A Heritage Impact Assessment

780 Baseline Road, Ottawa

December 2023 Revision #4

COMMONWEALTH

THEBERGE HOMES

60114169\2

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1.0 INTRODUCTION

1.1 Background Discussion

This revised Heritage Impact Assessment (HIA) is submitted in response to City of Ottawa's request to document potential measures that mitigate impacts by the proposed construction of three high-rise apartments overlooking the Central Experimental Farm (CEF), a National Historic Site of Canada.

To the north directly across Baseline Road are the agricultural fields of the Central Experimental Farm (CEF) a 400-hectare National Historic Site located in the centre of Ottawa. The Farm is owned and operated by the federal government. Its heritage features include historic buildings, views, plantings, gardens, circulation systems extensive agricultural fields and shelter belts. Many of these buildings and grounds also have local heritage value. The Historic Site also accommodates part of the future campus of The Ottawa Hospital. [Amendment #214, July 17, 2018].

We note that the concerns of the Farm relate to operation of the fields, and not to the Heritage Impact on those fields or any structure from a physical or aesthetic point of view.

AAFC submitted a letter in February 2023 analysing the impact of the shadow cast by the proposed development. Their presentation indicated that shadowing would inhibit plant growth and compromise their ability to carry out research. Their concerns are attached as an addendum to this report. It should be pointed out that it is not the mandate of the HIA or within the author's expertise to interpret AAFC's scientific findings. Any suggestion that a HIA should comment on that is not appropriate. For this reason, Miller Engineering Inc. were engaged to provide expert opinion review. As experts they have reviewed the Agri-Food documents and provide a commentary that speaks to this expertise. Their report *"A Review of the Effects of Structural Sunlight Obstruction on AAFC Research Plots"* is provided as a separate submission.

The resubmission of this update HIA supports a rezoning application assessing the design elements of the Phase 1 proposal and comments on the impact of both the Phase 1 and the Phase 2 proposed developments. The proposed two phased development is located at the south-west intersection of two arterial streets - Baseline Road and Fisher Avenue where a rapid transit station is planned. The 3.5-acre property is a L shaped lot with 152.4m of frontage along Baseline Road and 139m along Fisher Avenue . The site is currently occupied by a single storey commercial plaza; the applicants intend a phased construction of three towers. Tower A will be constructed as a distinct phase, with a 24 storey tower at the southern edge of the subject property while maintaining the existing strip commercial mall along Baseline Road. A subsequent phase, upon completion of Phase 1, would remove the strip commercial mall to facilitate the buildout of the remainder of the site with two additional towers sited along Baseline Road.

The property is designated as Minor Shopping Area and Medium Density Residential Area under the Carleton Heights Secondary Plan – the plan is to be repealed and not replaced under the New Official Plan (New OP). The proposal is subject to Site Plan Control and Zoning By-law Amendment applications.

Summary Findings

This revised HIA is submitted to reflect the current phase 1 development proposal and a resubmission of the Zoning Application for both phases.

Phase 1

The Phase 1 tower is set well back from the fields. As documented by the June/September/March solstice shadow study (Figure 18, 19, and 20) in the September study there is moving shadow that casts shade on the CEF plots between 8am and 8:40am. We are advised that this would be equivalent of a single cloud overhead moving across the land.

Based on the above, it is the HIA's opinion the phase 1 proposed development will have no impact on the cultural heritage value of the CEF. The Commemorative Integrity Statement, the recognition of the farm within the city, and the farm's heritage significance will remain. Further, the character-defining elements of the fields, plots, shelter belts and research will be maintained.

Phase 2 Ultimate Buildout

The two additional towers situated directly across from the Farm along Baseline Road will be 32 storeys and 24 storeys in height. As documented by the September Solstice shadow study (figure 21) that includes all three towers there will be moving shadow on the southern field running along Baseline from 8am until after 11 am. We note that this is not within the parameters of an HIA but based on the City's Terms of Reference for evaluating 'net shadow' it is below the 5 or more hourly interval times during the September Solstice test date and does not result in an average of 50 per cent of any lands being cast in shadow. Throughout the design process there has been a concerted effort to consider building massing improvements that mitigate shade. These are discussed in section 4 Impact and Mitigation.

The study prepared by Miller Engineering was carried out based on direction provided by City Planning Staff and it is the author's understanding that the study meets the City's expectations. The report dated December 2023 confirms that there are no significant or noticeable impacts to the research function of the CEF, and as a result the heritage qualities of the Farm are not undermined or impacted by the proposed development and associated shadowing. The shadows from the proposed buildings at 780 Baseline Road do not undermine the CEF's ability to conduct research or erode the Farm's heritage attributes.

References

This HIA follows the content outline recommended by the City of Ottawa for assessing Heritage Impact. The following documents were reviewed in the preparation of this report:

- Parts IV and V of the Ontario Heritage Act;
- Recognition Statute: Central Experimental Farm Historic Sites and Monuments Act (R.S.C., 1985, c. H-4) (we note that this is not a Heritage Designation within Federal or Provincial law)

- Statement of Significance for the Central Experimental Farm National Historic Site of Canada, online at: www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=13811&pid=0. (we note that this is not a Heritage Designation within Federal or Provincial law)
- Standards and Guidelines for the Conservation of Historic Places in Canada, Second Edition, 2010;
- Cultural Heritage Impact Statement 1110 Fisher Avenue, Ottawa, ON Prepared by Julie Harris Contentworks Inc., October 22, 2019.
- Revised Heritage Impact Assessment 1085 Carling Avenue, Carling Avenue 2019 Co-tenancy Taggart Realty August 2023
- Baseline Road Bus Rapid Transit and Complete Street Planning and Environmental Assessment Study (Bayshore Station to Heron Station) – Recommendations, Transportation Planning, Transportation Services, February 2017.
- 780 Baseline Road Planning Rationale Zoning By-law Amendment Fotenn Planning & design May 4, 2022, and June 2023.
- 780 Baseline Road - Response to Technical Circulation Comments, ZBLA D02-02-22-0049, 2nd review comments January 10, 2023.
- Phase 1 Site Plan - 780 Baseline SP-1 Site Plan ZA 2023 04 28
- Phase 1 Shadow Analysis R. Lahey Architects 2023.
- Letter from Agri-Food Canada to City of Ottawa Planning including comments from the NCC, and shadow studies prepared by Agri-Food, dated February 13, 2023.
- Baseline Road Phase 1 Drawings: Site plan, floor plans, massing plans, rendered perspectives, Rodrick Lahey Architects, October 2023.
- Baseline Road Full Phase Drawings: Site plan, floor plans, massing plans, rendered perspectives, Rodrick Lahey Architects, October 2023.
- Sunshade analysis, R. Lahey Architects October 2023.
- Miller Engineering Inc. Expert Opinion Potential A Review of the Effects of Structural Sunlight Obstruction on AAFC Research Plots. James Miller, PE, PhD, and Helen Miller, EIT, M.S. Ag & Biosystems Engineering, December 19, 2023.

Owner and Contact Information

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1.2 Site Location, Current Conditions, and Context

The site is located in Ward 9 Knoxdale Merivale and is bound by Baseline Road in the north, and Fisher Avenue to the east. The proposed development has a 60m frontage on baseline Road extending west from Fisher Avenue. It includes a one storey commercial mall with frontage on Baseline and Fisher Avenue and a large asphalt parking lot all along the front of the property extending along Fisher Avenue and a service access around the building. The mall does not have heritage significance and will be demolished.

Figure 1: Aerial view illustrating the existing built context adjacent to the development site. Site highlighted in blue. The northern portion of the proposed development fronting onto Baseline Road is located across the road from the CEF National Historic Site of Canada. Note the open fields of the farm along Baseline and both sides of Fisher Avenue going north. The development site is zoned GM and is located in a predominantly low-rise neighbourhood of single detached residences. Source: Fotenn.

1.4 Surrounding Context and Neighbourhood Character

Directly north of the subject property is the Central Experimental Farm which occupies approximately 4 square kilometres of land within the City of Ottawa's urban area (see Figures 3 and 5.) Further north at 1140 Fisher Avenue there are two (2) – 22 storey High-rise Apartment Buildings and a nine (9) – storey building. North of the Experimental Farm is Carling Avenue, a key arterial road servicing traffic east to west throughout the City.

The area surrounding the property to the east (see Figure1.) is comprised of a low-rise residential neighbourhood with dwellings on small lots and features Lexington Park to the southwest. Further east is Prince of Wales Drive where there is an employment office plaza at the northeast corner of Prince of Wales Drive and Baseline Road. Further to the east is the Rideau Canal and Confederation Heights.

South of the subject property there is a low-rise residential neighbourhood with detached dwellings on larger lots. Further south is Meadowlands Drive where there is a small commercial plaza at the north-west corner of Fisher Avenue and Meadowlands Drive. There is also an eight (8) storey building adjacent to the commercial plaza at 1129 Meadowlands Drive.

To the west there is a low-rise residential neighbourhood with detached dwellings on larger lots. Further west is Merivale Road, a north-south arterial corridor consisting of many commercial amenities including grocery stores, restaurants, and other retail stores.

Figure 2: Street view looking south from Baseline Road to the development site. Source: Google Earth

Figure 3: View looking northeast along Baseline with the agricultural fields of the Experimental farm. The actual crops are setback. The buffer area that appears as a green verge with the grain crop planted away from the road will be redeveloped with Multi Use Pathway and a shelter belt reinstated. Source: Goggle Maps

Figure 4. Street view looking east along Baseline Road at the intersection with Fisher Avenue. Source: Google Earth

Figure 5: Street view looking north on Fisher Avenue. The 22-storey apartment towers at 1140 Fisher Avenue, are seen in the distance. Source: Google Earth

Figure 6: View along the service lane at the rear of the property residential homes along Sunnycrest Drive are separated by a board fence. Source: Google Earth

1.6 Relevant Information from Council Approved Documents

The Baseline Bus rapid Transit (BRT) Planning Report

The Baseline Bus Rapid Transit Report (BRT) outlines the planned Richmond-Baseline-Heron corridor that will expand and connect Ottawa's existing and planned Transitway and the O-Train network bypassing the downtown. The corridor will incorporate all elements of a complete street while also maintaining the existing general traffic lanes. The Recommended Plan features median bus lanes for most of the 14 km corridor which will provide separation of transit from other traffic with 24 new transit stations. The recommended plan also includes 23 km of sidewalks, 22 km of cycle tracks, 4 km of Multi-Use Pathway (MUP), and 1.5 km of on-road/shoulder bike lanes to enable an accessible, safe, and comfortable travel environment along the corridor. Figure 7. shows the recommended alignment for the BRT facility and the proposed station locations.

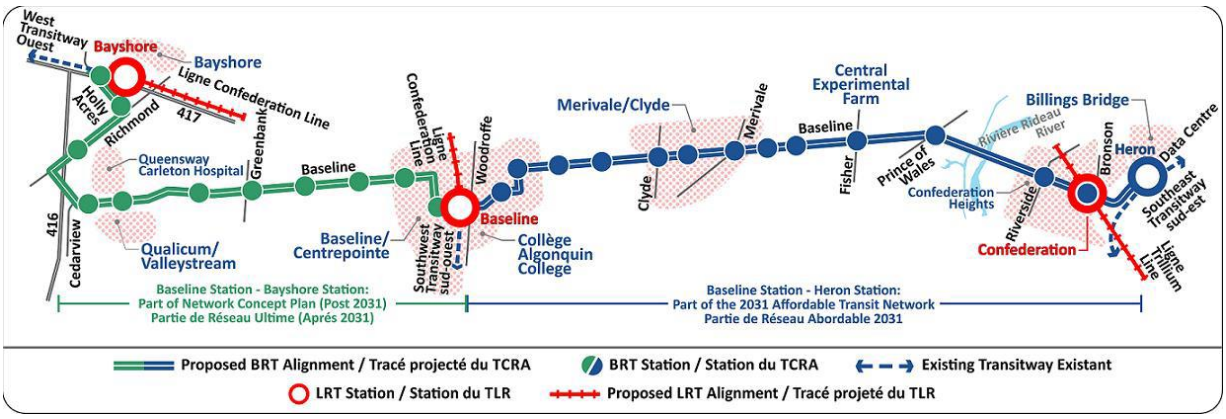


Figure 7: Recommended alignment for the Baseline Road BRT corridor

The Portion of Corridor along Baseline Road Between Clyde and Prince of Wales/Experimental Farm

The development site extends for 60m along the south side of baseline Road west from Fisher Avenue adjacent to the cultivated fields of the experimental farm. At present a page-wire fence and a grassed verge separates the agricultural crops from the general public with no trees along the southern edge of the farm along Baseline Road and extending along Fisher Avenue.

Based on the dimensions shown in Figure 8. the right-of-way will extend between 35-37 metres along Baseline Road north of the planned development the BRT corridor requires a strip of land (the typical widening being in the range of 7m) from the Central Experimental Farm to accommodate median BRT lanes. In addition, the Agriculture and Agri-Food Canada staff requested a buffer “Shelterbelt” along the frontage of Experimental Farm. The Shelterbelt which is a specific arrangement of trees, and shrubs, will extend into the fields an additional +/- 7m. and is intended to reduce the effects of snowdrift, salt spray, and discourage access onto the Farm’s fields. The report concludes that the Shelterbelt is a positive

inclusion that will improve the long-term health of the Central Experimental Farm and provide a pleasant vista for users of the pedestrian and cycle facilities.

Baseline BRT is currently in the draft design phase and is subject to some changes. To ensure sufficient right of way is protected, Baseline Road has a City-protected right of way of 47m between Marson Street and Fisher Avenue (Figure 8.) In the case that the BRT draft design exceeds the OP limits, further discussion with the City should occur.

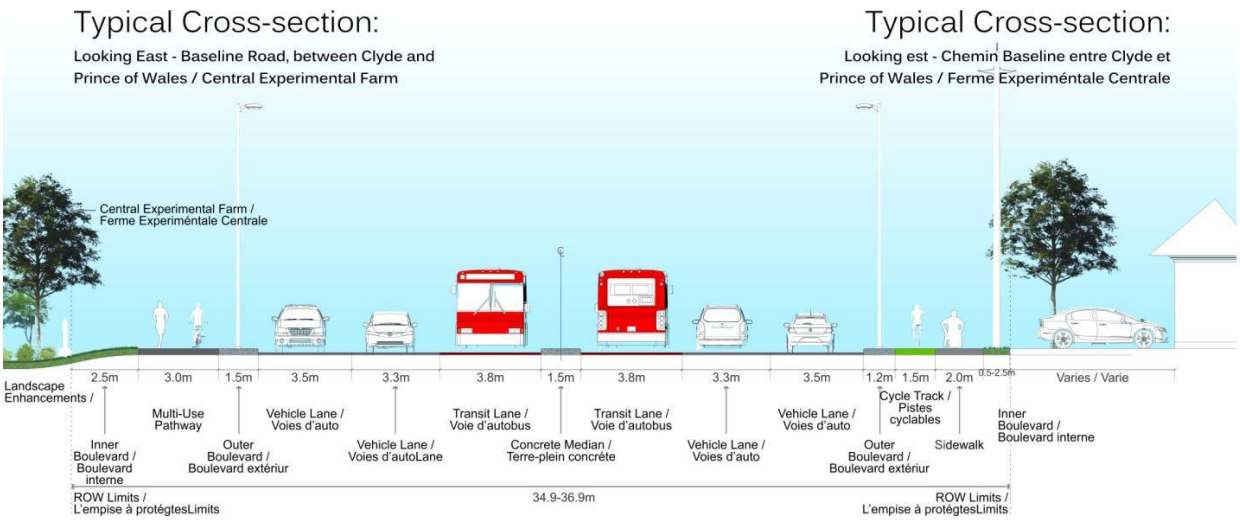


Figure 8: Typical cross-section - Baseline Road (Merivale to Prince of Wales) shows a cross-section along the Central Experimental Farm. It includes a new 3 m Multi-use Pathway (MUP) on the north side of the corridor. The 7m. wide shelter belt that is on AAFC land is not included in this calculation.

Heritage Values of the Central Experimental Farm

The HIA is concerned with the impact of the proposed development on the heritage value of the Central Experimental Farm. The Farm, recognized as a National Historic Site in 1997, (we note that this is not a Heritage Designation within Federal or Provincial law) is identified in both the new and existing City of Ottawa's Official Plan as a heritage property. However, no designation of the Farm has taken place in either Federal or Provincial law. Two documents outline the heritage value of the Central Experimental Farm and guide its heritage conservation – the Commemorative Integrity Statement (CIS) and the Statement of Significance (SOS). Section 3.3 (4) of the Official Plan asks the HIA to address the Commemorative Integrity Statement (CIS). Pertinent sections of the CIS are included in the HIA as Appendix A. The Statement of Significance, is provided as Appendix B.

The summary of the heritage value of the CEF, as stated in the SOS is:

The Central Experimental Farm was designated a national historic site of Canada in 1997 because:

- as a cultural landscape, the more than 400-hectare farm in the heart of the Nation's Capital reflects the 19th-century philosophy of agriculture and carefully integrates an administrative core

and a range of other buildings with arboretum, ornamental gardens, display beds and experimental fields in a picturesque composition;

- since its establishment in 1886, the farm has made significant scientific contributions to agriculture in Canada by uniting scientific experimentation with practical verification, as exemplified by the development of the hardy strains of wheat that were so influential in expanding Western Canadian agriculture;
- a rare example of a farm within a city, the Central Experimental Farm has become a symbol of the central role agriculture has played in shaping the country.
- We note again that no designation has taken place, and in any event, the concern about and from the Farm has been operational and not with respect to true Heritage impact.

Official Plan

The City of Ottawa Official Plan include provisions for Cultural Heritage Resources in Section 4.5.

4.5.3 Where development is proposed on a property that is adjacent to or within 35 metres of the boundary of; a property containing an individually designated heritage building (Part IV of the Ontario Heritage Act), a heritage conservation district (Part V of the Ontario Heritage Act) or a federally recognized heritage property, the City may require that a Heritage Impact Assessment be conducted by a qualified professional with expertise in cultural heritage resources. The assessment will do the following: [Amendment #96, February 22, 2012]

1. *Describe the positive and adverse impacts on the heritage resource or heritage conservation district that may reasonably be expected to result from the proposed development;*
2. *Describe the actions that may reasonably be required to prevent, minimize, or mitigate the adverse impacts in accordance with the policies below; and,*
3. *Demonstrate that the proposal will not adversely impact the defined cultural heritage value of the property, Heritage Conservation District, and/or its streetscape/neighbourhood.*

We note that the Farm is not adjacent within the meaning of the law, due to the intervening ownership of Baseline Road by the City, which is a position that the City of Ottawa has supported in other situations.

Context

No views or vistas will be affected by this proposal. The subject property in not identified as within a significant view plane as outlined in the Official Plan.

Guideline 1.4 (assuming it is applicable) requires that proposed buildings be distinguished between landmark and background buildings. The proposed buildings can be considered landmark buildings given their location, their role as part of views and vistas, and their contribution to the characteristics of the neighbourhood and the City more broadly.

The preparation of a shadow study and a wind study are required to determine impact within the neighbouring context. The shadow study will follow the Terms of reference set out in the Official Plan.

2.0 STATEMENT OF CULTURAL HERITAGE VALUE

The following Statement of Cultural Heritage Value identifies the primary heritage values and attributes of the Central Experimental Farm NHS. Source: Parks Canada National Historic Sites of Canada

2.1 Statement of Cultural Heritage Value

Recognition Statute: Historic Sites and Monuments Act (R.S.C., 1985, c. H-4)
Designation Date: 1997-09-22
Dates: • 1886 to 1980 (Construction)
Event, Person, Organization: • Thomas Fuller (Person) • James Fletcher (Person) • William Saunders (Person) • Sir John Carling (Person)
Other Name(s): • Central Experimental Farm (Designation Name)
Research Report Number: 1997-043 DFRP Number: 08625 00 Plaque(s)
Existing plaque: 930 Carling Avenue, Ottawa, Ontario

A rare example of a farm within a city, this outstanding cultural landscape brings together two strong 19th century interests: agricultural improvement and picturesque design. Established by the federal government in 1886, the Farm has supported Canadian agriculture by undertaking critical scientific research and by developing and demonstrating good farming methods. Its 426 hectares are organized into three distinct areas: a central core of science and administration buildings, an arboretum and ornamental gardens, **and the experimental fields and plots**. The Main Dairy Barn, with its attached stables laid out around a barnyard, was at the heart of the model farm. The individual parts of the landscape are orchestrated into an organic whole intended to enhance nature's inherent beauty. Adopting picturesque features of the British country estate, the Farm combines large stretches of lawn and field, winding paths, and pleasing water vistas. This site is a symbol of the crucial role agriculture has played in shaping Canada.

Description of Historic Place

The Central Experimental Farm National Historic Site of Canada, located in urban Ottawa, Ontario, is comprised of various structures and buildings embedded within a large rural landscape. Flanked by broad expanses of farmland, its central area consists of the administrative core, housed in a variety of eclectic and picturesque structures, and encompasses an arboretum, specimen plantings, and intricate ornamental gardens. Official recognition refers to the cultural landscape with its natural, built, and landscaped components at the time of designation.

Heritage Value

The Central Experimental Farm was designated a national historic site of Canada because: as a cultural landscape, the more than 400-hectare farm in the heart of the Nation's Capital reflects the 19th-century philosophy of agriculture and carefully integrates an administrative core and a range of other buildings

with arboretum, ornamental gardens, display beds and experimental fields in a picturesque composition; since its establishment in 1886, the farm has made significant scientific contributions to agriculture in Canada by uniting scientific experimentation with practical verification, as exemplified by the development of the hardy strains of wheat that were so influential in expanding Western Canadian agriculture; a rare example of a farm within a city, the Central Experimental Farm has become a symbol of the central role agriculture has played in shaping the country.

Eager to introduce profitable new agricultural methods and products, the federal government created the Central Experimental Farm in 1886. The Department of Agriculture selected a rectangular parcel of land, over 400 hectares in area, approximately 3 kilometres from Parliament Hill. Located on a desirable site, due to its variety of soil types and access to land, water, and rail transport, the farm would serve both Ontario and Québec. **As the city of Ottawa grew, the Farm was gradually absorbed into the urban environment and is now situated well within the city limits.**

The plan of the Farm is based on three clearly defined zones: a central core of administrative, scientific, and functional farm buildings and spaces; **the experimental fields, plots, and shelterbelts**; and the arboretum, ornamental gardens, and experimental hedges. The Farm's Picturesque landscape is the result of a movement promulgated by a 18th-century English aesthetic theorists and practitioners who sought to bring landscape design closer to an idealized nature. One convention of this movement was the adoption of certain standard features of the British country estate, including large stretches of lawn and fields, use of water, masses of trees and shrubbery, and winding pathways. These features, designed to enhance nature's inherent beauty by emphasizing its irregularity, variety, and intricacy in form, colour, and texture, integrate harmoniously with the administrative, scientific, and functional farm buildings. The Picturesque qualities of the Farm are a significant aspect of the 19th-century philosophy of agriculture.

This philosophy also recommended the use of chemistry and genetics to make farm life more productive and appealing. Its proponents sought to develop better farming methods by applying a new scientific methodology to farming. Since its establishment, the Central Experimental Farm has contributed substantially to the development of Canadian agriculture through scientific research, experimentation, and practical verification. The Farm has addressed issues such as human and animal health, the importation of plants and livestock, the identification and control of imported insect pests, and soil fertility. It also contributed to the expansion of agriculture in western Canada through the development of hardy strains of wheat, and in eastern Canada through research on forages and grasses. The Farm soon became the headquarters of a national system of experimental farms, as its central location and administration served to address a range of national agricultural issues.
Source: Historic Sites and Monuments Board of Canada, Minutes, June 1997.

Character-Defining Elements
Key elements contributing to the heritage value of this site include: its location in the urban centre of Ottawa, encompassing a variety of soil types, cleared fields, and various buildings; its pastoral appearance, as well as the orderliness and neatness critical to the Farm's scientific pursuits; its plan, made up of three clearly defined zones: the central core of the functional farm, science and administration buildings; the

experimental fields and plots with their bordering shelterbelts; and the arboretum, ornamental gardens and experimental hedges; the buildings, which illustrate the Picturesque character with their compatible scale, varied volumes and silhouettes.

Key elements contributing to the heritage value of the central core include: the intimate scale of the interior of the zone, and the campus-like atmosphere; the compatible scale and design of both Prince of Wales Drive and the Driveway, which have evolved from the main north-south and east-west roads in the original 1880s plan and link the Farm to the city; the placement and design of the core administration buildings with their wood-clad exteriors, and their relationships to each other and to their landscape setting, which reveal their original functions and the orderly development of the original 1880s Picturesque plan; the associations of the buildings with key figures in the development of Canadian agriculture, such as William Saunders, Charles Saunders, and Sir John Carling; the buildings' small, single-storey board and batten style, conveying their continued role as part of a complex of support buildings; the model farm, intended to demonstrate the most efficient and orderly layout of farm buildings.

Key elements contributing to the heritage value of the experimental fields, plots, and shelterbelts include:

- the orderly organization of the fields based on a grid system reinforced by a regular system of roadways and access lanes, and distinctive internal fencing of red "pencil posts" with white tops;
- the open cultivated fields, with their variable sizes, colours, textures, and seasonal variations;
- the relationship between the open fields and the heavily screened Driveway with its parkway characteristics of curbs and streetlights, which emphasize the integration of a farm within a city;
- the shelterbelts, made up of hardy trees which protect the fields;
- the core brick-clad science and administration buildings;
- the viewscapes including the view from the corner of Baseline and Fisher, the view southwest from Carling Avenue across the fields, the framed view looking east from Fisher along Cow Lane; and the view from any point along the periphery into the open fields.

Key elements contributing to the heritage value of the arboretum and ornamental gardens include: the Picturesque nature of the site, evidenced in the skillful use of topography and water, and the incorporation of the shoreline of the Rideau Canal, Dow's Lake, and the lagoons into the visual composition; the circulation pattern in the arboretum, laid out in a typically Picturesque design of curving promenades and constantly changing views; the glass and metal frames of the greenhouses; the arboretum itself, including a wide variety of specimen trees and shrubs, planted to test and demonstrate suitable tree species for various hardiness zones of Canada.

3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

3.1 Description of the Proposed Development

The ultimate proposed development consists of three (3) high-rise mixed-use buildings that will ultimately accommodate slightly over 1089 residential units and 3,000 square metres of ground floor commercial space. The planned towers will have heights of 24 and e 32 storey tower. Podium heights have been reduced from 6 to 4 storeys. The buildout of the development proposal will be formalized through a phased Site Plan Control application.

3.2 Phase 1 Site Plan

Building A will be constructed on the existing spillover surface parking lot at the south end of the property along Fisher Avenue. The existing commercial mall will be retained in the initial phase. The subject building will be 24 storeys tall. Access is provided from Fisher Avenue to the south of the site. Access to Phase 1 will also be possible through the existing surface parking lot. A total 370 parking spaces are proposed in the underground parking garage to complement the 138 existing spaces located in the plaza. A total 336 bicycle parking spaces are provided.

Figure 9 : Two renderings showing the proposed massing layout and positioning of Tower A. Source: R. Lahey Architects Inc. 2023.

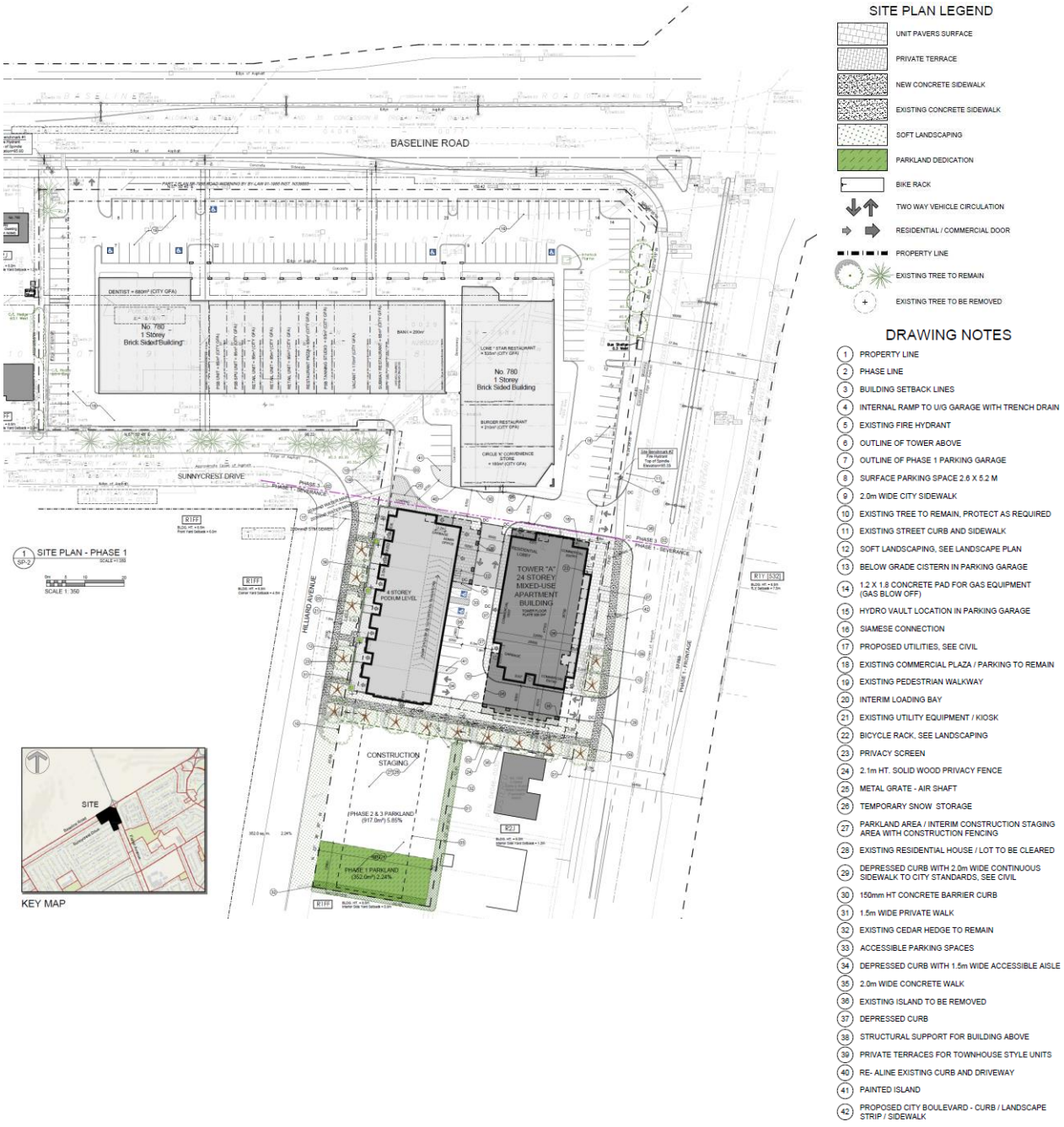


Figure 10: Phase 1 Site Plan with building A set back from Baseline Road and accessed from Fisher Avenue. A parkland dedication shown in green will only partially be completed in the Phase 1. Source R. Lahey Architects Inc. September 13, 2023.

3.3 Phase 1 Design

Massing, Scale, and Building Design

The proposed building is appropriately massed with ample tower separation to accommodate future phases 2. The floorplate exceeds the tall building guidelines. The building employs a base-middle-top design which is grounded in a podium that frames the Fisher Avenue right-of-way and provides for a human scale at grade. Appropriate setbacks, stepbacks, and tower heights provide transition to the adjacent low-rise neighbourhood.

The four-storey podium includes walkout units fronting onto Hilliard Avenue which contribute to the activation of the public realm along this local road (Figure10). The tower and podium incorporate materials and finishes that are complementary to the established neighbourhood context. The podium height and the colour palette serve as a background to the public realm experience. The glazing and light tones of the tower offer an understated landmark.

Figure 11: The 4- storey podium including walkouts fronting onto Hilliard Avenue. Source R. Lahey Architecture Inc.

Figure 12: View of the phase 1 development from Baseline looking south with the existing plaza in the foreground. Source R. Lahey Architecture Inc. 2023.

Public Realm

The public realm will be enhanced to include mid-block pedestrian pathways, a dedicated municipal park, extensive landscaping with plantings throughout the site in outdoor amenity areas, parking lots, and along required yard setbacks and. The public realm is designed to provide accessibility to the site and surrounding neighbourhood. At-grade retail will promote an urban pedestrian realm that is animated and visible from the street. Street trees and landscape plantings will be provided along Baseline Road, Fisher Avenue, and Hilliard Avenue offering a buffer from the street and softening the transition between the street and building façade.

Figure 13: View of the phase 1 development looking south from Hilliard Avenue with the planned park in the foreground. Source R. Lahey Architecture Inc. 2023.

3.4 Phase 2 Site Plan

Phase 2 Design

Phase 2 includes Building B, (32 storeys tall), and building C (24 storeys tall). A mechanical penthouse, setback from the building edge, is to be included on the top of each tower. These two towers will be situated fronting onto Baseline road along the northern property line. A detailed Phase 2 will be contemplated in a subsequent application, which will incorporate the removal of the strip mall and construction of the two high-rise mixed-use buildings. These buildings will be sited on 4-storey podiums with a total unit count of 1,089 units. The architectural design of the two towers is a variation on the materials and appearance established in the Phase 1 treatment.

Parking will be provided both below and at grade with the majority of resident parking being provided underground. All surface parking is screened from the building exterior. A right-in, right-out access is proposed on Baseline Road in addition to a secondary two-way access on Fisher Avenue separate from the Phase 1 access.

The location is permissive of added height for the proposed development under the current policies of the Official Plan. A considerable amount of density is being added to the site and it is expected that this density will contribute to the ridership at the planned rapid transit station.

Figure 14: Site plan showing the development within the neighbourhood context illustrating massing. Source: RLA 2023.

Figure 15: Site plan illustrating the full build-out of the property with two towers along Baseline and the phase 1, 24-storey tower setback along Fisher Avenue. Source: Rodrick Lahey Architect Inc. 2023

Figure 16: Rendered perspective view from Baseline Road illustrating the massing, and street edge of the four-storey podium expression. Source: Rodrick Lahey Architect Inc. 2023

Figure 17: Rendered perspective view looking west towards the intersection of Baseline Road and Fisher Avenue towards the two towers on Baseline with the phase 1 tower setback and the Agricultural fields of the Experimental Farm in the foreground. Rodrick Lahey Architect Inc. 2023

3.5 Sun/Shade Studies

The HIA has reviewed the additional information addressing the Impact of Shadows on the agricultural fields along Baseline Road. This information included:

- The original and revised shadow analysis prepared by R. Lahey Architects office, 2022. and the Phase 1 Ph1 A400 Shadow Study 2023.02.10, Sun Shadow Analysis and 2023.04, 22. A402-SS (June 21, July 21 and December 21.)
- The Agri-Food Analysis, AAFC letter to City of Ottawa has been peer reviewed by Miller Engineering Inc. Their report *"A Review of the Effects of Structural Sunlight Obstruction on AAFC Research Plots"* is provided as a separate submission.

The Ottawa Official Plan designates the Central Experimental farm as 'Greenspace, with a sub-designation of 'Open Space', which is consistent with the shadowing terms of reference of impacts on a public space and therefore the City interprets this land as "Open Space" as it relates to the City's Shadow Terms of Reference. The results of the shade analysis are guided by these TOF in arriving at a determination of impact, which identifies that:

- the new net shadow must not result in an average of 50 per cent of any public space being cast in shadow for 5 or more hourly interval times during the September Solstice test date only.

Phase 1 Single 24 Storey Tower Sun/Shade Study

The sun/shade studies prepared to assess the potential impact of shadows cast from tower A across the agricultural lands documents that there should be no impact during the active growing period between April 1st and November 30th. The morning shadow from the tower at 8:30 September 21 is approximately 100 m long and will extend onto the southern edge of CEF lands creating a fleeting shadow for less than 20 minutes in the morning between 8:30am and 9am.

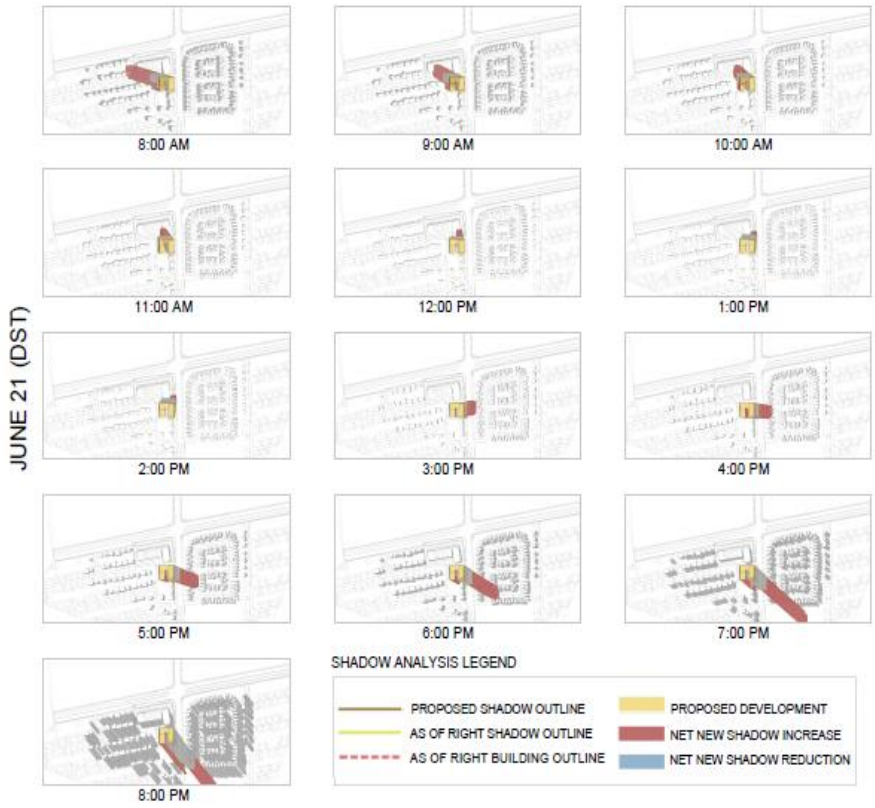


Figure 18: Shadow studies for June 21, September 21, and December 21 document the extent of shadowing does not compromise the use of the fields based on the net shadow on the CEF does not exceed the criterion identified in the City's Terms of Reference for Shadow Analysis for public spaces.

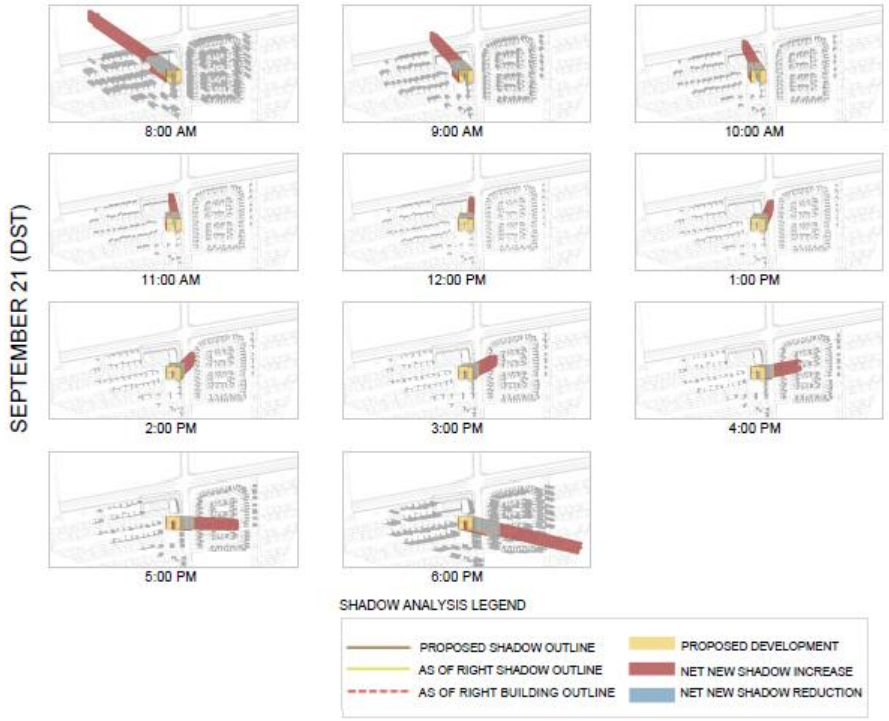


Figure 19: The September 21 Shadow studies indicates that shadowing progresses across the southern edge of the field for approximately 20 minutes between 8am and 9am.

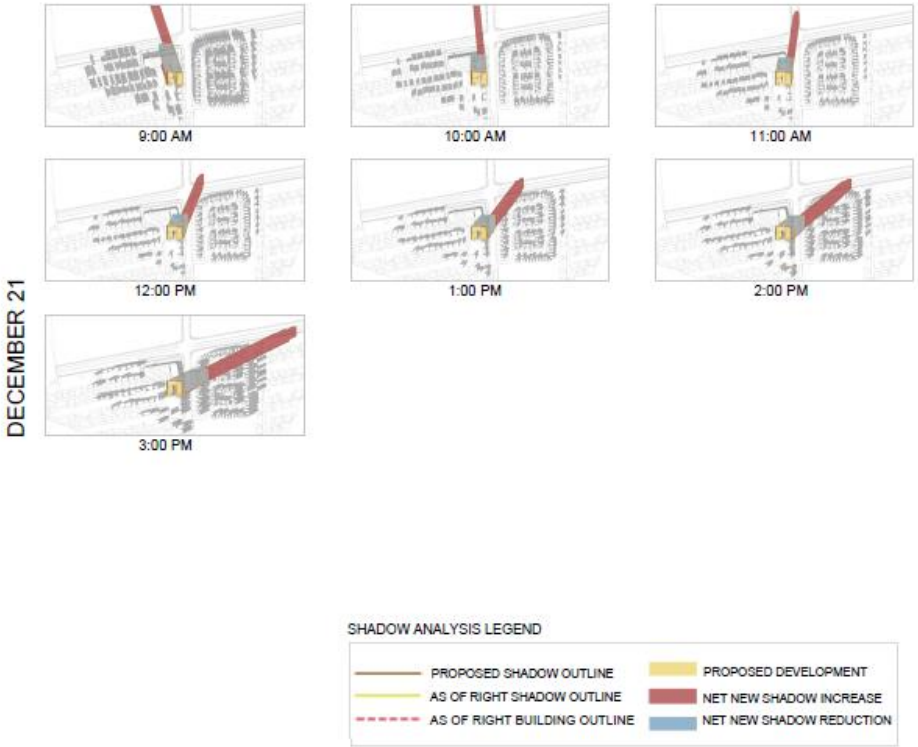


Figure 20: December 21 Shadowing. It would be useful to insert the model provided by AAFC for the Phase 1 single tower and asses the impact of this degree of shadowing over a portion of the field. Source: R Lahey Architect. September 2023.

Based on the R. Lahey Architecture studies it would appear that the Phase 1 development proposal of 24 storeys setback 30m along Fisher Avenue meets the City's criteria and the AAFC's criteria with no impact. The fields will have a shadow traverse the southern edge for about 20 minutes leading up to the fall solstice.

Phase 2 Development of a 24 and a 32 Storey Towers

The shadow analysis for the Phase 2 Development is a cumulative assessment including all three towers. The shadow analysis prepared by R. Lahey Architect Inc. shows that the new net shadow from the proposed development on the CEF does not exceed the criterion identified in the City's Terms of Reference for Shadow Analysis for public spaces. The terms of reference states that the new net shadow must not result in an average of 50 per cent of any public space being cast in shadow for 5 or more hourly interval times during the September test date only. The Phase 2 development will result in shadows being cast within City's OP criteria.

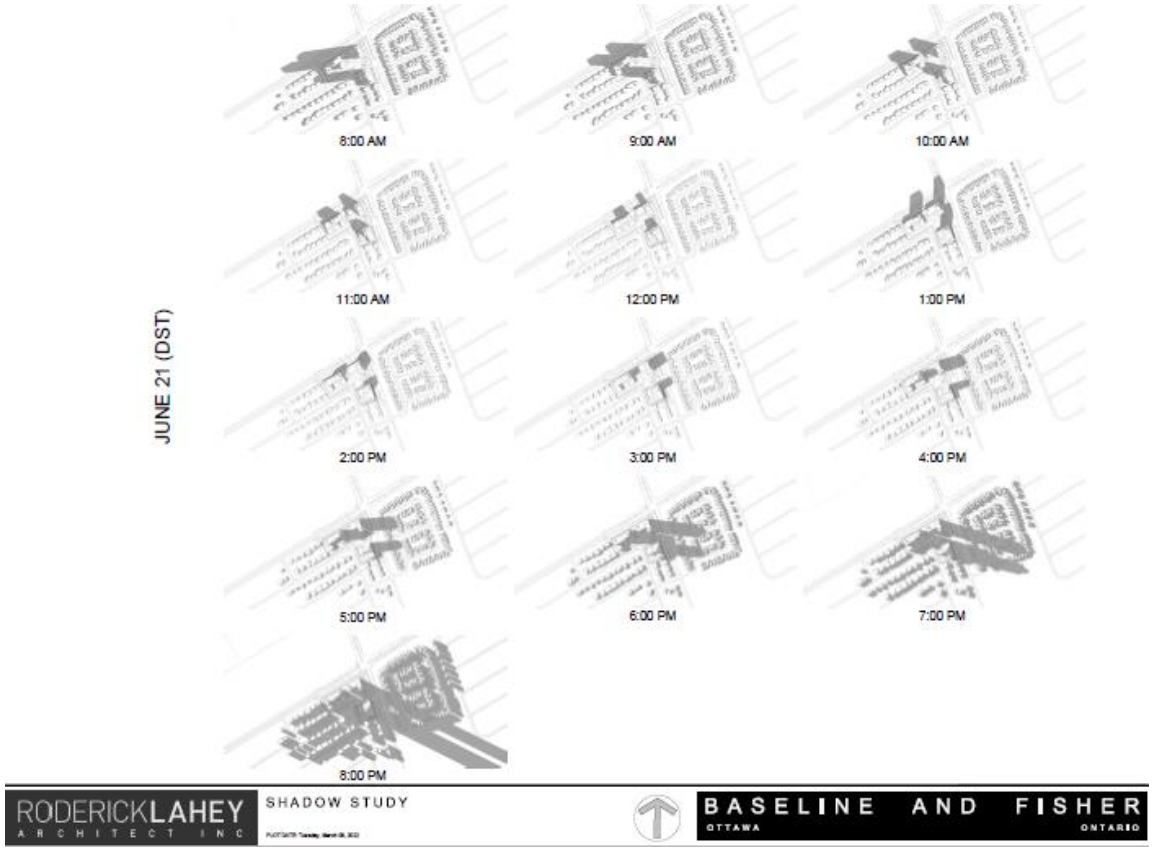
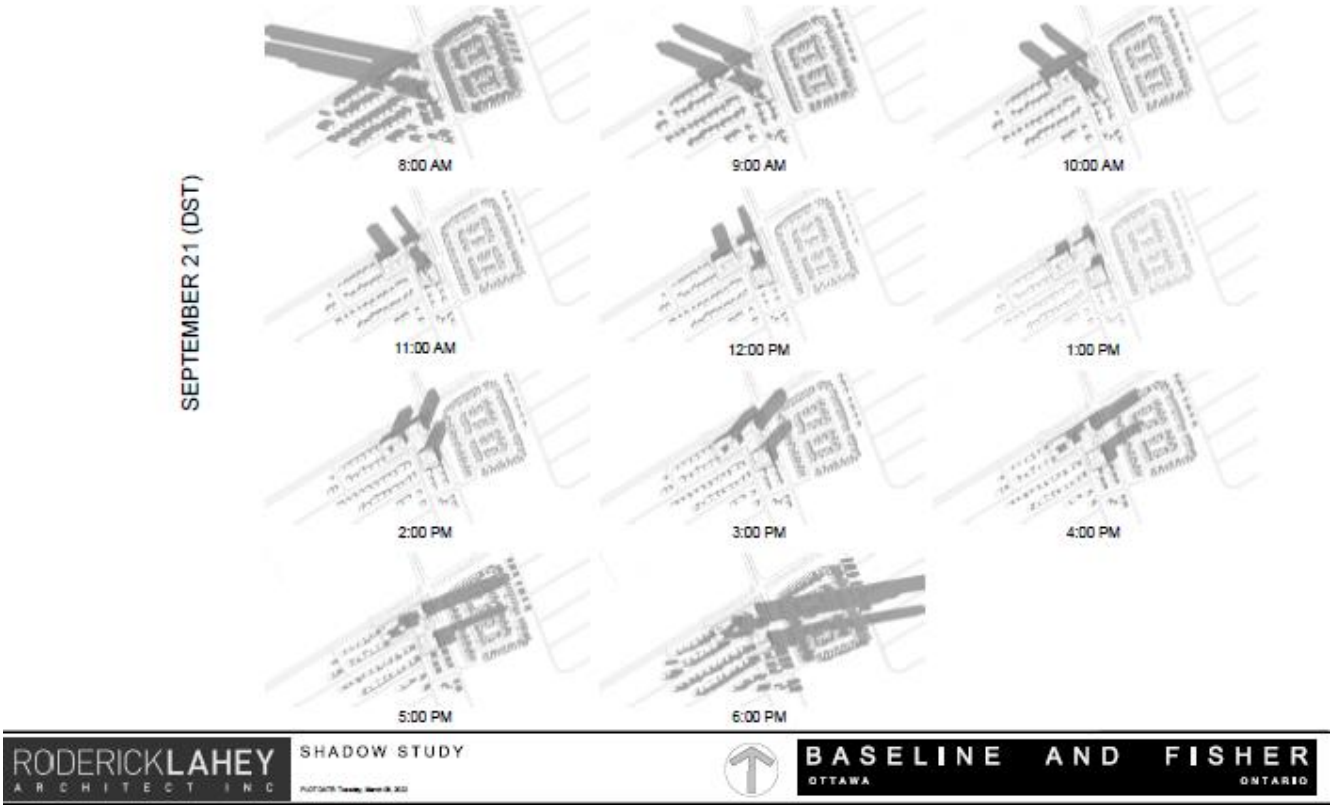


Figure 21 & 22: Shad*ow Study for June 21 and September 21 (DST) indicates that the impact of shading in June will be negligible. By September 21 there will be shading of the northeast agricultural lands in the early mornings*

extending until 11am. Source: Rodrick Lahey Architect Inc. 2023.



4.0 IMPACT OF THE PROPOSED DEVELOPMENT, ALTERNATIVES AND MITGATION MEASURES

This section specifically addresses the potential impacts of the development proposal on the cultural heritage values of the Central Experimental Farm National Historic Site. The impacts are assessed in accordance with the Official Plan. The heritage attributes and character-defining features of the Central Experimental Farm NHS are itemized in Section 2.0.

4.1 Impact of the Development Proposal

The CEF is identified as a separate Designation and Land Use in City of Ottawa's *Official Plan*. As per the Ottawa Official Plan, the relevant policy is *4.5.2.4 which states*

> *"Ottawa is the site of the Rideau Canal World Heritage Site, many National Historic Sites, and both privately- and publicly-owned buildings designated by the Federal Heritage Buildings Review Office. Development including or adjacent to these sites shall have regard for their cultural*

heritage value, as defined in Federal designation documentation and the City may require demonstration that development does not adversely impact these resources[1].

1. Describe the positive and adverse impacts on the heritage resource or heritage conservation district that may reasonably be expected to result from the proposed development;

Positive impacts of the proposed development on the cultural heritage values of the Central Experimental Farm NHS include:

- Tower A (the initial phase of the project) is set back along Fisher Avenue at the southern edge of the property and will have no impact in terms of shadowing.
- The completed project with the two 24-storey and one 32- storey towers will be a landmark defining the south-west corner of the CEF.
- The September 21 shadowing of the fields from the three towers during the active growing season is less than 5 hours and is within the City's acceptable criteria.

Adverse impacts of the proposed development on the cultural heritage values of the Central Experimental Farm NHS include:

- AAFC management acknowledge the fields adjacent to Baseline Road are subjected to urbanization. Appendix C is a chronology of Aerial Photographs extending over 65 years. The photos support that test plots have been replaced with acreage crops and a grass buffer of untilled land next to the road. (Figure 3)
- The setback between towers B and C and the active agricultural fields result in moving shadows over a 4 hour period throughout the September fall solstice mornings reducing the amount tof sun on an average of +/-5%. Recent studies document the successful growth of grass crops including wheat, oats and barley can be grown in up to 20% shade with no impact to the yield.
- Based on the Miller report soybean is the only crop grown at the Farm that would be negatively impacted. Their report states that Soybean is significantly affected by as little as 8.7% sunlight reduction which indicates it would have negligible loss of yeild.

4.2 Alternatives and Mitigation Measures

Official Plan

The City of Ottawa Official Plan includes provisions for Cultural Heritage Resources in Section 4.5.

4.5.3 Where development is proposed on a property that is adjacent to or within 35 metres of the boundary of; a property containing an individually designated heritage building (Part IV of the Ontario

[1] *It should be noted that in accordance with case law in the Southminster case PL180075-APR-09-2020 (in which the City concurred) it was concluded that both the 780 Baseline lands and the Carling Avenue lands are not considered adjacent. The distinction is important in terms of applicability to the policy. More importantly, the policy, does not direct the City to not support the ZBLA. It simply requires to have regard to the heritage implications. These implications have been addressed as part of the mitigation efforts in the HIA.*

Heritage Act), a heritage conservation district (Part V of the Ontario Heritage Act) or a federally recognized heritage property, the City may require that a Heritage Impact Assessment be conducted by a qualified professional with expertise in cultural heritage resources. The assessment will do the following: [Amendment #96, February 22, 2012]

1. *Describe the positive and adverse impacts on the heritage resource or heritage conservation district that may reasonably be expected to result from the proposed development;*
2. *Describe the actions that may reasonably be required to prevent, minimize, or mitigate the adverse impacts in accordance with the policies below; and,*
3. *Demonstrate that the proposal will not adversely impact the defined cultural heritage value of the property, Heritage Conservation District, and/or its streetscape/neighbourhood.*

The three tower development will provide overlook of the farm but will not hamper scientific research because a number of mitigation measures were implemented throughout the design process including:

- Reduction of podium heights along Baseline Avenue from 6-storeys to 4-storeys;
- Reduce tower heights, especially for the westernmost Tower B to 24-storeys from 27.
- Tower C, the easternmost tower along Baseline Avenue is now a slim, point tower rather than a wider, more rectangle building, resulting in a narrower shadow impact to the north on the CEF.
- Tower separation between the two (2) towers along Baseline Road is over 27m, reducing potential overlapping shadows and creating ample sunlight between towers. (compare Figure 23 below with Figure 24)
- Tower portions of the building were rotated along Baseline Road to be perpendicular to the road, having the effect to reduce width of shadow areas.
- The re-introduction of shelterbelts along the edge of the Experimental Farm will be a positive inclusion that will improve the long-term health of the Central Experimental Farm and provide a pleasant vista for users of the pedestrian and cycle facilities.
- The introduction of the rapid transit corridor along Baseline with additional right-of -way and a buffer zone/wind break will reduce the size of useable experimental fields and mitigate the impacts from urbanization.
- Despite being exposed to these many variabilities for many years, the CEF continues to operate effectively, as evidenced by over forty publications and presentations in 2023.

The three site plans and shade studies (September) below illustrate the design changes undertaken to reduce the extent of shadowing on the fields and improve the pedestrian realm.

Figure 23: Site Plan and September Solstice Shadow Study illustrating the shadow cast by the three towers with 6 storey podiums and two slab towers along Baseline. Source: Zoning Amendment dated 2022 05 16. Rod Lahey Architects Inc. 2022

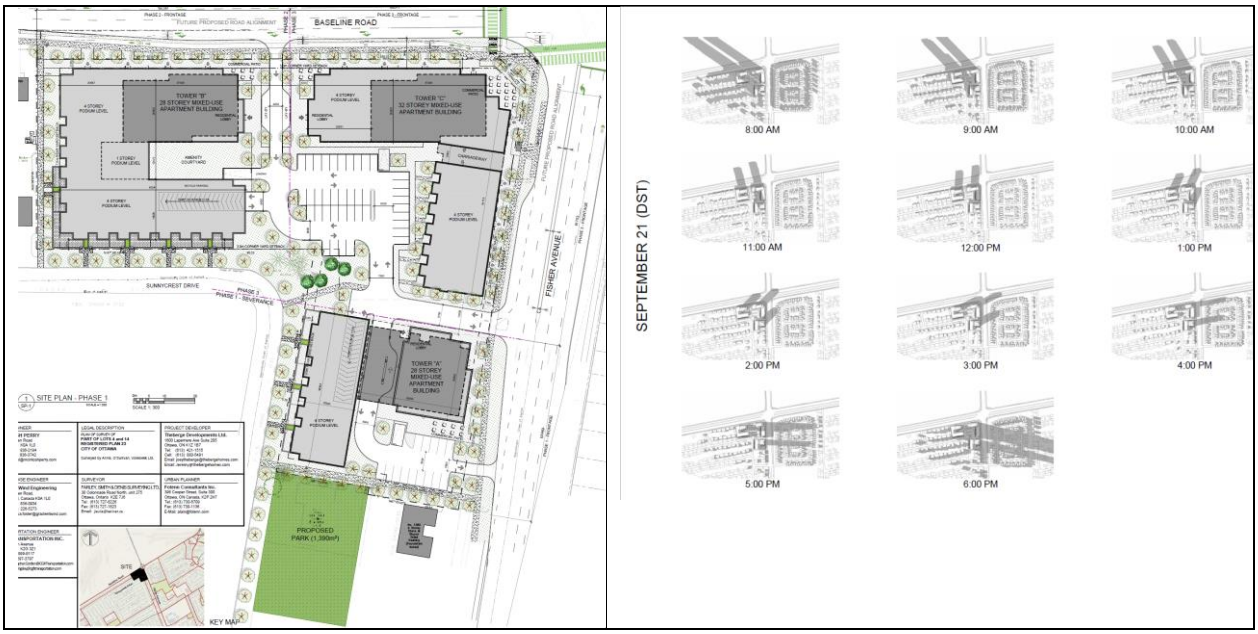


Figure 24: Site Plan and Solstice Shadow Study illustrating the shadow cast by the three towers with reduced to 4 storey and two slab towers fronting along Baseline. Source: Zoning 1st Round September dated 2022 09 29. Rod Lahey Architects Inc. 2022

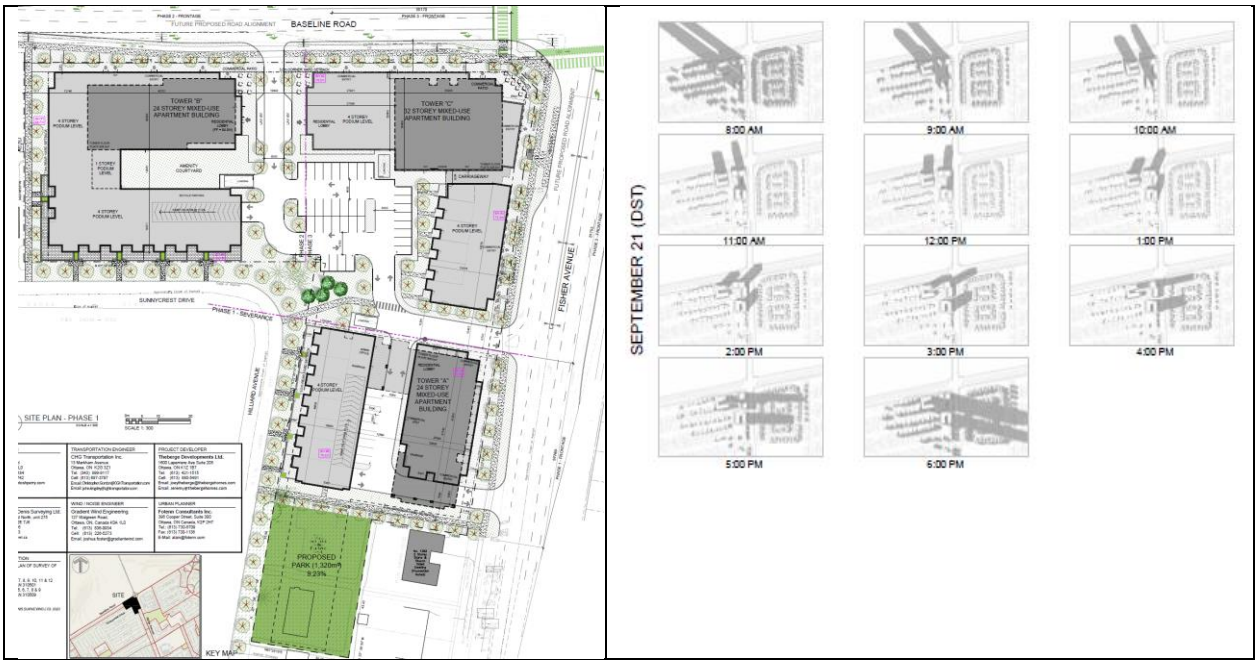


Figure 25: Site Plan and September Solstice Shadow Study compares the shadow cast by the 4 storey Podium and greater separation distance between a 24 storey slab tower and the introduction of a 32- storey point tower. The mitigation is most noticeable comparing the 8am and 9am shadows of figure 23 and 24. Source: SPC 1st Round, dated 2023 08 23. Rod Lahey Architects Inc. 2023

4.3 Central Experimental Farm NHS

Cultural Heritage Attributes

The CIS and SOS for the Central Experimental Farm National Historic Site of Canada organize the cultural landscape into three parts:

- a central core of administrative, scientific, and functional farm buildings and spaces;
- the experimental fields, plots, and shelterbelts; and
- the arboretum, ornamental gardens, and experimental hedges.

We note again that there is no Federal or Provincial Heritage designation of the Farm.

Objectives for the Designated Place

The CIS states that: The designated place will be unimpaired and not under threat when:

- *the present boundaries and spatial balance of the Farm, which enhance understanding of the historic and on-going agricultural research function, are safeguarded, and maintained;*

The development of the towers will not alter boundaries and spatial balance. Views outward from the CEF are not identified as defining features.

The surviving 19th century landscape plan, including the core administration, scientific and farm buildings, plus the arboretum, lawns, ornamental gardens and display beds, experimental fields,
plots and shelterbelts, and circulation patterns set in a Picturesque composition, is safeguarded, and maintained in accordance with recognized heritage conservation principles.

The AAFC shade study estimated a range of 1% to about 20% reduction in sunlight caused by the proposed structures. Their potential area of concern appears to be about 47 acres of the CEF site. Based on the Miller Engineering report within the potentially affected area, the ~20% reduction would likely be limited to less than two acres along Baseline on either side of Fisher Avenue. The average expected impact across the 47 acres would likely be about 5% reduction in sunlight and will not have a negative impact on grain crops. Source: Miller Engineering Inc. Report

- *The development does not alter the 19 century landscape plan. The CIS and SOS also recognize that: "The Farm is now bounded on all sides by urban development, with plans to accommodate high volumes of traffic and pollutant such as road salts.*

A sufficiently large area to carry out and support the scientific research function is maintained. The Miller report estimates approximately 2 acre will have 20% less light. Since the late 1950s the farmland next to Baseline Road has not been used for test plots. The test plots are set well back from Baseline Road (See Figures 3 and 5). The photos suggest AAFC has over time introduced management stewardship to mitigate the impact of urbanization with no impact on the historic plan.

- *The character of a "farm" as defined by fields, utilitarian buildings and circulation patterns is recognized;*

The character defining features of the Farm will continue to be recognized.

- *The "farm within a city" remains sufficiently large to provide a contrast to the scale of urban development.*

Intermittent shade along the perimeter already exists at these research fields and will become more prevalent given the construction of a similar high-rise building developed or proposed. Despite being exposed to these many variabilities for many years, the CEF has continued to operate effectively, as evidenced by over forty publications and presentations in 2023. The Miller report questions why "the additional effects from the proposed structures would be anything but "de minimis" (of little significant further influence)."

The development will be a landmark and will accentuate and support 'a sense of place' of the CEF as a distinct environment within Ottawa. The subject property in not identified as within a significant view plane as outlined in Schedule C6-A of the Official Plan. Views looking south to the towers are not necessarily a concern, they will introduce a focused landmark from within the boundaries of the CEF. The overlook from the residential tower will also provide added security.

Standards and Guidelines for the Conservation of Historic Places in Canada

The City requires a HIA to consider the impacts of a proposed intervention to a heritage property (which does not exist in this case) in the context of the *Standards and Guidelines for the Conservation of Historic Places in Canada* (hereafter cited as *Standards and Guidelines.*) The *Standards and Guidelines* include process steps, treatment categories, and general and specific guidelines to conserve the attributes of heritage resources.

The proposed project is considered in the context of its potential to affect the preservation of heritage attributes of the historic place, including farm fields, through impacts on the cultural landscape's heritage value and physical attributes. The *Standards and Guidelines* divide physical attributes into several categories, such as Land Patterns, Visual Relationships, Water Features, etc. The most relevant categories are Evidence of Land Uses (section 4.1.1 of the *Standards and Guidelines*) and Visual Relationships (section 4.1.5.)

Section 4.1.1 Evidence of Land Use offers pertinent guidelines for determining the impact of the proposed development:

- Documenting all interventions that affect land use and ensuring that this documentation will be available to those responsible for future interventions.
- Not introducing a new feature that is incompatible in function with the past or continuing land use.

The most pertinent guidelines for examining the impact of the proposed development from Section 4.1.5 Visual Relationships are:

- Documenting the visual relationships in the cultural landscape
- Protecting and maintaining the features that define visual relationships

Discussion

The key issue when considering conservation steps is the mitigation and conservation measures that should be considered to retain evidence of land use, specifically the use of the entire CEF as a historic scientific landscape with extensive farm fields. Since the city has surrounded the Farm for a long time, views of the fields from key vantage points, such as along Baseline Road, Carling Avenue, Prince of Wales Drive and Fisher Avenue, and the fields themselves as landscape elements will not change with new development on Baseline Road.

In dealing with a cultural landscape, it is important to recognize its ethereal nature and provision to accommodate change seasonally and over time. As well, agricultural practises have changed. For example, shelter belts are one of the defining features however along Carling Avenue they were removed in 1956 and not replaced, as were the large coniferous plantings that lined the Driveway. Appendix C Aerial Photographs illustrates the changes that have taken place incrementally to fields experimental plots and circulation.

Many of the fields adjacent to the CEF are subjected to exhaust from cars and chemicals that are used on the roadway and adjacent properties. Vandalism, public use, are increasingly factors to be taken into account. The city of Ottawa is planning to build a transit line along Baseline Road with a major transit stop at the intersection of Baseline Road and Fisher Avenue. This line will incorporate farm land running along Baseline Road, impacting the farm through construction dust, increased traffic, and drainage. The Miller overview findings specifically address sunlight obstructions, they also suggest the need for more comprehensive management strategies.

Key elements contributing to the heritage value of the experimental fields, plots, and shelterbelts include:

- the orderly organization of the fields based on a grid system reinforced by a regular system of roadways and access lanes, and distinctive internal fencing of red "pencil posts" with white tops;
- the open cultivated fields, with their variable sizes, colours, textures, and seasonal variations;
- the relationship between the open fields and the heavily screened Driveway with its parkway characteristics of curbs and streetlights, which emphasize the integration of a farm within a city;
- the shelterbelts, made up of hardy trees which protect the fields;
- the core brick-clad science and administration buildings;
- the viewscapes including the view from the corner of Baseline and Fisher, the view southwest from Carling Avenue across the fields, the framed view looking east from Fisher along Cow Lane; and the view from any point along the periphery into the open fields.

Discussion: The core brick clad science and administrative buildings are located approximately 1km from the development site and the proposed development will have no adverse impacts on the core buildings of the CEF. The proposed development will have no adverse impacts on the identified viewscapes. The development site is located to the south of the experimental fields, plots, and shelterbelt. At the proposed heights of 32 and 24-storey towers the phase 2 development will result in shadowing of the fields along the southern boundary. The shadowing is within the City of Ottawa's guidelines and based on the Miller peer review will have no impact.

4.4 Conclusions

This revised HIA has reviewed both Phase 1 and Phase 2 proposed development.
It is the HIA's opinion the Phase 1 proposed development does not impact the cultural heritage value of research at the CEF. The Commemorative Integrity Statement, the recognition of the farm within the city, and the farm's heritage significance will not be threatened. Further, the character-defining elements of the fields, plots, and shelter beds will be maintained.

As documented by the September Solstice Shadow Study (Figure 19) there is moving shadow that briefly casts shade on the CEF plots between 8am and 9am. This would be equivalent of a single cloud overhead moving across the land. This intrusion seems minimal taking into consideration the position of the tower and that the fields will be setback further away from Baseline Road to allow for the City right of way, introduction of a multi-use path and shelterbelts along the south edge of the fields. This opinion is supported by the Miller Engineering report.

Phase 2 includes two additional towers situated directly along Baseline Road at 32 storeys and 24 storeys in height. As documented by the September Solstice Shadow Study (figure 21-22) which includes all three towers there will be a moving shadow on the experimental fields throughout the morning from 8am until after 11am. Throughout the design process a number of changes were made to the design and orientation

of the three towers to limit the shadowing. These changes mitigating the impact of shadows are described in detail in Section 4.1 and 4.2.

The companion study prepared by Miller Engineering was carried out based on direction provided by City Planning Staff and it is the author's understanding that the study meets the City's expectations. The report dated December 2023 confirms that there are no significant or noticeable impacts to the research function of the CEF, and as a result the heritage qualities of the Farm are not undermined or impacted by the proposed development and associated shadowing. The shadows from the proposed buildings at 780 Baseline Road do not undermine the CEF's ability to conduct research or erode the Farm's heritage attributes.

5.0 AUTHORS QUALIFICATIONS

Commonwealth Historic Resource Management offers professional services related to conservation, planning, research, design, and interpretation for historical and cultural resources. A key focus of the practice is assessing the impact of development on heritage resources. The firm was incorporated in 1984.

John J. Stewart, B.L.A., O.A.L.A., C.S.L.A., CAHP, a principal of Commonwealth is a specialist in the planning and design of cultural resources, building conservation, and commercial area revitalization. A graduate of the University of Guelph, he received additional training at Cornell University (USA) and Oxford University (UK) and holds a diploma in the Conservation of Monuments from Parks Canada, where he worked as Head, Restoration Services Landscape Section. Before Commonwealth's formation, Stewart served for four years as the first director of Heritage Canada's Main Street Program.

Stewart is a founding member of the Canadian Association of Heritage Professionals. He has served as the Canadian representative of the Historic Landscapes and Gardens Committee of ICOMOS and the International Federation of Landscape Architects. Stewart is a panel member with the Ottawa Urban Design Review Panel and a board member of Algonquin College Heritage Trades Program.

APPENDIX A: CEF COMMEMORATIVE INTEGRITY STATEMENT

4.1 Character of the Designated Place

The Central Experimental Farm is characterized as a planned, designed and evolved cultural landscape whose national significance lies in part in its physical manifestations of the 19th century philosophy of agriculture and the Picturesque landscape linked by the 1880's design. Incorporated into this are administrative, scientific, and agricultural buildings which respect the original design. Implicit in the Picturesque design are the relationships between the core zones, between buildings and the outdoor spaces, including the well-established system of paths and roadways, the long vistas across fields and water, and the intangible, life-giving qualities of light. All are still legible on the landscape, all enhance the aesthetic character of the Central Experimental Farm, and all reinforce the sense of historic place. The original plan divides the Farm into three clearly defined primary zones, each representing an area of concentration and specialization: the central core of functional farm, science, and administration buildings; the experimental fields and plots with their bordering shelter belts; and the arboretum, ornamental gardens, and experimental hedges.

4.1 a Within the first zone, the central core is organized around the Driveway. To the north of the Driveway, the science and administration buildings are arranged around an expanse of lawn, south of the Saunders Building. Trees and shrubs are laid out in a gardenesque manner so that each plant is displayed to its best advantage. To the south of the Driveway is situated the model farm. The model farm was intended to demonstrate the most efficient and orderly layout of farm buildings, although its primary functions included pure and applied scientific agricultural research and practical farming. The task of directing the entire network of Dominion Experimental Farms, as well as the Central Experimental Farm, was carried on from the administration buildings. Originally, many of the residences for senior Farm personnel were grouped in this central core.

4.1 b The second zone of experimental fields and plots is located to the south and west of the central core. Planted with a variety of crops for testing, these are well laid out in a highly -9- ordered pattern, with an orderly system of laneways for easy access, and protective fencing.

Within the fields are clusters of small buildings which serve as field laboratories, supporting the active research projects. The Booth barn complex, in part predating the establishment of the farm, is located at the south end of the fields, near Baseline Road.

The Farm's development of hardy trees for shelterbelts is illustrated by the remaining stands of trees at the west side of the Farm, along the north end of Fisher Avenue. The shelterbelts serve the practical agronomic function of protecting the fields. Extensive research was formerly carried out on the design and establishment of shelterbelts, as well as the tree species which were most suitable; such information was particularly important to prairie farmers.

4.1 c In the third zone, the arboretum is laid out on the easternmost side of the Farm. Planned as a means of testing and demonstrating suitable tree species for various hardiness zones of the country, this site is characterized by its wide variety of specimen trees and shrubs. Together with the experimental hedge collection, located north of the Saunders Building lawn, and the ornamental beds west of Prince of Wales Drive, the arboretum illustrates the scope of the Farm's scientific activity, as well as the view that beautification schemes enhance farm life. These primary zones are orchestrated into a unified plan that is characterized by its pastoral appearance. It incorporates such features as long stretches of lawn and fields, gently rolling land, pleasing water vistas, a core of buildings attractively set among groups of mature trees and clumps of shrubbery, and winding pathways that encourage outdoor enjoyment and provide leisurely changes of experience.

The orderliness and neatness which are so characteristic of the Farm are not only pleasing to the eye but are also critical to the Farm's scientific pursuits. The Picturesque character of the core farm buildings is illustrated by their compatible scale, varied massing, and silhouettes, as well as by the variety and application of their wood cladding. The same vocabulary is applied to the core science and administration buildings, but these are distinguished from the farm buildings by the use of brick cladding. The glass and metal framed greenhouses exhibit similar qualities. Buildings of the 1920s and 1930s adhere to the established design vocabulary but are modified to suit the more functional taste of the period.

The Picturesque quality of the Central Experimental Farm is further enhanced by the manner in which the core buildings are frequently set off by flower beds, shade trees, shrubbery, and lawn. The Sir John Carling Building, situated at the northeast comer of the property, respects the underlying organization of the 1880s plan through its location in the central core, and its setting of lawns and flower beds. As the headquarters of the Department of Agriculture and Agri-food Canada, it speaks to the pivotal role of the department in the agricultural history of Canada.

Although not linked to agricultural research, the Observatory complex at the north end of the property likewise reflects the historic character of its surroundings as a "scientific campus" and contributes to the character of the Central Experimental Farm.

The Farm is now bounded on three sides by urban development, characterized by major roadways carrying high volumes of traffic, and mature residential and institutional areas. This provides a strong sense of contrast and juxtaposition, emphasizing the rural qualities of the Farm: it is possible to drive along a multi-lane urban roadway and suddenly come across a view of wide fields bordered by leafy green lanes to the cluster of barns in the central core.

The parkways which now run through the Farm, the Driveway which is owned by the National Capital Commission and Prince of Wales Drive which is owned by the Regional Municipality of Ottawa- Carleton, are scenic roadways which link the Farm to the city and reinforce the distinctive character of the historic place.

4.2 Objectives for the Designated Place

The designated place will be unimpaired and not under threat when:
the present boundaries and spatial balance of the Farm, which enhance understanding of the historic and on-going agricultural research function, are safeguarded, and maintained;
the surviving 19th century landscape plan, including the core administration, scientific and farm buildings, plus the arboretum, lawns, ornamental gardens and display beds, experimental fields, plots and shelterbelts, and circulation patterns set in a Picturesque composition, is safeguarded, and maintained in accordance with recognized heritage conservation principles;
- a sufficiently large area to carry out and support the scientific research function is maintained;
- the character of a "farm" as defined by fields, utilitarian buildings and circulation patterns is recognized; and
- the "farm within a city" remains sufficiently large to provide a contrast to the scale of urban development. the historic values of the designated place are communicated to the public.

5.1 Landscape Features that Symbolize or Represent the Site's National Historic Significance

As previously noted, this cultural landscape is manifested by its division into three primary zones. Each zone is comprised of patterns and features which, together, give each its unique character. These character-defining elements can be categorized as either landscape elements or buildings.

5.1 b *The Experimental Fields, Plots and Shelterbelts*

The cultural landscape within this zone is characterized by the following elements which, as they visually express both the Picturesque composition and the activity of scientific agricultural research and practical verification, are level 1 resources: the orderly organization of the fields based on a grid system reinforced by a regular system of roadways and access lanes, many of which are tree-lined, and distinctive internal fencing: red "pencil posts" with white tops; within the parameters of the grid system the variable sizes, colours, textures and seasonal variations of the fields and of the plots into which they are subdivided, which reflect ongoing agricultural research needs; the presence of clusters of small research support buildings in the fields; the relationship between the open fields and the heavily screened Driveway with its parkway characteristics of curbs and street lights and; the remaining shelterbelts on the western perimeter of Fisher Avenue at the north end of the Farm.

5.2 Historic Values of the Cultural Landscape

Taken as a whole, the Central Experimental Farm is valued as a distinctive cultural landscape which: symbolizes the central role agriculture has played in shaping the country; portrays the 19th century philosophy of agriculture, within a Picturesque composition; reflects its function of agricultural research and practical verification in its layout and design; reflects the key role of the Central Experimental Farm in testing agricultural techniques and selecting varieties of crops and horticultural plants suitable for a wide range of climatic zones and soil types; and which represents a rare example of a farm within a city.

5.2 b The *experimental fields, plots and shelterbelts* are valued for the open fields which underscore the agricultural character of the place, and which are essential to an understanding of both the historic and the on-going function of scientific agricultural research, and to the understanding of' a farm within the city'; the distinctive landscape features such as the orderly circulation system, the allées of trees, the

fences, the divisions of fields into experimental plots, and the changing patterns of colours and textures which enhance an understanding of the on-going research function; the shelterbelts, which are valued for their role in research directed towards expanding agriculture in western Canada; and
- their distinctive views, including but not limited to: - the view from the comer of Baseline and Fisher, looking northeast to the central core, with the Booth barn complex in the foreground;
- the view southwest from Carling Avenue across the fields;
- the framed view looking east from Fisher along Cow Lane; and
- the view from any point along the periphery into the open fields.

APPENDIX B: STATEMENT OF SIGNIFICANCE

Description of Historic Place

The Central Experimental Farm National Historic Site of Canada, located in urban Ottawa, Ontario, is comprised of various structures and buildings embedded within a large rural landscape. Flanked by broad expanses of farmland, its central area consists of the administrative core, housed in a variety of eclectic and picturesque structures, and encompasses an arboretum, specimen plantings, and intricate ornamental gardens. Official recognition refers to the cultural landscape with its natural, built, and landscaped components at the time of designation.

Heritage Value

The Central Experimental Farm was designated a national historic site of Canada in 1997 because: - as a cultural landscape, the more than 400-hectare farm in the heart of the Nation's Capital reflects the 19th-century philosophy of agriculture and carefully integrates an administrative core and a range of other buildings with arboretum, ornamental gardens, display beds and experimental fields in a picturesque composition;
- since its establishment in 1886, the farm has made significant scientific contributions to agriculture in Canada by uniting scientific experimentation with practical verification, as exemplified by the development of the hardy strains of wheat that were so influential in expanding Western Canadian agriculture;
- a rare example of a farm within a city, the Central Experimental Farm has become a symbol of the central role agriculture has played in shaping the country.

Eager to introduce profitable new agricultural methods and products, the federal government created the Central Experimental Farm in 1886. The Department of Agriculture selected a rectangular parcel of land, over 400 hectares in area, approximately 3 kilometres from Parliament Hill. Located on a desirable site, due to its variety of soil types and access to land, water, and rail transport, the farm would serve both Ontario and Québec. As the city of Ottawa grew, the Farm was gradually absorbed into the urban environment and is now situated well within the city limits.

The plan of the Farm is based on three clearly defined zones: a central core of administrative, scientific, and functional farm buildings and spaces; the experimental fields, plots, and shelterbelts; and the

arboretum, ornamental gardens, and experimental hedges. The Farm's Picturesque landscape is the result of a movement promulgated by a 18th-century English aesthetic theorists and practitioners who sought to bring landscape design closer to an idealized nature. One convention of this movement was the adoption of certain standard features of the British country estate, including large stretches of lawn and fields, use of water, masses of trees and shrubbery, and winding pathways. These features, designed to enhance nature's inherent beauty by emphasizing its irregularity, variety, and intricacy in form, colour, and texture, integrate harmoniously with the administrative, scientific, and functional farm buildings. The Picturesque qualities of the Farm are a significant aspect of the 19th-century philosophy of agriculture.

This philosophy also recommended the use of chemistry and genetics to make farm life more productive and appealing. Its proponents sought to develop better farming methods by applying a new scientific methodology to farming. Since its establishment, the Central Experimental Farm has contributed substantially to the development of Canadian agriculture through scientific research, experimentation, and practical verification. The Farm has addressed issues such as human and animal health, the importation of plants and livestock, the identification and control of imported insect pests, and soil fertility. It also contributed to the expansion of agriculture in western Canada through the development of hardy strains of wheat, and in eastern Canada through research on forages and grasses. The Farm soon became the headquarters of a national system of experimental farms, as its central location and administration served to address a range of national agricultural issues.

Character-Defining Elements

Key elements contributing to the heritage value of this site include:

- its location in the urban centre of Ottawa, encompassing a variety of soil types, cleared fields, and various buildings;
- its pastoral appearance, as well as the orderliness and neatness critical to the Farm's scientific pursuits;
- its plan, made up of three clearly defined zones: the central core of the functional farm, science, and administration buildings; the experimental fields and plots with their bordering shelterbelts; and the arboretum, ornamental gardens, and experimental hedges;
- the buildings, which illustrate the Picturesque character with their compatible scale, varied volumes, and silhouettes.

Key elements contributing to the heritage value of the central core include:

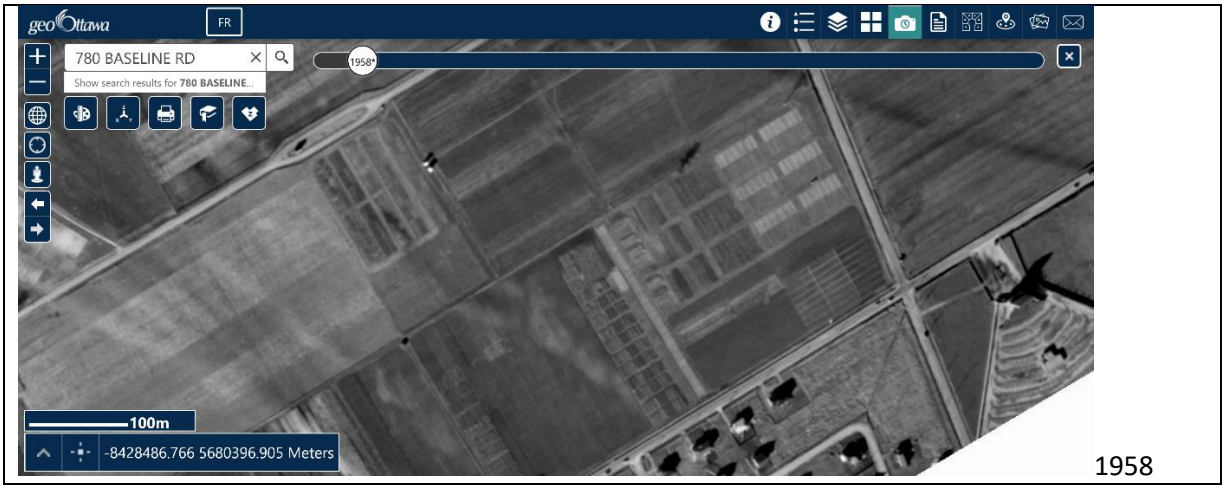
- the intimate scale of the interior of the zone, and the campus-like atmosphere;
- the compatible scale and design of both Prince of Wales Drive and the Driveway, which have evolved from the main north-south and east-west roads in the original 1880s plan and link the Farm to the city;
- the placement and design of the core administration buildings with their wood-clad exteriors, and their relationships to each other and to their landscape setting, which reveal their original functions and the orderly development of the original 1880s Picturesque plan;
- the associations of the buildings with key figures in the development of Canadian agriculture, such as William Saunders, Charles Saunders, and Sir John Carling;
- the buildings' small, single-storey board and batten style, conveying their continued role as part of a complex of support buildings;

- the model farm, intended to demonstrate the most efficient and orderly layout of farm buildings.

Key elements contributing to the heritage value of the experimental fields, plots, and shelterbelts include:
- the orderly organization of the fields based on a grid system reinforced by a regular system of roadways and access lanes, and distinctive internal fencing of red "pencil posts" with white tops;
- the open cultivated fields, with their variable sizes, colours, textures, and seasonal variations;
- the relationship between the open fields and the heavily screened Driveway with its parkway characteristics of curbs and streetlights, which emphasize the integration of a farm within a city;
- the shelterbelts, made up of hardy trees which protect the fields; - the core brick-clad science and administration buildings;
- the viewscapes including the view from the corner of Baseline and Fisher, the view southwest from Carling Avenue across the fields, the framed view looking east from Fisher along Cow Lane; and the view from any point along the periphery into the open fields.

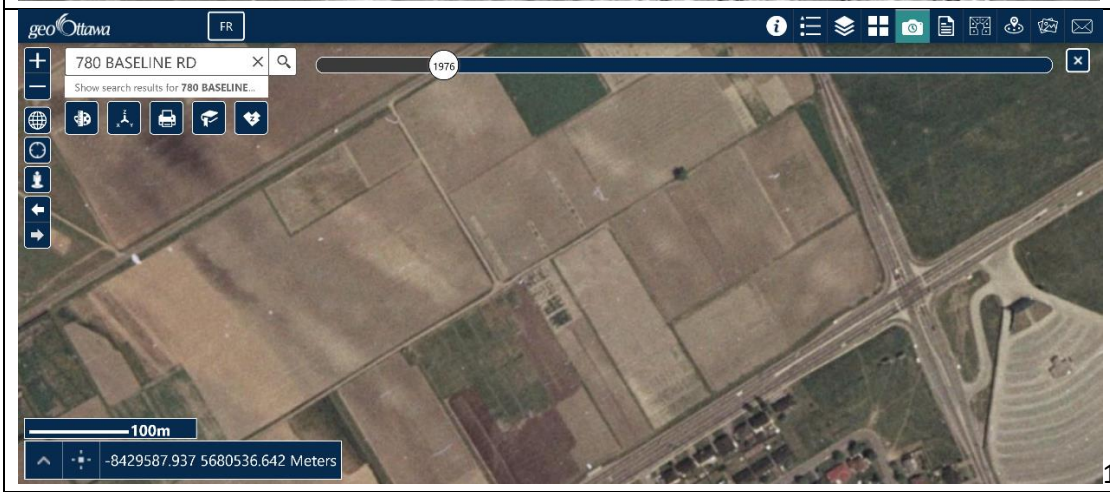
Key elements contributing to the heritage value of the arboretum and ornamental gardens include:
- the Picturesque nature of the site, evidenced in the skillful use of topography and water, and the incorporation of the shoreline of the Rideau Canal, Dow's Lake, and the lagoons into the visual composition;
- the circulation pattern in the arboretum, laid out in a typically Picturesque design of curving promenades and constantly changing views;
- the glass and metal frames of the greenhouses;
- the arboretum itself, including a wide variety of specimen trees and shrubs, planted to test and demonstrate suitable tree species for various hardiness zones of Canada.

APPENDIX C: 1958 - 2022 CHRONOLOGY OF AERIAL PHOTOS DOCUMENTING THE CEF FIELDS



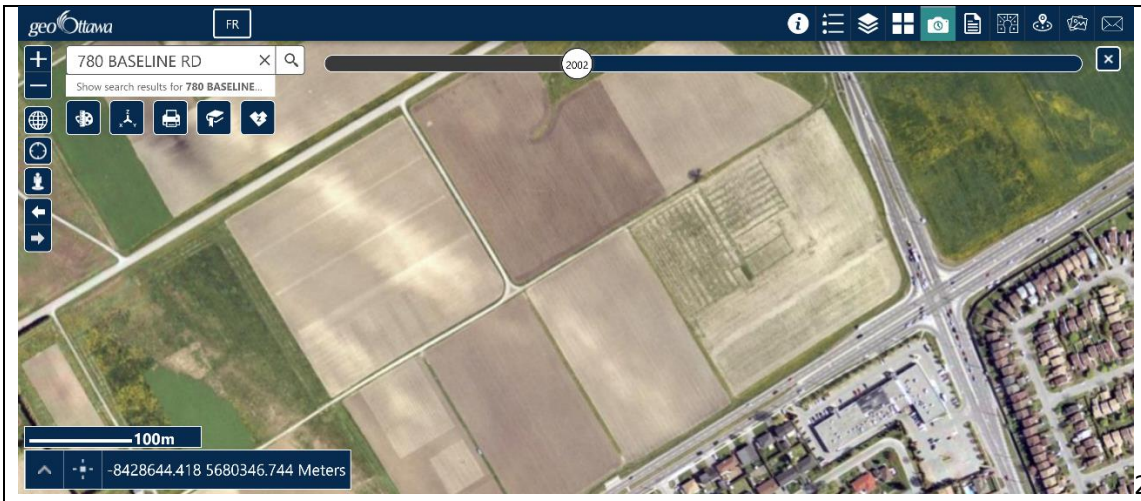
1958

1965

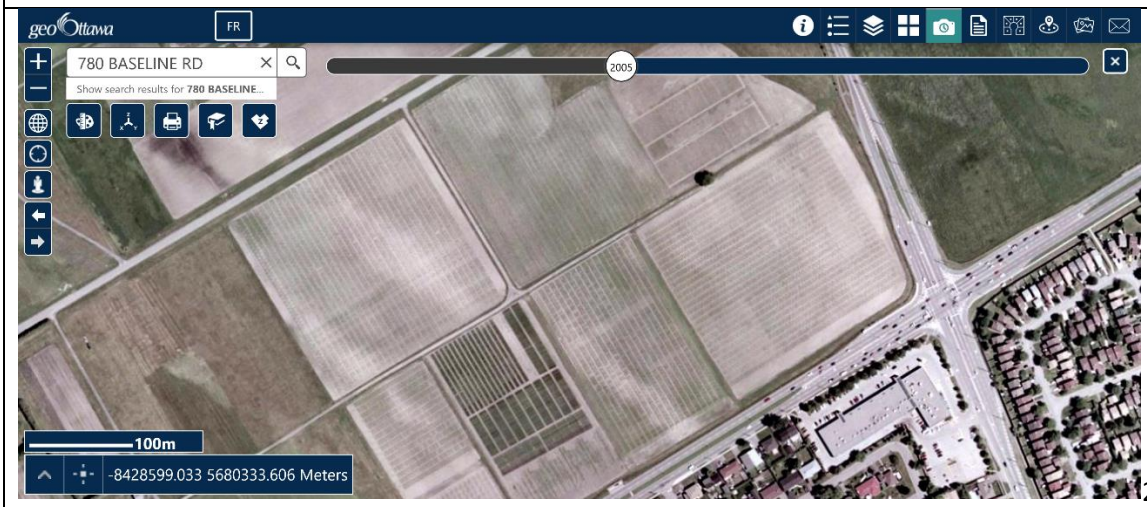


1976

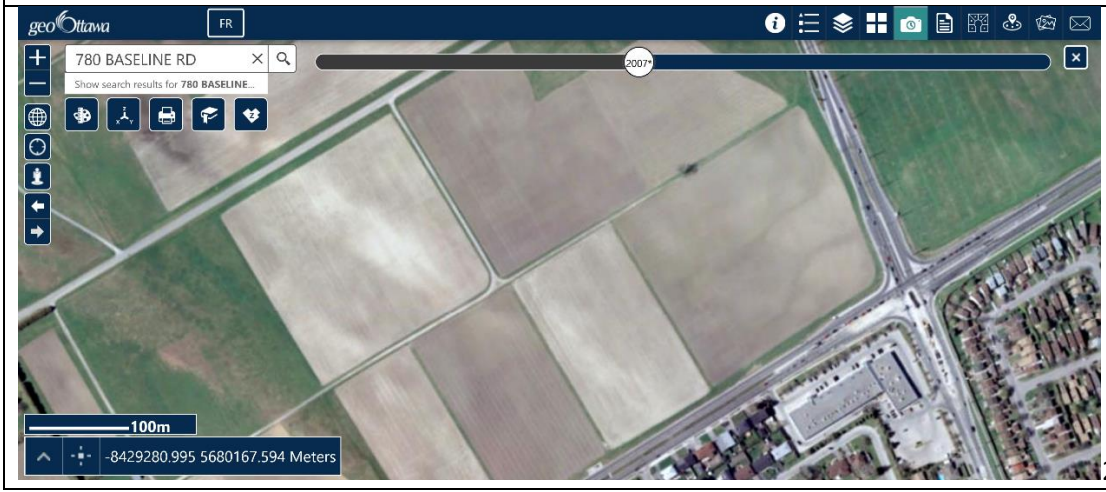
1991



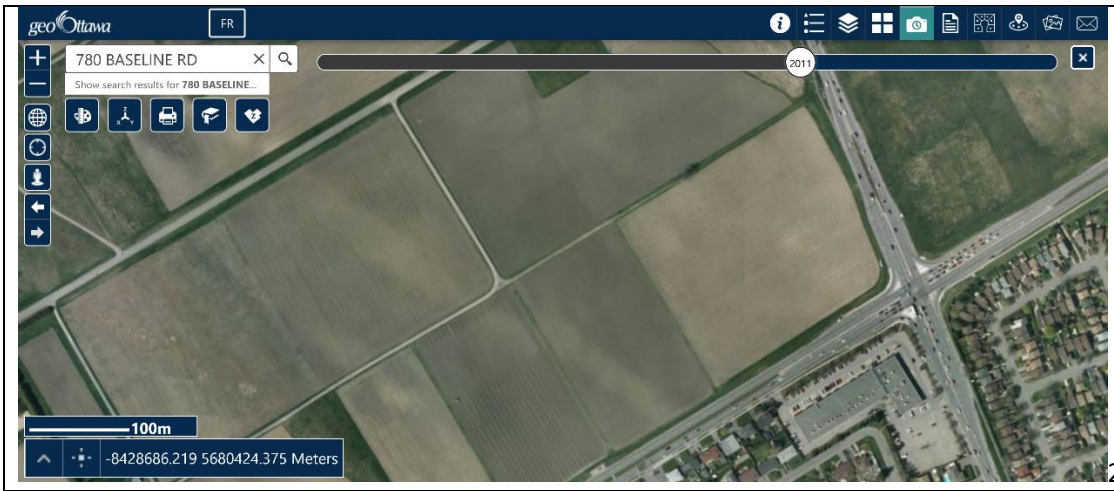
2002



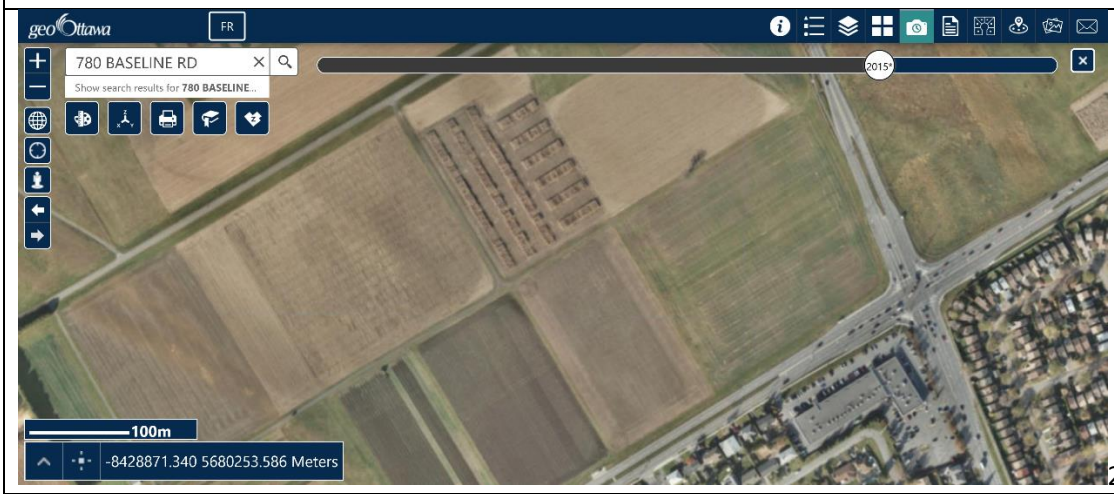
2005



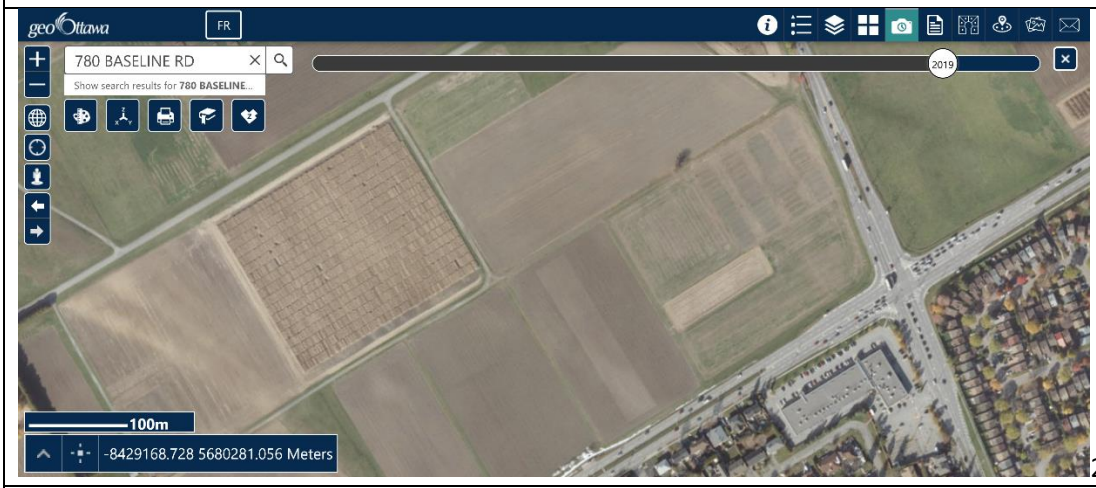
2007



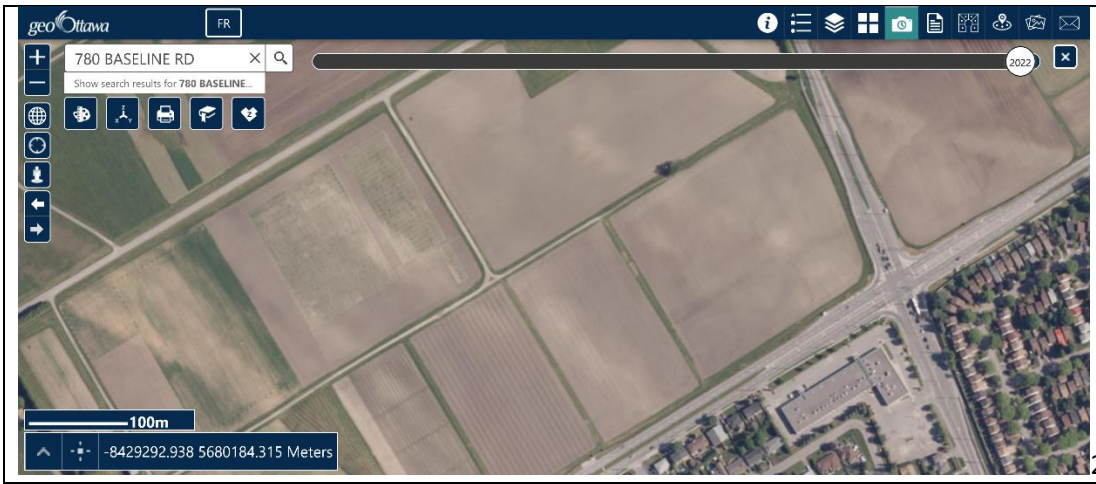
2011



2015



2019



2022

A selection of aerial photographs starting in 1958 document the use of the fields along the southern portion of the farm. After 1965 it would appear that the experimental test plots shift north away from the lands next to Baseline Road. The fields appear to be fallow in most images. Source: geo Ottawa. 1958, 1965, 1991, 2002, 2005, 2007, 2011, 2015, 2019 and 2022.

APPENDIX D: LETTER TO THE CITY OF OTTAWA FROM AAFC February 2023.

Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada

February 13, 2023

Kelly Livingstone
Planner, City of Ottawa
kelly.livingstone@ottawa.ca

RE: New Development Application for Apartment Towers at 780 Baseline Road in Ottawa

Dear Mr. Livingstone,

Thank you for the meeting on February 2, 2023 to discuss Agriculture and Agri-Food Canada's (AAFC) concerns related to the new development application for apartment towers at 780 Baseline Road, which is adjacent to AAFC's Central Experimental Farm (CEF) property. As mentioned, the proposed development raises some serious concerns for AAFC with regards to risks to our agricultural science integrity and impacts to our best research fields. AAFC has done an internal assessment of the proposed towers development and the impacts/risks to the CEF; for your consideration please refer to Annex A for those details.

AAFC, through the National Capital Commission (NCC) Municipal Liaison, previously provided comments on the proposed towers design, in which we asked the City to seek a design that limits and minimizes the shadowing on the CEF. The revised design has increased the building height and rotated one of the towers (Tower C) making it wider which will further exasperate the shadowing impact to our land. In addition to shadow, the construction of underground parking for the apartments may affect water table levels in the area, and potentially causing drainage issues on the CEF land.

AAFC is requesting that the City strongly consider the irreversible impacts to the CEF (as described in Annex A), and seek an approach that supports preserving our research land as you move forward with your assessment of the development application. AAFC has proposed an alternative option in Annex A and, with the City, can work together in determining height and design parameters of the proposed towers that would limit shadow impacts to the CEF. We are also requesting the City to have the proponent prepare a groundwater impact study by a professional qualified in hydrology and agrology to ensure there are no impacts to the water table that will affect the CEF.

Canada

Thank you for considering our concerns and we look forward to working with the City on addressing the impacts the new development will have on the CEF.

Sincerely,

Michel, Pascal
2023.02.15
07:55:10-05'00'

Pascal Michel
Director General
Ontario and Quebec Region
Science and Technology Branch

Digitally signed by
DurnfordMcIntosh, Karen
Date: 2023.02.17 09:08:19
-04'00'

Karen Durnford-McIntosh
Director General
Real Property and Asset Management
Corporate Management Branch

Cc: Ted Horton, Senior Planner & Municipal Liaison, National Capital Commission

Attachment:

Annex A – Risk to the Central Experimental Farm Lands by Proposed Apartment Towers at 780 Baseline Road.

Annex A

Risk to the Central Experimental Farm Lands by Proposed Apartment Towers at 780 Baseline Road.

Background:

1. The lands owned by Agriculture and Agri-Food Canada's Historic Central Experimental Farm (CEF) are responsible for creating new varieties of crops in support of Canadian agriculture. The land west of Fisher Avenue and north of Baseline Road (adjacent to the proposed 780 Baseline Road development), are the best research lands on the Central Experimental Farm (CEF). The land is a fertile clay loam, flat, tile drained and used by research scientists to produce new varieties of wheat, oat, soybean, corn and barley.
2. These fields are used to test over 36,000 potential varieties of spring and winter wheat, soybean, barley, corn and oats per year. Farm organizations have invested over $3 million since 2018 in collaborative research done on these lands to incrementally improve the disease resistance, climatic stress tolerance, and yield of their crops.
3. Research is also done on management practices to reduce the carbon footprint of agriculture. Climate change will bring with it many new stresses on crop production, which will only be mitigated using adaptive research techniques and modern trait selection practices. The fields of the CEF are our laboratories for the varieties of the future that farming will depend on.
4. It is recognized that Baseline Road is a Mainstreet Corridor in the City's new Official Plan, and that the City's Transportation Master Plan includes a proposal for the eventual development of a Bus Rapid Transit lane. This will bring further development in proximity to the CEF. We encourage the City to consider holistically the impacts of development on the CEF, and to use its development review processes to limit the impacts on its research lands.

Shade study

5. A shade study was done to examine the patterns and cumulative amounts of solar radiation reduction cast by the proposed development at 780 Baseline Road. The building and rezoning applications calls for one 32 storey tower and one 29 storey tower situated on Baseline Road and one 29 storey tower situated south of Baseline and west of Fisher Avenue. The shade study was designed for an entire growing season which occurs from April 01 through to November 30.
6. The model to calculate the amount of shade was based on the sun's position in the sky at one minute intervals over each day during the growing season and the height and footprint of the towers. Cloudless conditions were assumed. A day started and ended when the sun elevation was one degree above the horizon.
7. The attached Figure 1. shows a four square km block centred on the proposed towers at 780 Baseline Road. The coloured areas correspond to the amount of shading with dark green being the greatest amount followed by yellow, light blue and then dark blue. The units are cumulative minutes of shade during the growing season on a log scale. The figure shows that the proposed towers will result in significant shade cast on the CEF research lands.

8. The research lands for 200 m north and 200 m west from the proposed towers will have total seasonal radiation reduced by 27 percent. Travelling west, solar radiation reduction is reduced by one half with every 100 m until at 600 m there is only a 1% reduction in total seasonal radiation. Moving north from the proposed towers, solar radiation reduction is 4.3 percent of total seasonal radiation in the second 100 x 100 m grid, and less than 1 percent of total seasonal radiation at 300 m.
9. The area of the CEF most profoundly affected by the proposed towers extends 600 m west on Baseline road and 300 m north from the proposed towers.

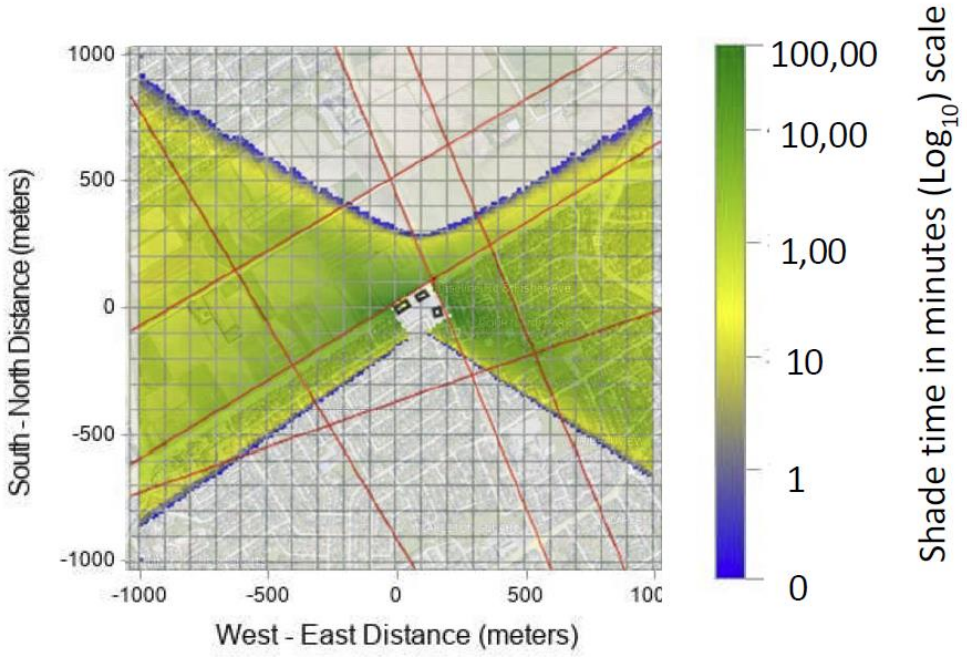


Figure 1. Shadow cast over a four square km area during the growing season (April 01 to November 30) by the proposed development at 780 Baseline Road. The heat map colours correspond to the magnitude of shade duration with blue being the lowest, yellow being medium and dark green the highest amount of cumulative shade. The red lines correspond to streets and are used for overlaying the heat map on the Google Earth image of the area. The squares are 100 m x 100 m polygons used to calculate reduction in solar radiation caused by shade. Shade is a logarithmic scale with 1= 10 minutes, 2 = 100 minutes, 3 = 1000 minutes and so on. The area surrounding the apartments was removed from the heat map because it is greater than 100,000 minutes per year.

10. Attenuating the total amount of light reaching the research lands will reduce total photosynthesis, reducing yield and delaying harvest. Light is a combination of many different wavelengths and plants use them differently. For example, early morning and late dusk light red light stimulates plants to flower.
11. The most devastating effect is the increased variability in sunlight caused by differentially shading of the fields throughout the growing season. This will increase the variability of

the research lands and make them unusable for most field experiments. Increased light variability adds an additional factor to research experiments that will make results impossible to interpret.

12. Fall seeded crops, such as winter wheat, grow extensively during the fall, remain dormant under the snow, and then regrow early in the spring months to be harvested in late July. Therefore, sunshine in the fall and spring are a requirement for winter crops and the shade in the fall and spring is greater due to the angle of the sun above the horizon.
13. Solar radiation in the spring melts and evaporates snow cover, and dries and warms the soil. Dry soils are required to cultivate the land and plant crops. Increased shade will delay spring planting resulting in a shift in flowering to a hotter period of the year, delayed maturity and harvest, and lower yields.
14. Sunlight is used by microorganisms responsible for nutrient cycling on a yearly basis. Nitrogen, phosphorous and carbon cycles are among some of the necessary natural processes mediated by microorganisms in the soil that are affected by sunlight and soil temperatures.
15. A comparison of Figures 2 shows the shadows cast by 14 storey towers. While tower style apartments at 780 Baseline Road of any height will cast shade on research lands, there is much less reduction in total solar energy as the height of the buildings decreases. Three 45 m towers will affect the research lands less than the proposed tower heights of two 90 m and one 102 m tower.
    - **Request:** We request the City consider the effects that this application and future development along Baseline, (e.g. design elements orientation, floorplate size and height) to limit shadowing on the CEF.

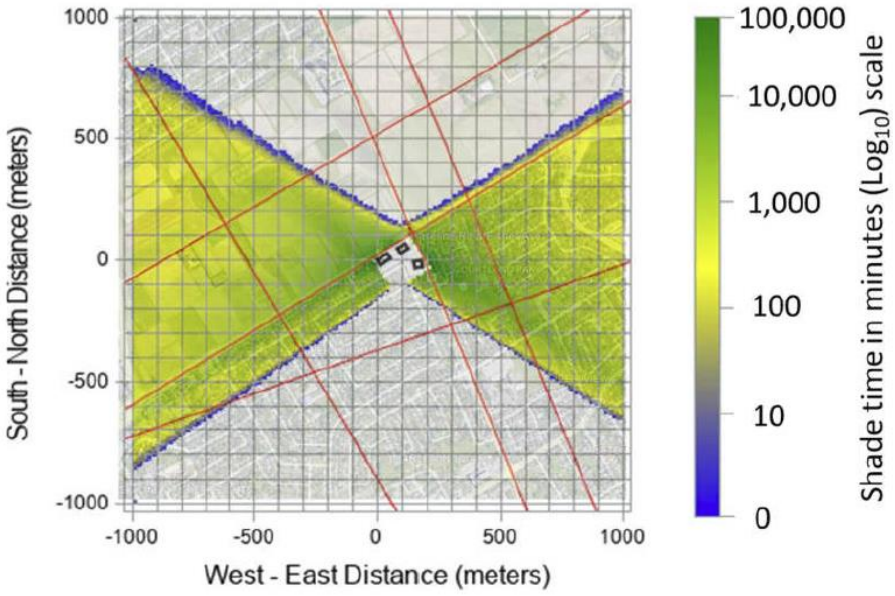


Figure 2. Shadow cast over a four square km area during the growing season (April 01 to November 30) by 14 storey towers at 780 Baseline Road. The heat map colours correspond to the magnitude of shade duration with blue being the lowest, yellow being medium and dark green the highest amount of cumulative shade. The area surrounding the apartments was removed from the heat map because it is greater than 100,000 minutes per year.