

5.0 SOCIAL AND CULTURAL ENVIRONMENT – BASELINE CONDITIONS DESCRIPTION, IMPACT ASSESSMENT AND MITIGATION

5.1 Land Use and Land Use Designations

5.1.1 Current Baseline Conditions

The Regional Municipality of Ottawa-Carleton was a regional government area and census division in Ontario which existed from 1969 until 2001. However, the Region, as well as local municipalities including the City of Kanata, were amalgamated to form the City of Ottawa in 2001. As such, regional and local plans, with the exception of the City of Ottawa's Official Plan and related documents and those published by the National Capital Commission (NCC), no longer apply as they did when the provincial EA for this project was undertaken. These plans include:

- Region of Ottawa-Carleton's Transportation Master Plan, 1997;
- City of Kanata Official Plan; and,
- City of Kanata Zoning By-laws.

The above plans were reviewed by Dillon as part of this screening but emphasis was placed on succeeding plans/reports as discussed below. For information relating to the plans mentioned above, please refer to the provincial EA that was completed in 2001.

For the purposes of this report, secondary data/information sources were reviewed to obtain information on planning policies that pertain to the study area. The local and provincial planning policies stipulate the type of land use and development projections proposed for large areas of the province. It is the responsibility of the lower tier municipalities to implement such policies through their individual official plans and zoning by-laws. Selected secondary data sources reviewed include, but are not limited to:

- Provincial Policy Statement, 2005;
- Greenbelt Master Plan, 1996;
- Integrated Pathway Study, 1994;
- Pathway Network for Canada's Capital Region: 2006 Strategic Plan; and,
- City of Ottawa Official Plan, 2003.

City of Ottawa Official Plan

On April 23, 2003, City of Ottawa Council adopted its first Official Plan (OP) allowing the amalgamation of the 12 former municipalities, including Kanata and the Region of Ottawa – Carleton, in 2001. OPA 16, adopted on April 13, 2004 changed and redefined the land use designations of lands located in the eastern-most parts of parcels of land within Lots 6 to 10 in the geographic township of March Concession 1 (**Appendix M**) adjacent to Terry Fox Drive.

The Ottawa Official Plan is applicable to the project in that it:

- Dictates the land use designations around the Terry Fox Drive corridor, which impacts the assessment of alignment and cross-section alternatives; and,

- It dictates infrastructure planning and design policies, which influences the development of the stormwater and natural environment impact mitigation strategies.

The former Region of Ottawa-Carleton and City of Kanata recognized that a large segment of the lands between the former Urban Boundary (First Line Road allowance) and Terry Fox Drive (the “interstitial lands”) have significant intrinsic environmental values. As a result of a 1983 Ontario Municipal Board review (**Appendix M**), a 40% portion of the natural areas on the KNL lands were to be set aside by the developer for preservation as Open Space or Natural Environment Areas. The existing land use designations (prior to resolution of OPA 16) were a combination of Natural Environment Area (“NEA”) ‘B’ (described as Marginal Resource Restricted (Special Policy Area 1) in the former Regional and Kanata OP’s) and Agricultural Resource Area (ARA).

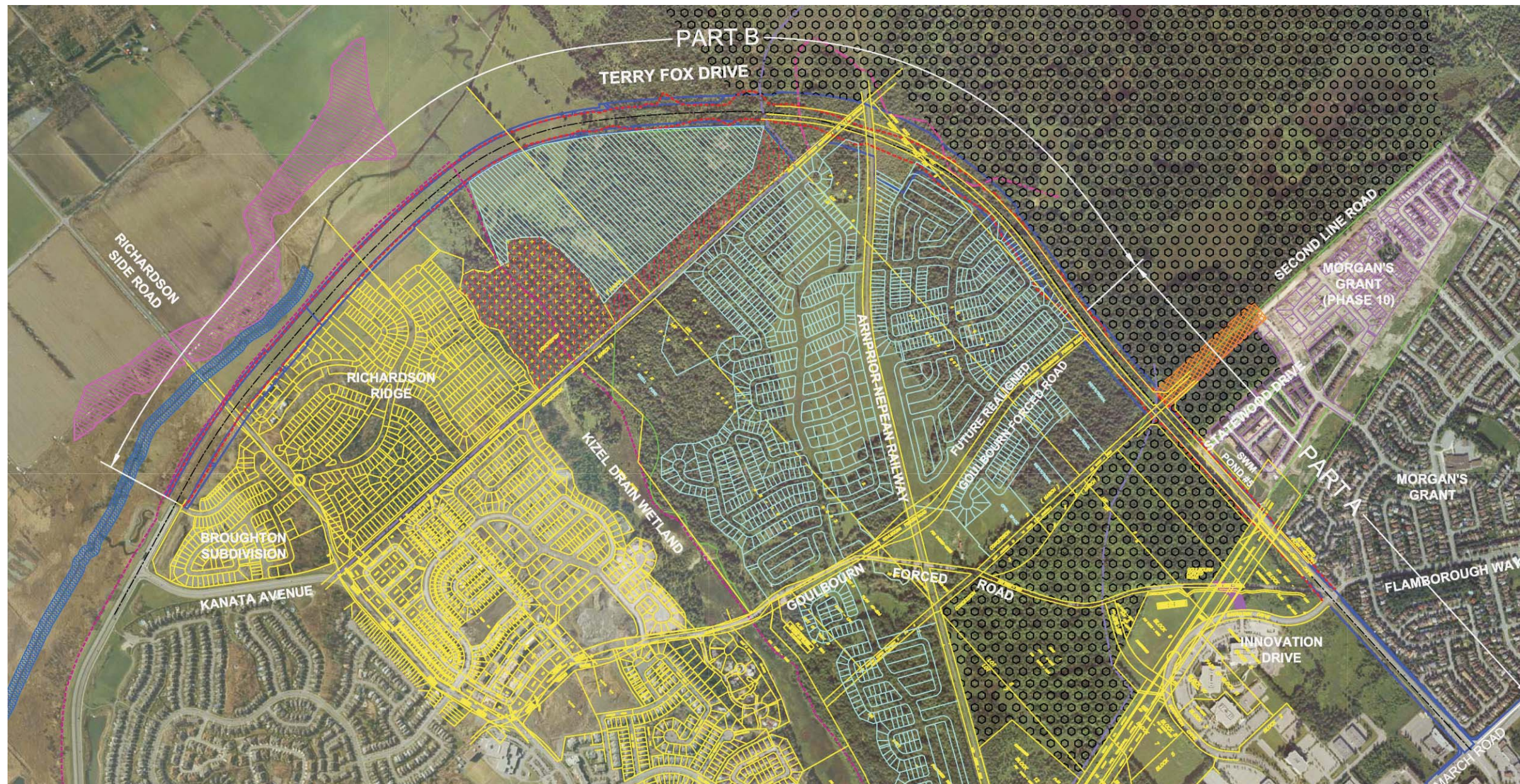
The 2003 Official Plan (OP) placed the interstitial lands into a “Special Study Area” and City staff were directed to conduct a study to determine, amongst other things, the appropriate land use designations.

City of Ottawa Planning staff completed the “Special Study” in March 2004. The year-long planning process included substantial participation from area stakeholders. The recommended land use designations were submitted to the Planning and Environment Committee for their consideration in September 2004. The recommended land uses (as amended by Committee and carried by Council) were that the interstitial lands would be designated as General Urban Area with the preservation of a significant north-south linkage adjacent to the First Line Road allowance/ Hydro corridor as Major Open Space. The lands known as the KNL Exchange Lands, established under the 40% rule, were designated as Natural Environment Area.

















Figure 3, represents the current land use designations, specifically the various draft plans of subdivision that have been proposed by land owners abutting Terry Fox Drive along the inner arc of the curve.

Terry Fox Drive Road Corridor

Figure 3: Alignment and Future Baseline Development



Legend

-  Proposed Flood Plain Compensation Area
-  Future Development (5+ yrs)
-  Draft Approved Future Development (1-5 yrs)
-  Completed Development
-  EA Approved Terry Fox Drive Right of Way/Grading Easements
-  Shirley's Brook Alignment
-  Terry Fox Drive Centreline
-  Terry Fox Drive Grading Limit
-  City Wide Recreational Trail
-  Proposed Community Trail
-  Second Line Road Extension
-  Terry Fox Drive Temporary Construction Road
-  Southland March Highlands Conservation Forest
-  Natural Lands
-  Carp River Restoration Environmental Assessment Study Area
-  Open Space

NTS



Project Name: Terry Fox Drive EA
 Map Created By: SFG
 Map Checked By: AZ
 Date Created: July 14, 2009
 Date Modified: April 1, 2010
 File Name: I:\GIS\091518 - Terry Fox Drive Final
 Design\Mapping\Figures - Part B CEAA\Figure 3.cdr

5.1.1.1 Floodplain Considerations in Land-Use Designation

The *Ontario Water Resources Act* established policy and regulates development in floodplains to avoid flood-induced damage to properties, infrastructure and to provide for a high level of human safety protection. Floodplains have been regulated in Ontario since the Hazel storm of 1956 that caused significant damage along the Grand River in Cambridge, Ontario. Mississippi Valley Conservation has planning authority for the regulation of all watersheds of 125 ha or greater. Permits are therefore required for the placing of fill in floodplains or the alteration of watercourse, shorelines or wetlands within a flood-regulated area. Generally, no residential buildings or private developments are allowed in the floodplain, however linear infrastructure, such as a municipal or provincial roadway is one allowable use under the *Ontario Water Resources Act* as long as certain conditions are met as follows.

“A Conservation Authority may permit the construction or development of public infrastructure (roads, pipelines or sewers, other than stormwater management facilities or municipal drains) within the boundary of a provincially significant wetland, only where there following criteria are met:

- a) the proposed infrastructure is supported by the completion of an appropriate Environmental Assessment or a Comprehensive EIS to the satisfaction of the Authority;
- b) no reasonable alternate location for the infrastructure exists outside of the wetland;
- c) any impacts to flood flows, flood storage or groundwater movement are mitigated;
- d) the proposed infrastructure be designed to minimize impacts to the existing hydrological function, hydrological regime and ecological function of the wetland and adjacent lands”

One part of the Shirley’s Brook watershed, the west tributary, upstream of Terry Fox Drive is greater than 125 ha and is therefore flood regulated. A permit will be required from the MVCA for the crossing of West Shirley’s Brook and for the crossing of the provincially significant wetland features.

Likewise, the Carp River, a much bigger riverine system is fill-regulated throughout most of it’s length. Flood-line contours, based on the 1:100 year storm event have been mapped at a scale of 1:10,000 by the Conservation Authority in order to restrict development to outside of the 100 year return period expected flood elevations. As a result of the alignment selection process within the Class EA (2000) and slight adjustments made in 2007 to avoid private property, a 1,400 m segment of Terry Fox Drive lies within the 100 year floodplain of the Carp River. **Chapter 7** in this report, and within the more detailed stormwater management report in **Appendix B** provides detailed hydraulic assessments of this effect, the impact on flood levels and property, the methods that are being used to mitigate this impact on the Carp River and the magnitude and significance of any residual effects.

5.1.2 Effects Assessment: Land Use Designations

There is only one residence (farm) in the vicinity of the Terry Fox Dr. alignment that is located just to the west of where the proposed road intersects with the Richardson Side Road. This is the Richardson farm which is being developed for residential purposes by Richardson Ridge Ltd. as noted below (**Chapter 11**). There are no existing businesses in the vicinity of the proposed Part B TFD project.

There are a number of recreational trails and pathways in the vicinity of the project including a trail system in Trillium Woods Park, the Great Goulbourn Trail System (west of Goulbourn Forced Road/north of Richardson Side Road) and the Beaver Pond Trail System (east of Goulbourn Forced Road/north of Richardson Side Road). The former Region’s Official Plan also recognizes an east-west

recreational pathway north of Campeau Drive; an east west recreational pathway along the abandoned Arnprior/Nepean rail corridor and a north-south pathway along the Carp River. The former City of Kanata Official Plan includes an already constructed multi-use pathway parallel to Goulbourn Forced Road north of Richardson Side Road (Dillon Consulting, 2000).

Land at the south end of the study area (north of Richardson Side Road) is cleared and was historically used for agriculture.

Existing transportation corridors in the study area include:

- Campeau Drive to Goulbourn Forced Road/Terry Fox Drive; and,
- Goulbourn Forced Road/Terry Fox Drive to March Road.

This new roadway will link existing urban areas within the former City of Kanata, now part of the City of Ottawa. For the majority of the project, the inside curve of TFD defines the outer edge of the Urban Boundary as decided by the City of Ottawa Council as part of the 2006 Official Plan Amendment.

The City of Ottawa has received draft Plans of Subdivision for several areas on the ‘inside’ of TFD, such that the majority of the area adjacent to the project will be developed for residential housing in the years to come following normal planning reviews. See **Section 3.2** for a description of these lands.

5.1.2.1 Potentially Contaminated Sites

A Phase I Environmental Site Assessment (ESA) was completed for the project area during the 2000 Class EA (Golders Associates, 1999).

No major sites of issue were identified for the Part B section of the road. The report notes that fill has been placed on the properties east of Richardson Side Road, along with a small amount of waste (metal waste, wood, appliances, large metal box) in a depression along the centerline near Stn 12+150.

One site (O’Brien settlement) was identified at Stn 16+100 within the Part A section of the roadway, near the proposed Second Line Road intersection. In the old foundation of a small building, there is surface waste (tires, toys, plastic, bed springs, vehicle seats, metal cans, rubber hose, empty automotive oil and gas tanks, automotive parts, scrap metal, freezer, engine and transmission, empty plastic bleach bottles, plastic oil containers, metal paint cans) consistent with farm midden.

No further issues of this nature have arisen since the EA addendums in 2004 & 2007 or in Golders’ field work during 2009.

Both of these areas will require cleanup prior to road construction, with the waste material disposed of in a licensed waste disposal facility following *Ontario Regulation 347* procedures. No other toxic or hazardous waste sources (including former or currently operation landfill or hazardous waste sites) have been identified.

The Terry Fox Drive, Part B footprint will occupy approximately 8.3 ha of land permanently. The road footprint will lie along the outer perimeter of the planned future development, defining the edge of the urban boundary. No existing residential, commercial or industrial uses will be affected by the project. Two recreational trails intersect with the project. These are used seasonally for walking and mountain biking.

Construction Measures

During construction, any undetected contamination of the lands will be removed and disposed of in a licensed landfill operated for that purpose. One dug well will be decommissioned from an earlier farm site. Fencing of the construction zone with bright orange fencing along both sides will warn recreational users of the construction area and the need to maintain a safe distance. Connections with approved subdivisions will be made at intersections to integrate with the residential developments currently being built.

Interim Measures

Two of the four ultimate lanes will be constructed now as an interim measure until the future development proceeds further and traffic volumes warrant expansion to the full four lane configuration. The base for all four lanes will be constructed now, with two lanes paved and two lanes left topsoiled and seeded.

Long Term Operational Measures

New intersections are planned to access the Richcraft Property and the KNL developments. Goulbourn Forced road will be realigned through the KNL developments to allow for a new regional high school on the south side of the road at a point in the future when student needs warrant the construction of the school. New intersections, protected side walks, recreational pathways and traffic signals will be built as they are needed based on the pace of development.

5.1.3 Assessment of Significance

Table 5-1 provides a summary of the land use and land use designations assessment.

Table 5-1 – Summary of Effects on Land Use and Land Use Designations

Project Interaction	Potential Effects	Mitigation Method and Measure	Significance Criteria*	Assessment of Significance
Construction				
Site Preparation and General Road Construction	<ul style="list-style-type: none"> • Conversion of 8.3 ha within the project footprint; • Safety concerns of the public use of existing recreational trails; • Low potential to encounter contamination – one site identified. 	<ul style="list-style-type: none"> • Class EA chose route with the minimum of effects on land use and overall environment; • Erect bright orange caution fencing so the general public cannot enter the construction zone mistakenly; • Contingency if additional contaminated soils are encountered they will be removed or remediated to Environment Canada CCME Industrial Site Guidelines. 	<ul style="list-style-type: none"> • Magnitude – <i>Low</i>; • Geographic Extent - <i>Low</i>; • Duration - <i>one year</i>; • Frequency - <i>once or twice (second time when additional lanes or intersections added)</i>; • Permanence – <i>Yes</i>; • Ecological Context – <i>Local</i>. 	Not significant with mitigation.
Operation				
4 Lane Paving & Intersection Improvements	<ul style="list-style-type: none"> • Will consume new land areas; • Minor disturbance of new residential areas. 	<ul style="list-style-type: none"> • Granular base and paving materials to be transported on Terry Fox Drive without entering side streets. 	<ul style="list-style-type: none"> • Magnitude – <i>Low</i>; • Geographic Extent - <i>Low</i>; • Duration - <i>one season</i>; • Frequency - <i>once or twice (second time when additional lanes or intersections added)</i>; • Permanence – <i>Yes</i>; • Ecological Context – <i>Local</i>. 	Not significant with mitigation.

* Magnitude High-affect CCME Industrial Guideline; moderate – affect near guideline; Low – affect below guideline.

5.2 Land Use - Agriculture

5.2.1 Current Baseline Conditions

Roughly 1/3 of the study area is farmland located on the banks of the Carp River north to Richardson Ridge where bedrock and forests begin. The land has been used in the past as small livestock operations, field crops and fodder crops (hay) for livestock. The land on the east side of the Carp River has generally gone out of production as the land has planning approvals and is in the early stages of construction for residential communities. The area has not changed very much since the Class EA evaluation in 2000. Since then the only real change has been the Richardson Farm, which has gone from livestock and crop production to a livestock-only feedlot operation. Also noted are those areas designated for long term agricultural use in the former Region’s Official Plan. The Agricultural Resources Areas (ARA) were designated by the Region based on four criteria including (Dillon Consulting, 2000):

1. Soil capability;
2. Fragmentation;

3. Surrounding land use; and,
4. Actual agricultural land usage within a specific area.

On the west side of the Carp River, where the floodplain compensation area is proposed, there are active farming operations. Much of the land in this section is currently under agricultural production (corn and soya bean) with some relatively small livestock operations. These lands lie outside of the urban boundary and remain as viable farming properties, designated as ARA in the Region's Official Plan and will thus be protected for long-term agricultural use (Dillon Consulting, 2000).

Abandoned fields occupy much of the lands owned by KNL Developments. These lie east of the First Line road allowance, west of Goulbourn Forced road and south of the Ottawa- Arnprior rail line. These fields have been abandoned for greater than 10 years as they were not being cultivated during the 2000 Class EA work. The land here has a clay base, are imperfectly drained, therefore wet and considered marginal for agricultural production.

5.2.2 Effects Assessment

Richardson's Side Road to the Carp Ridge

Terry Fox Drive will result in the removal of an estimated area of 12.2 ha of productive agricultural lands by direct filling. An additional 11.3 ha of land will be isolated between Terry Fox Drive and the Carp River. This area was formerly farmed by the Richardson family but is currently used for hay and livestock grazing by a tenant farmer until land development begins.

Carp Ridge to Second Line Road

There is no agricultural land with this section of the study area, except for inside of the Terry Fox Drive alignment in the Urban Development lands owned by KNL Developments. This land is currently fallow or abandoned and has not been cropped for several years as noted. The area along the alignment is entirely forested with low potential for agriculture. All areas outside of the TFD alignment are currently protected as Natural Environment lands or Conservation Forest. No effects on viable agricultural land will occur here due to the road expansion project. The realignment of Shirley's Brook will not cross any agricultural land.

Construction Measures

During construction, an access road to the Richardson farm will be maintained by the contractors. This will remain for use by the property owner until such time as the land is developed at which time it will be closed. As part of the development plans under consideration, Richardson Side Road would be closed east of Terry Fox Drive, as the road configuration within the subdivision precludes its use. The remaining land would be a long sliver of land that is frequently flooded and may no longer be productive for farm operations.

On the west side of the Carp River, an 18.2 ha area of agricultural land will be excavated to create additional floodplain storage to offset the volume of the roadway within the 100 year floodlines (**Chapter 7**). Of this area, 10 ha is currently being cropped while the remaining 8.2 is marginal land near the river that is too wet to regularly crop, yet is low in biological diversity as a riparian buffer zone. Following excavation, the 10 ha area will be restored to viable farmland and the 8.2 ha of marginal land will be converted to a swamp wetland to offset the impacts to the natural environment elsewhere on the project (**Chapter 6 & 7**). Because of timing constraints, the area to be excavated may need to be worked during the winter of 2010, so the topsoil cannot be stripped cleanly and will need to be replaced with imported topsoil. Certified contaminant-free topsoil will be imported for this purpose in the spring of 2010.

Interim Measures

During the interim period, if the land is farmed, access for equipment will be available along the completed road bed that has not yet been paved. Terry Fox Drive is not planned as a controlled-access road so farm machinery will be allowed use of the road periodically when needed. The Carp River restoration plan may in the future be extended northwards beyond this area, with the result that the agricultural land could be converted to Open Space or Natural Environment lands. For the foreseeable future, the lands lie outside the Urban Boundary, will remain zoned for agricultural purposes and their use will be decided by the current landowners and the City of Ottawa.

Long-term Operational Measures

As the adjacent lands develop in the long term, it may be expected that the lands on the east side of the Carp River will be utilized as natural or recreational features and the land-use as farmland will cease.

5.2.3 Assessment of Significance

Table 5-2 provides a summary of the agricultural land use assessment.

Table 5-2 – Summary of Effects on Land Use –Agricultural

Project Interaction	Potential Effects	Mitigation Method and Measure	Significance Criteria*	Assessment of Significance
Construction				
Site Preparation and General Road Construction	<ul style="list-style-type: none"> • Conversion of 12.2 ha of agricultural land removed within the project footprint • Temp. disturbance to 10 ha of field crops 	<ul style="list-style-type: none"> • Most agric. land inside arc is planned for imminent development • Floodplain restoration plans will reinstate 10 ha of farmland seeded as a hay crop – expect one year of lost production. • Afforestation of 2 ha between the road and the Carp River has positive effects on river ecosystem • No significant loss of viable farm land; 	<ul style="list-style-type: none"> • Magnitude – <i>Mod.</i> • Geographic Extent - <i>Low</i> • Duration - <i>one cropping season</i> • Frequency - <i>permanent</i> • Permanence – <i>Yes</i> • Ecological Context – <i>Local</i> 	Not significant with mitigation.
Operation				
4 Lane Paving & Intersection Improvements	<ul style="list-style-type: none"> • Isolate 11.3 ha of fields along Carp River 	<ul style="list-style-type: none"> • Until 4 lane paving occurs, farm vehicles can use the constructed road bed for farm equipment access 	<ul style="list-style-type: none"> • Magnitude – <i>Low</i> • Geographic Extent - <i>Low</i> • Duration - <i>seasonal</i> • Frequency - <i>annually</i> • Permanence – <i>Yes</i> • Ecological Context – <i>Local</i> 	Not significant with mitigation.

* Magnitude High-effect eliminates the livelihood of an agricultural family; moderate – affects some of the day to day operations; Low – no long term economic effect on agricultural productivity.

5.3 Land Use – Historical

5.3.1 Current Baseline Conditions

Two areas of historical significance (the Richardson Farm site: BhFx-30; and, the Wilson Farm site: BhFx-41) were identified within the study area. Based on its review of archaeological testing of the Wilson Farm site conducted in 2009 (Stewart, 2009c), the Ontario Ministry of Culture has cleared the site for development (**Appendix D**). Buried structural remains identified on the Richardson Farm site resulted in a recommendation for limited mitigation (Stewart, 2009b). The recommendation for mitigation focussed on the excavation and interpretation of a buried log feature located adjacent to the eastern edge of the grading easement. The full text of the Stage 3 report has not been included here for confidentiality concerns however the report is available to review agencies from the City upon request.

The Ontario Ministry of Culture has reviewed the Richardson Farm site report and is calling for broader mitigation of the Richardson Farm site where it lies close to the road alignment. This site is on the east side of the road alignment at Stn 12+140 bordering the Broughton Developments property and will need to be addressed before implementation of the preloading contract. The extent of the mitigation is to be determined in consultation with the Ontario Ministry of Culture and must be completed before the land can be developed. City Council has designated the Richardson Farm household as a heritage building and will take the necessary steps during draft plan review to ensure it's protection. The homestead is well away from the road alignment, so it can be clearly fenced as a no-go zone and there is no blasting necessary in the floodplain area. The building will therefore not be affected through the road construction activities.

The three areas considered as a floodplain compensation area was assessed to a Stage 1 level, with no significant findings in the proposed cut area (**Appendix D**) however, considering the potential to encounter archaeological resources within the preferred cut area A Stage 2 assessment is currently underway.

While no significant archaeological, aboriginal or cultural resources were identified along the Part B alignment outside of the Richardson Farm site (BhFx-30), there is always the potential that deeply buried resources might be uncovered during the course of construction. A contingency is in place for addressing unexpected heritage finds. The plan calls for a work stoppage in the area of the discovery and immediate contact with the regulatory authority. Should human remains be encountered, all work in the associated area(s) must be halted and immediate contact made with the regulatory authority, as well as the local police, the coroner and the Registrar or Deputy Registrar of the Cemeteries Regulation Branch of the Ministry of Small Business and Consumer Relations. Follow-up and monitoring would only be necessary in the event that unexpected archaeological or cultural resources were encountered.

5.3.2 Effects Assessment

Stage I, II and III Archaeological Assessments have been completed for the project and clearance letters from the Ontario Ministry of Culture are included in **Appendix D**. Three former farmsteads have been identified lying on or near the Terry Fox Drive alignment, two of which lie within the Part B project area, the Richardson farm site and the Wilson farm site. The O'Brien farm lies within the Part A segment of the project. The archaeology reports are available upon request to the City. They have not been included here to maintain confidentiality. A Stage II assessment is being completed for the lands adjacent to the Carp River where the floodplain compensation cut is proposed (**Chapter 7**); this report is included in **Appendix F**. No significant relics or artefacts are expected to be found in this area.

Terry Fox Drive – Part B roadbed will not intercept any sites of historical, archaeological, paleontological or architectural significance, however a Stage 4 assessment of the Broughton lands in close proximity to the grading easement is underway by the property owners.

An evaluated site, on the east side of the Carp River, between the road and the river was evaluated as a potential site for floodplain compensation. The site does have the potential to intercept an old log cabin of historic interest for the period of Euro-Canadian settlement. This site has therefore been avoided for use as floodplain compensation and was dropped from further consideration.

The two floodplain compensation areas considered along the Carp River were investigated. The first site, located on the west side of the Carp river, extending from 400 m south of Richardson's Side road to 1200 mm north of the road, was found to be a riparian area, with the strong potential for encountering Pre-contact Native resources. As the main settlements were east of the Carp, it is less likely that early Euro-Canadian archaeological sites would be found here. A Stage II assessment was recommended and will need to be completed and cleared by the Ontario Ministry of Culture before work on the floodplain cut area can proceed.

Construction Mitigation

The Ontario Ministry of Culture requires that Stage 4 mitigation of the Richardson Farm site be undertaken prior to development (Sherratt, 2009). This area is on the east side of the road alignment at Stn 12+140 within the outer limits of the grading easement. The extent of the mitigation is to be determined in consultation with the Ontario Ministry of Culture, but the area will be protected with a 20 m diameter buffer beyond the test squares identified on the site plans, during the early stages of construction, or until such time as the Stage 4 mitigation work is completed and clearance from the Ministry received. Depending on the ultimate footprint of the preloading base, the work may be able to proceed pending further design and mitigation work.

Construction will be staged in some areas to allow the time necessary to conduct the proper assessments to meet Provincial screening criteria and allow artefacts to be moved where necessary. In the area of the Broughton farm, the road profile has been reduced to reduce the footprint of the road near the identified site of archaeological significance. At this time the east side slope of the road encroaches slightly on the site, but construction (filing) will be delayed until this site has cleared the conditions of approval from the Ontario Ministry of Culture.

Approximately 2 ha of the currently designated agricultural land will be afforested, that is, planted with trees to naturalize the banks of the Carp River, reduce the effects of air emissions and as a wind break. Revegetating the land is a pro-active step to restoring the land from the effects of the farming cycle, protecting the archaeological resources that may lie beneath, reducing the loss of topsoil and beginning the restoration of the ecosystems along the banks of the Carp River.

Interim Measures

During operations, prior to the full four-lane paving, farm vehicles will be allowed to travel on the completed road base, outside of the two-lane paved sections. This condition is expected to last approximately 10 year, at which time it is unlikely that any farming would continue on the east side of the Carp River adjacent to Terry Fox Drive.

Operations Mitigation

Safety for the operators of farming equipment would be the primary concern. Storm runoff is being handled in a contained stormwater management and treatment system so is not expected to cause contamination of the agricultural soils during operations.

5.3.3 Assessment of Significance

Table 5-3 provides a summary of the land use assessment as it relates to aboriginal uses and Physical and Cultural Heritage, Structures/Sites or Things of Historical, Archaeological, Paleontological or Architectural Significance. The assessment assumes that all field studies and letters of clearance from the Ontario Ministry of Culture are completed in due course and are completed before construction proceeds in each area of interest.

Table 5-3 – Summary of Effects on Historical Land Uses - Historical, Archaeological, Paleontological and Architectural Resources

Project Interaction	Potential Effects	Mitigation Method and Measure	Significance Criteria*	Assessment of Significance
Construction				
Site Preparation and General Road Construction	<ul style="list-style-type: none"> • Loss of known heritage resource; • Removal of 26.7 ha within the project footprint; • Permanently covering over possible artefacts and sites of interest. 	<ul style="list-style-type: none"> • Richardson Farm site requires archaeological mitigation: <ul style="list-style-type: none"> ◦ Significant artefacts of the site to be removed with proper archaeology archival methods; ◦ Heritage resource clearance to be issued at completion of archaeological mitigation; • Contingency for unexpected discoveries; • Stage 1 & 2 assessments were completed on all lands affected by roadway; • Stage 4 assessment on Broughton lands adjoining Terry Fox Drive – stage construction to delay impacts while property owner completes removal of artefacts. 	<ul style="list-style-type: none"> • Magnitude – <i>Mod</i>; • Geographic Extent - <i>Three Settlements</i>; • Duration - <i>permanent</i>; • Frequency - <i>once</i>; • Permanence – <i>Yes</i>; • Ecological Context – <i>Local</i>. 	Not significant with mitigation.
Operation				
4 Lane Paving & Intersection Improvements	<ul style="list-style-type: none"> • Isolate 11.3 ha of fields along Carp River. 	<ul style="list-style-type: none"> • Until 4 lane paving occurs, farm vehicles can use the constructed road bed for farm equipment access 	<ul style="list-style-type: none"> • Magnitude – <i>Low</i>; • Geographic Extent - <i>Low</i>; • Duration - <i>seasonal</i>; • Frequency - <i>annually</i>; • Permanence – <i>Yes</i>; • Ecological Context – <i>Local</i>. 	Not significant with mitigation.

* Magnitude High-effect eliminates an identified aboriginal or significant historic site; moderate – identified site is affected, yet artefacts removed before construction proceeds; Low – no identified site or sites with diffuse, scattered artefacts of low intrinsic value.

5.4 Land and Resource Use by Aboriginal People

5.4.1 Current Baseline Conditions

Consultation is under way with Aboriginal Peoples (**Appendix F**). At this point, no concerns have been raised with respect to this proposal, including any impacts to current and traditional activities being practiced by an Aboriginal group in the vicinity of the project.

If concerns are raised, the Proponent will work to address these concerns and document the resulting agreements.

5.4.2 Effects Assessment

The roadway project and related future developments are compatible with existing land-use zoning including land owned by the proponents, land acquired or to be acquired for the proposed project, the location of all physical works and activities, construction and emergency access routes and natural or sensitive areas. Disturbance to existing adjacent land use during construction will be temporary and generally limited to the immediate vicinity of the ROW. Adjacent land uses that may be the subject of aboriginal land claims will not be affected during operation.

American Ginseng, a federally listed Threatened Species at Risk, has been identified on the Terry Fox Drive extension. An extensive mitigation (compensation) program is proposed in **Chapter 9** of this assessment report. Certain aboriginal groups maintain treaty rights to collect American Ginseng following traditional methods, however these same groups understand the benefit in managing the resource so that the species does not become extirpated (disappear) from the South March Highlands due to illegal harvesting. The City is establishing a partnership with the Ginseng Recovery Team, through the stewardship outreach program of the South Nations Conservation Authority (SNCA). The SNCA maintains close links with the aboriginal community and through the relationship with the City of Ottawa, the rights of aboriginal peoples to collect American Ginseng in an environmentally sustainable way is expected to continue.

There are no known aboriginal issues with the planned location of Shirley's Brook realignment.

Construction Measures

No land use issues were identified during the consultation process. No measures have therefore been identified to address aboriginal land use or resource issues.

During construction, the effected American Ginseng plants will be carefully lifted, nursery propagated through a partnership with the University of Western Ontario and Agriculture Canada, then replanted through the partnership with the Recovery Team at South Nations Conservation Authority. See **Chapter 9** for more details. The locations of the plantings will be kept confidential from the public to avoid illegal harvesting by non-aboriginal peoples.

5.4.3 Assessment of Significance

Table 5-4 provides a summary of the land use effect assessment.

Table 5-4 – Summary of Effects on Land Use by Aboriginal Peoples

Project Interaction	Potential Effect	Mitigative Factor and Measure	Significance Criteria	Assessment of Significance
Construction				
Vegetation Disturbance of a Species at Risk	<ul style="list-style-type: none"> • Removal of wild American Ginseng plants. 	<ul style="list-style-type: none"> • Removal, propagation and archival of germplasm; • Replanting at 30:1 ratio, with long term care and monitoring follow up; • Overall a positive benefit on the species due to proposed mitigation strategy and the awareness raised within the City. 	<ul style="list-style-type: none"> • Nature of Effect: <i>Neutral</i> • Magnitude – <i>Low</i>; • Geographic Extent - <i>Low</i>; • Duration - <i>5 years</i>; • Frequency - <i>Once</i>; • Permanence – <i>No</i>; • Ecological Context – <i>National</i>. 	Not significant with mitigation