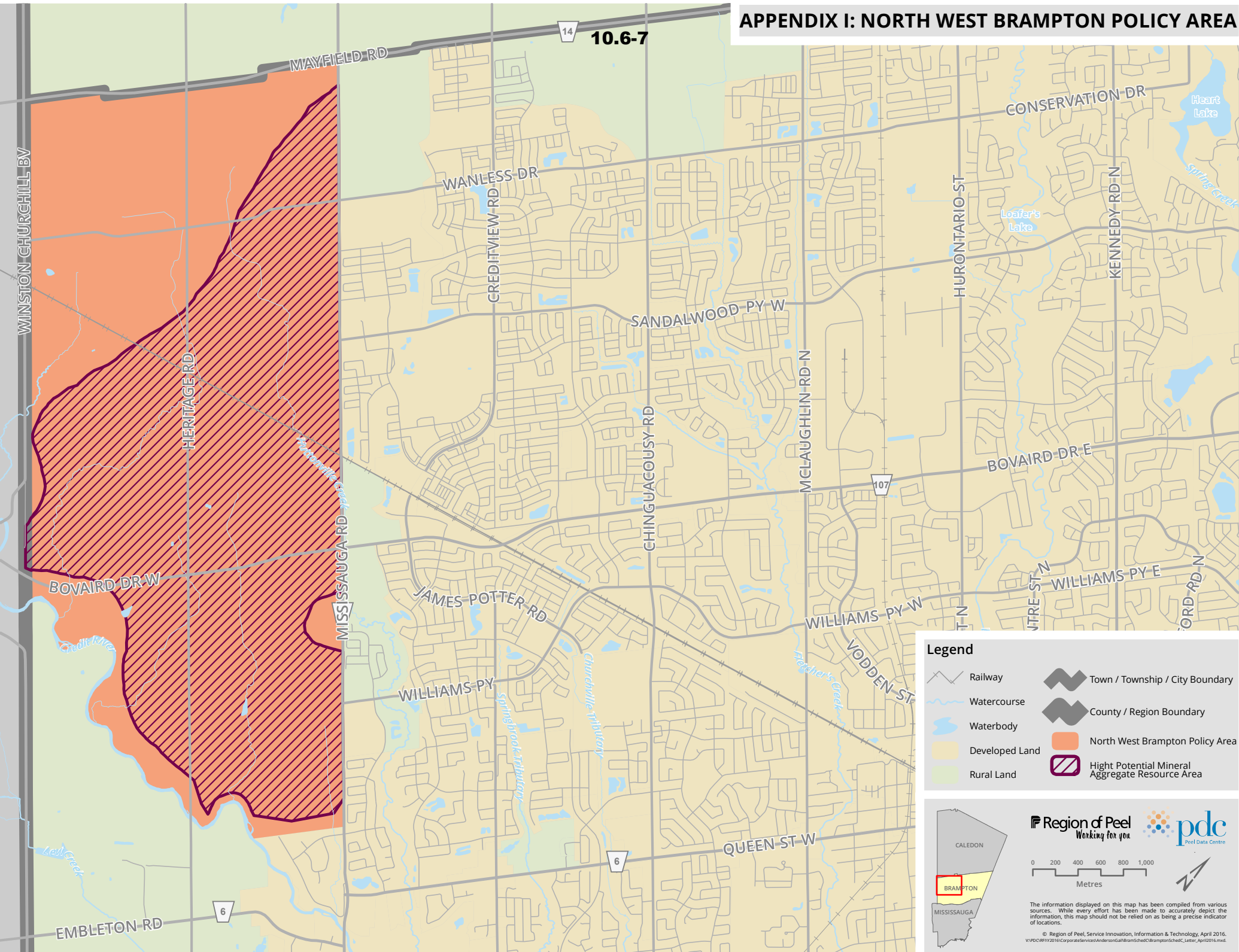


APPENDIX I: NORTH WEST BRAMPTON POLICY AREA



Legend

- Railway
- Watercourse
- Waterbody
- Developed Land
- Rural Land
- Town / Township / City Boundary
- County / Region Boundary
- North West Brampton Policy Area
- Hight Potential Mineral Aggregate Resource Area

Region of Peel Working for you

pdc
Peel Data Centre

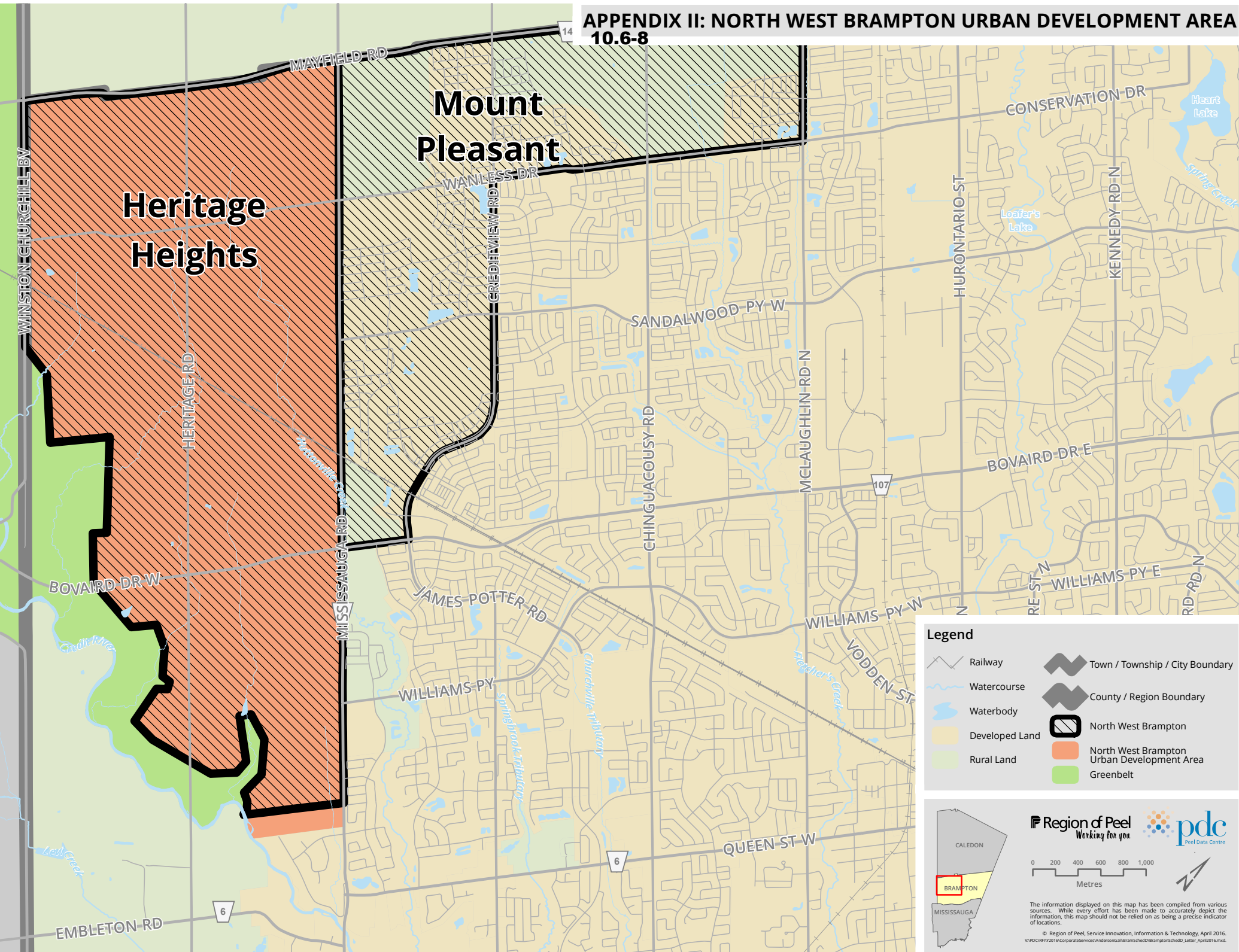
0 200 400 600 800 1,000
Metres

CALEDON
BRAMPTON
MISSISSAUGA

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations.

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**APPENDIX II: NORTH WEST BRAMPTON URBAN DEVELOPMENT AREA
10.6-8**



Legend

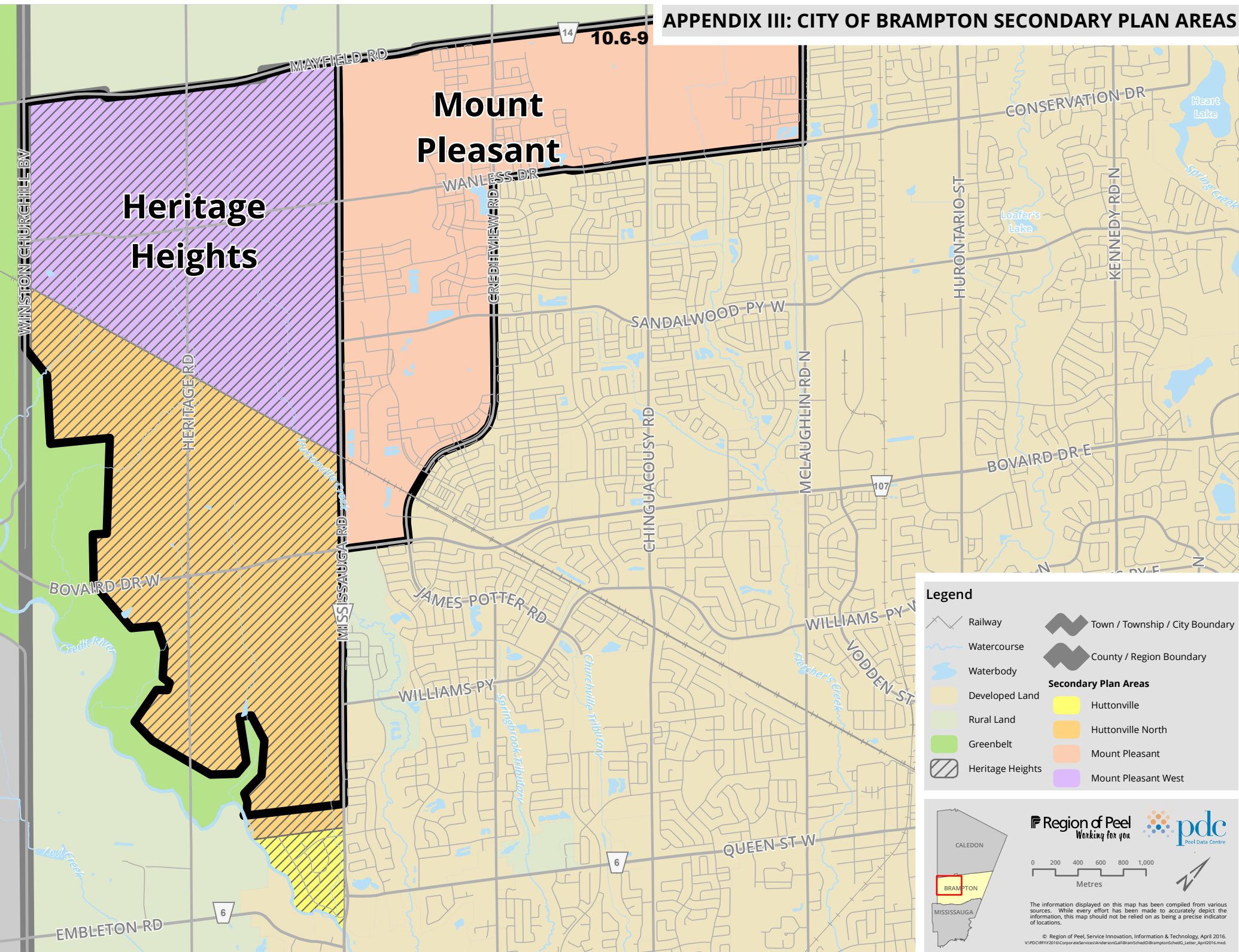
	Railway		Town / Township / City Boundary
	Watercourse		County / Region Boundary
	Waterbody		North West Brampton
	Developed Land		North West Brampton Urban Development Area
	Rural Land		Greenbelt

Region of Peel
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APPENDIX III: CITY OF BRAMPTON SECONDARY PLAN AREAS



Legend

- Railway
- Watercourse
- Waterbody
- Developed Land
- Rural Land
- Greenbelt
- Heritage Heights
- Town / Township / City Boundary
- County / Region Boundary

Secondary Plan Areas

- Huttonville
- Huttonville North
- Mount Pleasant
- Mount Pleasant West

Region of Peel Working for you

pdc Peel Data Centre

0 200 400 600 800 1,000 Metres

CALEDON
BRAMPTON
MISSISSAUGA

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Draft North West Brampton Policy Area Review Scope of Work**May, 2016****Preamble**

At the December 2, 2014 meeting with the Province, staff from the City of Brampton and the Region of Peel agreed to begin preparing a Terms of Reference for the North West Brampton Policy Area (NWBPA) Review. As a starting point, Regional staff reviewed the Heritage Heights - Shale Resources Review Update: Study Terms of Reference which was issued in 2011 by the City of Brampton and the Region of Peel Official Plan North West Brampton shale protection policies. The Region is recommending additional tasks be added that were not included in the 2011 Terms of Reference, such as the relation to growth management. Therefore, the Region has prepared a new scope of work which will guide the review of the North West Brampton Policy Area. The following discussion outlines the proposed scope of work in order to ensure that local, regional, and provincial information requirements will be addressed.

Regional Official Plan Policies for North West Brampton Policy Area

The study's scope of work should address all of the factors that are outlined in Regional Official Plan policy 5.3.4.2.2 f) v) and the City of Brampton Official Plan policies 4.15.4, 4.15.4.1 and 4.15.4.2. These policies are applicable to the lands identified in the Regional Official Plan Schedule C and the City of Brampton Official Plan Schedule F.

Section 5.3.4.2.2 f) v) of the ROP directs the Region to undertake a review to determine whether it is in the public interest to replace the NWBPA with urban land use designations. The factors to be considered in the review are limited to the following:

- Whether any Licence under the Aggregate Resources Act has been issued for the extraction of shale on any lands in the NWBPA or whether any application has been made and is pending for such a Licence; and,
- An assessment of population and employment forecasts in the City of Brampton and the Region of Peel; and,
- Any relevant provincial policies in effect.

To address these requirements, the study will include a technical review of shale resources, an assessment of the economic impacts and an analysis of the impacts to growth management. The policies of the Provincial Policy Statement, 2014 which require municipalities to manage growth in an efficient manner will be considered through the shale review study; in addition to the mineral aggregate protection policies.

PART A: Delineation of the Study Area and Summary of Current Context

The Regional Official Plan recognizes mineral aggregates as a valuable resource and therefore protects shale resource in advance of urban development in North West Brampton. It is important to clarify the location of the resource and therefore the boundary of the protection area for the purpose of this study. The original boundary of shale resources identified as High Potential Mineral Aggregate Resource Area (HPMARA) was based on the Aggregate Resources Inventory of the Regional Municipality of Peel, 1996.

In 2009, the Ontario Geological Survey (OGS) updated the shale resources mapping for Ontario, including Peel Region. This new mapping identified a much smaller area of shale resources identified as provincially important based on overburden thickness. This new mapping information confirms that portions of the existing High Potential Mineral Aggregate Resource Area (HPMARA) within the NWBPA are no longer economically accessible for shale extraction. This new information should be taken into account at the outset of the study and represents an early deliverable. Areas no longer being identified as having accessible shale resources do not require the same level of technical review through this study.

Current Policy Context

The study will need to present an overview of the current City of Brampton and Region of Peel policies which currently apply to all of the NWBPA. Further to this information, Regional staff suggests that the policy review encompass:

- The broader provincial policy context which influences the subject area, including the relevant policies of the Growth Plan, Greenbelt Plan, Provincial Policy Statement 2014, particularly policy 2.5.2.5, and the Aggregate Resources Act in order to provide an understanding of the province's direction regarding the protection of aggregate resources as well as growth management.
- For the identified unlicensed shale resources in Peel Region, the study should identify the current land use designations, the Official Plan policies for both the local and upper-tier municipality, and the policy regime of the Province (PPS)
- A review of the Official Plans throughout Southern Ontario, where shale resources are designated, to determine the extent of shale protection, including shale protection within areas designated for urban uses.
- An assessment of the policy constraints based on the 2009 OGS mapping in in North West Brampton that would preclude or hinder potential extraction and an assessment of shale resources that may be available for extraction outside of the constraints.

Information is available from the Ministry of Natural Resources and Forestry (MNR) to assist in informing the review of shale resource areas that are reasonably viable for extraction to supply brick and tile manufacturing operations in the Greater Toronto Area. This existing information will enable the review to focus on shale resources that have sufficient quality to be used by the industry (e.g. Queenston Formation), are economically feasible for extraction due to

North West Brampton Policy Area Review Scope of Work

overburden thickness, and that have not already been made unavailable due to previous development. The report prepared by the OGS titled “Shale Resources of Southern Ontario: An Update” undertook a “high-level, regional planning constraints” analysis to complete a provincial assessment of shale resources but did not undertake a detailed review of planning policies applicable to shale. This component of the scope of work will address this information requirement to the extent needed, in consultation with MNRF, the Region and City.

The province is currently undertaking a review of the four provincial plans that manage growth and protect the environment in the Greater Golden Horseshoe Area. The purpose of this review is to develop recommendations on how to amend and improve the plans. The study will consider the outcome of this review when completing analysis and developing recommendations.

PART B: Analysis

Technical Review of Shale Resources

A clear understanding of the shale resource in Peel Region and throughout southern Ontario is required. A review of existing information and studies completed to date will be required in order to have complete technical background information. Discussions with brick producers will also be required. This technical review will provide an assessment of the quality, quantity, and accessibility of the resource which is recommended for protection through the 2009 OGS report. Therefore, Regional staff suggests the scope of work include the following:

- A review of the accessibility of shale resources, based on geographic constraints and the quality of the resource for extraction within the NWBPA and other protected resource extraction areas in Peel. This review will be informed by the *Aggregate Resources Inventory of the Regional Municipality of Peel, 2009 (ARIP 165 Revised)* which updated bedrock resource mapping in Peel.
- Consideration of the new information presented in the *Ontario Geological Survey Shale Resources of Southern Ontario: An Update, 2012*.
- Consideration of information gathered through discussions with the brick industry.
- Analysis of information on the shale deposits throughout the remainder of the Greater Toronto Area (GTA) and Southern Ontario.

In addition to the physical attributes of the resource deposits, Regional staff recommend reviewing the license agreements associated with these resources. This process should include an assessment of:

- The active applications and existing licensed supply of shale resources for brick manufacturing in Southern Ontario, where shale deposits have been identified.
- The number and location of current licenses, the quantity of shale reserves remaining in existing licenses, depletion rates and expected lifespans of current licensed operations.

North West Brampton Policy Area Review Scope of Work

Information on current licences and estimates of the quantity of shale reserves will be summarized using information supplied by the MNRF in consultation with licence holders and supplemented, if necessary, with technical analysis using orthophoto imagery, site plan data, bedrock and overburden elevations and thickness, and pre- and post-extraction elevation data, if available.

- The impact to the shale supply of the Norval Quarry application, if extraction is permitted, if extraction is prohibited or if extraction is permitted in phases, including adequate separation/buffering from potential future land uses.
- Planning and Aggregate Resources Act applications made and/or approved for shale extraction since the approval of OP93-245 (North West Urban Boundary Expansion) in the study area, the surrounding Greater Toronto Area and beyond including Central and Southern Ontario.
- The location and number of brick manufacturers in the Southern Ontario market area.

The information gathered through this technical review will inform components of the economic assessment.

Economic Review

There are several economic factors that influence the decision to protect and extract aggregate resource deposits. In addition to the cost of extraction, the study should review:

- Other economic factors that influence the supply and demand for shale resources such as the locations where development is occurring, rate of development and the transportation cost to supply the shale.
- An assessment of the economic importance of brick manufacturing, and associated Queenston shale, to the local community and building industry and therefore the impact to the Ontario economy due to the loss of access to the Northwest Brampton shale resource.
- Implications of the continued NWBPA moratorium on the Region's and City's capital planning program and related infrastructure if the staging of development results in the provision of servicing in an inefficient "leap frog" pattern.
- An understanding of the financial and economic development impact to Peel Region and the City of Brampton due to the continuation of the shale moratorium and the resulting impact on development charges revenues which are used to fund infrastructure and other growth related costs.
- The impact on municipal assessment and tax revenue to the Region and City of Brampton as a result of continuing the moratorium on development in the designated urban area.

Growth Management & Complete Communities

Another component of the review is related to growth management and the development of complete communities. Currently, the Growth Plan has allocated population and employment growth to the Region of Peel that must be accommodated, while addressing the importance of the long-term planning for the protection of aggregate resources. Regional staff recommends assessing:

- The potential unavailable designated urban lands with North West Brampton in relation to the accommodation of planned growth to 2031 and 2041 for residential and employment uses if the shale protection is extended in whole or part and identify the impact on the development of complete communities.
- The feasibility to accommodate planned growth to 2031 and 2041 in other locations within Peel Region if growth is constrained by the extension of the shale protection (partially or in whole) in Northwest Brampton.
- The impact of the GTA West Corridor on the potential future extraction of the shale resource including the potential for resource recovery.
- The ability to successfully plan for shale as an interim use and designated urban uses in relation to the phased release of lands for development following resource extraction.
- The options to reduce the extent of shale protection with and without policies for further phased release of lands for urban development.
- The economic impact to planning a viable employment area in North West Brampton as a result of the potential loss of developable lands in the NWMPA.

Supplementary Geotechnical Investigation (Optional Scope of Work)

In 2002, drilling, sampling and quality testing of the shale resource in North West Brampton was undertaken by MHBC on behalf of the City of Brampton to provide additional information on the extent and quality of shale resources. Although there is already a considerable amount of information that is site specific to the shale resources in North West Brampton, it may be determined through this study that additional field information is required. At the option of the City and the Region in consultation with the MNRF, the consultant may be requested to advise on whether additional geotechnical investigation (shallow borehole drilling program) of overburden thickness would assist in refining the extent and quality of shale resources in North West Brampton.

The recommendation will include an assessment of the quality, density and distribution of existing geological/geotechnical data (water well records, boreholes) used to interpret the current mapping of overburden thickness, an assessment of whether additional investigation would assist in recommending areas for the phased extraction and/or release of shale protection and the cost of undertaking such investigations.

Consultations

Consultations with agencies and stakeholders including landowners, the Local Municipalities and the Credit Valley Conservation Authority will be required prior to the completion of the final report. The purpose of public consultations will be to share information and receive feedback from these stakeholders.

Recommendations

The analysis of the information collected will be used to inform the recommendation to the Region of Peel and City of Brampton on the following matters:

- If, as a result of that review, the NWBPA should be deleted in whole or in part and replaced by urban land use designations in the Brampton Official Plan,
- If the moratorium is extended, which portion of the lands should remain protected and what policies are required for the phased release of lands for development?
- What are the potential implications of the approval of the Norval Quarry on any option to continue or discontinue shale protection in North West Brampton?

Future Steps

Following the research and analysis portion of the study, the Region and City should be provided with recommendations with regard to the alignment/suitability of current City of Brampton and Region of Peel Official Plan policies for the protection of shale resources given the nature of the resource and whether these policies should be modified or deleted in their entirety. If recommendations to extend the moratorium are proposed, the consultant should also indicate the timing of protection and the triggers needed to remove it.