 05 012	17 617300 4852427 L	2001-07 1663				NU		6926006 (Z27437) A	
VAUGHAN TOWN (VAUGHA CON 05 013	17 617363 4852937 W	1962-06 2613	5	FR 0070	6/16/150/8:0	DO ST	0077 4	6906650 ()	YLLW CLAY 0018 SILT 0029 CSND 0070 GRVL 0081
VAUGHAN TOWN (VAUGHA CON 05 013	17 616315 4852523 W	1972-07 5459	30	FR 0025	8///:	DO		6911363 ()	BLCK LOAM 0002 BRWN CLAY 0012 BLUE CLAY 0025 BLUE CLAY SAND 0035
VAUGHAN TOWN (VAUGHA CON 05 013	17 616315 4852723 W	1979-05 1663	5	FR 0200	79/180/4/2:0	DO		6915407 ()	BRWN LOAM 0001 YLLW CLAY SNDY 0012 GREY CLAY 0038 GREY FSND SILT 0045 BLUE CLAY 0160 GREY FSND SILT 0172 GREY CLAY SHLE 0185 BLUE SHLE 0202
VAUGHAN TOWN (VAUGHA CON 05 013	17 616273 4852736 W	2004-06 1663	5.46		67///:	NU		6928143 (Z13098) A	
VAUGHAN TOWN (VAUGHA CON 05 013	17 616584 4852726 W	1961-08 1622	4					6906649 () A	LOAM 0001 BLUE CLAY GRVL 0024 BLUE CLAY 0047 FSND 0053 BLUE CLAY MSND 0140 BLUE CLAY 0150
VAUGHAN TOWN (VAUGHA CON 05 013	17 617196 4852717 W	2019-07 7230	2.04	UT 0013	///:	TH MO	0020 10	7339983 (Z314756) A271694	BRWN FILL SAND SILT 0003 BRWN TILL SAND SILT 0014 BRWN SILT SAND CLAY 0018 BRWN SAND GRVL SILT 0022 GREY CLAY SILT SAND 0030
VAUGHAN TOWN (VAUGHA CON 05 013	17 617115 4852705 W	2019-07 7230	2.04	UT 0010	///:	MT	0020 10	7339982 (Z314757) A271693	BRWN SAND FGVL DNSE 0010 BRWN CLAY TILL GRVL 0014 BRWN SAND SILT DNSE 0026 GREY SILT CLAY GRVL 0030
VAUGHAN TOWN (VAUGHA CON 05 013	17 616286 4852749 W	2008-11 3108				NU		7119720 (Z66952) A	0020
VAUGHAN TOWN (VAUGHA CON 05 013	17 616333 4852768 W	2008-11 3108				NU		7119722 (Z66954) A	0020
VAUGHAN TOWN (VAUGHA CON 05 013	17 616581 4852457 W	2017-07 7215						7292202 (C38914) A230100 P	
VAUGHAN TOWN (VAUGHA CON 05 013	17 617194 4852609 W	2003-05 1663				NU		6927166 (Z53140) A	
VAUGHAN TOWN (VAUGHA CON 05 014	17 617562 4853322 W	2000-10 1663	5			NU		6925638 (Z20125) A	
VAUGHAN TOWN (VAUGHA CON 05 014	17 617151 4853224 L	2000-10 1663				NU		6925637 (Z20126) A	
VAUGHAN TOWN (VAUGHA CON 05 014	17 617151 4853224 L	2000-10 1663				NU		6925635 (Z20128) A	

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
VAUGHAN TOWN (VAUGHA CON 05 014	17 617562 4853322 W	1960-07 4823	5	FR 0076	22/72/9/24:0	DO ST	0096 4	6906652 ( )	LOAM 0001 BRWN MSND 0018 GRVL 0019 CLAY MSND 0050 SILT CLAY 0060 SILT 0076 GRVL 0100 SILT 0101
VAUGHAN TOWN (VAUGHA CON 05 015	17 617015 4853423 W	1982-07 1663	6	FR 0060	24/88/80/1:30	DO	0088 6	6916661 ( )	BRWN LOAM 0001 BRWN CLAY 0012 BRWN FSND MGRD 0024 BLUE CLAY GRVL 0034 GREY FSND 0056 GREY CSND GRVL 0102
VAUGHAN TOWN (VAUGHA CON 05 015	17 616325 4853523 W	1973-10 1663	5	FR 0075	13/82/9/4:0	DO	0081 4	6911885 ( )	BRWN LOAM 0002 YLLW CLAY 0016 BLUE CLAY 0030 BRWN SAND 0033 BLUE CLAY 0039 BLUE CLAY GRVL SILT 0070 GREY MSND 0081 GREY GRVL CSND 0088 BLUE CLAY GRVL 0097
VAUGHAN TOWN (VAUGHA CON 06 015	17 616035 4853213 W	1973-10 1663	5 5	FR 0200	71/195/4/4:0	DO		6911886 ( )	YLLW CLAY 0014 BLUE CLAY 0027 GREY FSND 0029 BLUE CLAY SILT GRVL 0098 BLUE CLAY 0120 BLUE CLAY 0172 BLUE CLAY GRVL 0184 BLUE SHLE 0202
VAUGHAN TOWN (VAUGHA CON 06 015	17 616045 4853203 W	1973-07 1663						6911696 ( ) A	BRWN LOAM 0001 YLLW CLAY STNS 0015 BLUE CLAY GRVL SILT 0044 BLUE CLAY GRVL 0088 BLUE CLAY 0182 BLUE SHLE 0185

Notes:

UTM: UTM in Zone, Easting, Northing and Datum is NAD83; L: UTM estimated from Centroid of Lot; W: UTM not from Lot Centroid  
DATE CNTR: Date Work Completed and Well Contractor Licence Number  
CASING DIA: .Casing diameter in inches  
WATER: Unit of Depth in Fee. See Table 4 for Meaning of Code

PUMP TEST: Static Water Level in Feet / Water Level After Pumping in Feet / Pump Test Rate in GPM / Pump Test Duration in Hour : Minutes  
WELL USE: See Table 3 for Meaning of Code  
SCREEN: Screen Depth and Length in feet  
WELL: WEL ( AUDIT # ) Well Tag . A: Abandonment; P: Partial Data Entry Only  
FORMATION: See Table 1 and 2 for Meaning of Code

**1. Core Material and Descriptive terms**

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLV	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPG	GYPGUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDG	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDY SOAPSTONE		

**2. Core Color**

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GRN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

**3. Well Use**

Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial	MT	Monitoring TestHole
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

**4. Water Detail**

Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		



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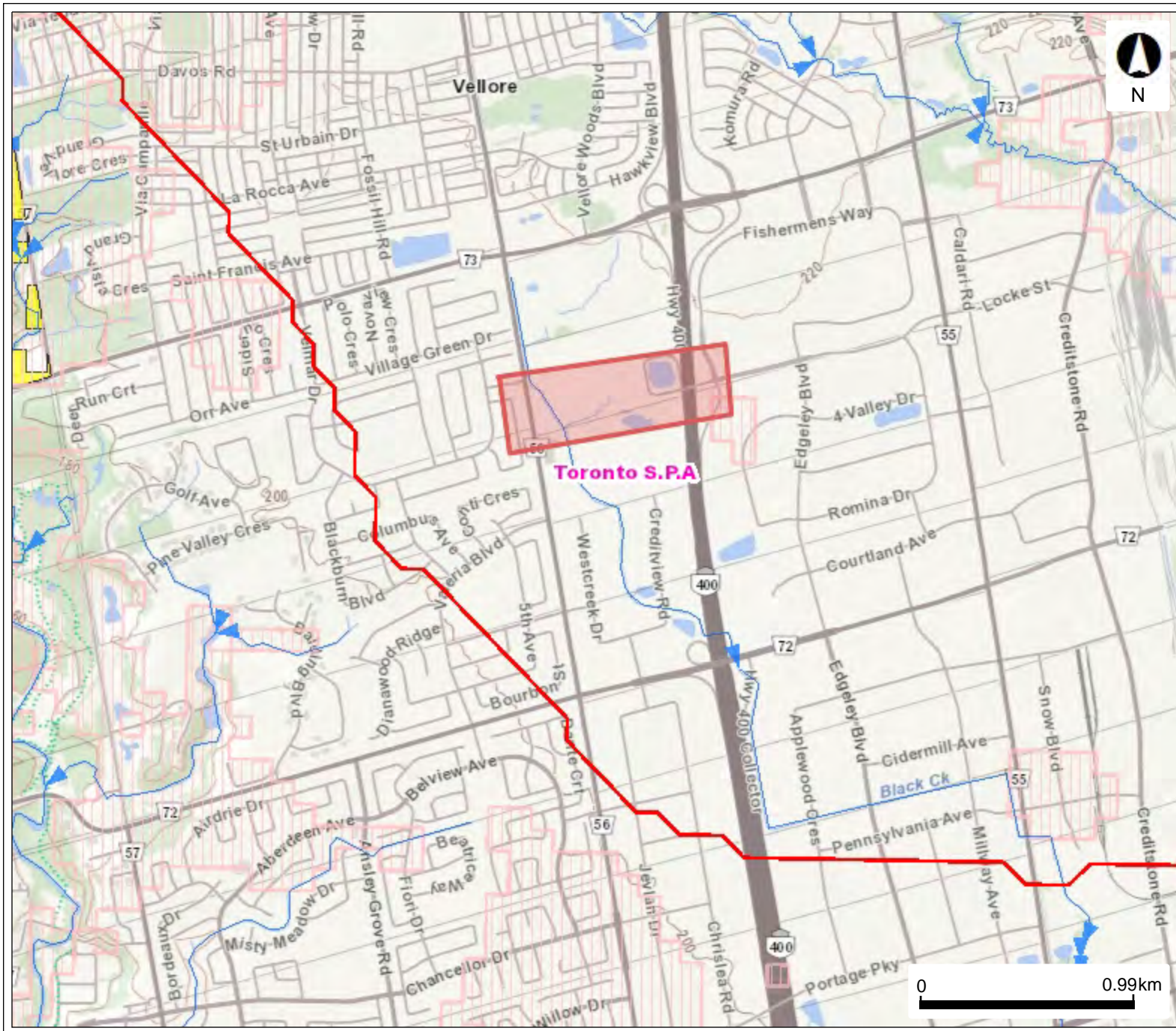
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## APPENDIX D



# Source Protection Information Atlas Map



## Legend

- Niagara Escarpment Plan
- Oak Ridges Moraine
- Source Protection Areas
- Intake Protection Zone Q
- Wellhead Protection Area Q1
- Wellhead Protection Area Q2
- Watercourse Direction
- Highly Vulnerable Aquifers
- Significant Groundwater Recharge Area
  - 0
  - 2
  - 4
  - 6
- WHPA Groundwater Under Direct Influence (WHPA-E)
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Intake Protection Zone 2
- Intake Protection Zone 3

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.





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## APPENDIX E

# Legend

## TRCA Regulation Limit

TRCA Regulation 2020

Toronto Waterfront Screening Area



Regulation Criteria 2020 (small scale)

Crest of Slope



Meander Belt



Unionville Special Policy Area



Lower Don Flood Plain Land Form



Wetlands - Area of Interference



Flood Hazard (Engineered)



Flood Hazard (Estimated)



Wetlands

MNRF Provincially Significant Wetlands



MNRF Locally Significant Wetlands



TRCA ELC and Unevaluated Wetlands



Shoreline Hazard



Regulated Area 2020

Regulated Area 2020 (small scale)



Site Property



Study Area



Map Sources:  
 ERSI World Topographic Map  
 TRCA Regulated Areas Online Map  
 Map Projection:  
 NAD 83 Zone 17 UTM

Project: 17-2162GH04  
 Geotechnical and Hydrogeological  
 Desktop Review  
 Bass Pro Mills Drive Extension,  
 Between Highway 400 and Weston  
 Road, Vaughan, Ontario  
 Client: Stantec Consulting Ltd.

Created by: VC

Approved by: DB

Appendix E

Original Size:  
 8.5" x 11"

Date:  
 July 2021

Title:  
 Conservation Authority  
 Regulated Areas





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## **APPENDIX F**





**Storage Mart: Self-storage facility at 8929 Weston Road, Woodbridge.**



**Vaughan Garden Centre Ltd/My Disposal Bins and My Big Dirt Bag: A topsoil supplier at 8955 Weston Road, Woodbridge.**



**Weston Garden Center: A landscaping supply store at 9011 Weston Road, Woodbridge.**



**Catch basin and manhole observed along Weston Road in the vicinity of Weston Road and Astona Boulevard intersection.**





**Catch basins observed along Weston Road.**



**Pipe culvert observed along Weston Road near RBC Royal Bank at 9101 Weston Road, Woodbridge.**





**Pipe culvert observed along Weston Road in the vicinity of Weston Garden Center.**



**Pond at the Northwest corner of Bass Pro Mills Drive and Highway 400.**