FISHER ARCHAEOLOGICAL CONSULTING

CITY OF WINDSOR SEWER MASTER PLAN, TYPE 2,
CITY OF WINDSOR

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

In the Geographic Township of Sandwich,
Essex County, Ontario

PIF# P359-0117-2019
18th August 2020

CITY OF WINDSOR SEWER MASTER PLAN, TYPE 2, CITY OF WINDSOR IN THE GEOGRAPHIC TOWNSHIP OF SANDWICH, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

FINAL REPORT
(Original)

Submitted to:
Ontario Ministry of Heritage, Sport, Tourism & Culture Industries

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Flavio Forest
Dillon Consulting Limited
3200 Deziel Drive, Suite 608
Windsor, Ontario N8W 5K8
Telephone: 519 948-5000
Fax: 519 948-5054
Email: fforest@dillon.ca

Prepared by:
Fisher Archaeological Consulting
452 Jackson Street West
Hamilton, Ontario L8P 1N4
Telephone: (905) 525-1240
Email: jacquie.fisher@sympatico.ca

Archaeological Licence Number: P359 - Ruth Macdougall
PIF No.: P359-0117-2019
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CITY OF WINDSOR SEWER MASTER PLAN, TYPE 2,
CITY OF WINDSOR
IN THE GEOGRAPHIC TOWNSHIP OF SANDWICH, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

EXECUTIVE SUMMARY

Fisher Archaeological Consulting (FAC) was retained by Dillon Consulting Limited to conduct the Archaeological Stage 1 Background Study component for the Windsor Sewer Master Plan (WSMP) Type 2 project, in the City of Windsor, Ontario. The intent of the WSMP is to provide both short and long-term solutions for sewer and coastal flood protection within the mainland City of Windsor, and is conducted as a Master Plan under the Municipal Class Environmental Assessment. Implementation of the proposed solutions in the WSMP will be carried out over a number of years. Proposed solutions include, but are not limited to, separation of combined storm and sanitary sewers, addition of new sewer lines, construction or upgrading of storm sewer outfalls and pump stations, and creating new stormwater management facilities and ponds (City of Windsor 2020f, and Dillon & Aquafor 2020a-2020d). Coastal flooding is to be addressed through the proposed Riverside Landform Barrier solution (Dillon & Aquafor 2020d). The Riverside Drive Vista Phase 2A Stage 1 component is also included in this report with the Riverside Landform Barrier solution.

There are 24 proposed solutions included in this Stage 1 report: eight in the Central Windsor Sewershed, 11 in the East Windsor Sewershed, four in the South Windsor Sewershed, and the Riverside Landform Barrier. The Stage 1 Background Study combined extensive research and Property Inspections to determine the archaeological potential of each individual solution. The results identified areas of low potential that do not require any further work, and areas of high potential where Stage 2 Assessment is recommended. The recommendations are presented by Sewershed, Central, East, and South, and then the Riverside Vista Phase 2A and Landform Barrier.

Central Windsor
There are eight individual Study Areas in the Central Windsor section of this project. The following are FAC's final recommendations for these sections based on historical research, review of visual sources and Property Inspections.

1) The Bruce Ave. Outfall, Optimist Memorial Park, and Albert Road Outfall
Three of the Study Areas in the Central Windsor Section have been found to have, or to retain, no archaeological potential: the Bruce Avenue Outfall, STM-C4 (***Figure 3.4.5***); the Surcharge Storage Optimist Memorial Park, STM-C6 (***Figure 3.6.4***); and the Albert Street Outfall, STM-C7 (***Figure 3.7.4***). Therefore, FAC recommends: no further archaeological work for these three Study Areas based on the cited figures. However, the Albert Road Outfall Study Area does include a small portion of the Detroit River and a marine archaeological assessment is required for the riverbed portion of this Study Area.

2) Prince Street Sewer Outfall, STM-C1
Most of the Study Area was originally marsh and then infilled in the 20th century. There is only a small section within the Chappell Street ROW that has been identified as retaining potential.

Therefore, FAC recommends:

1) Those areas identified on ***Figure 3.1.6*** as having low potential require no further archaeological work, and the area indicated as high potential is recommended for Stage 2: Monitoring during construction;

   If possible, pre-excavation of the proposed construction footprint in the area of high potential is recommended. If no archaeological deposits are encountered, then monitoring of the construction work itself will be to ensure that construction activities stay within the pre-excavated trenching. The pre-excavation is to be conducted by machine under the direction of a licensed archaeologist. Once the asphalt and/or concrete has been removed, the machine excavation must be conducted by a backhoe/excavator with a flat-bladed bucket. All monitoring work must refer to the Construction monitoring contingency plan.

CONSTRUCTION MONITORING CONTINGENCY PLAN

When archaeological sites are expected or have been identified in deeply buried conditions as *per* **Section 2.1.7, Standard 4b** of the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011).

1) Monitoring of construction activities has been recommended for the section within the Study Area deemed to retain high potential as indicated on ***Figure 3.1.6***. A licensed archaeologist will be retained by the proponent and must have access to the areas being excavated to monitor. Prior to construction a copy of this report will be made available to the project archaeologist and a monitoring schedule arranged.

2) If human burials are identified, all construction activities must cease in that area. The archaeologist(s) must have safe access to the construction area where the potential remains are located. The police or coroner and the Registrar of cemeteries, Ministry of Government and Consumer Services (416 212-7499) must be notified immediately.

   The construction contractor will provide the project archaeologist with site access to conduct detailed documentation of any exposed features. The construction contractor shall make available crew and machinery as necessary to assist the archaeologist with removal of fill material and to expose features in order to assess and document them.

3) The construction contractor and site foreman shall be made aware of the need for archaeological monitoring, and will inform the project archaeologist of the projected construction schedule, providing them with 48 hours notice prior to the actual construction excavation. The project archaeologist shall be made aware of any safety concerns associated with the construction work in this section in order to meet site health and safety requirements.

The proponent will confirm scheduling with the archaeological consulting company prior to the commencement of operations, as *per* **Section 7.9.9, Standard 1c** (MHSTCI 2011).

3) Detroit Street Outfall, STM-C2

Most of the Study Area was originally marsh and then infilled in the 20th century, and is thus considered to have low potential. There is one area in the northeastern part of the Study Area that could retain integrity.

Therefore, FAC recommends:

1) Those areas identified on ***Figure 3.2.7*** as having low potential require no further archaeological work. Stage 2: Assessment is recommended for the area identified on ***Figure 3.2.7*** as having high potential. This assessment should follow the *Standards and Guidelines*, **Section 2.17, Standard 1** (MHSTCI 2011) for deeply buried deposits. This strategy should be formed in conjunction with MHSTCI to develop an effective, targeted use of a backhoe for the area indicated as having high potential;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

4) Cameron Avenue Outfall, STM-C3

There is a mix of potential within the Cameron Avenue Outfall Study Area. An historic rail station (CSR) has been noted within the western part of the Study Area, while the central portion has been extensively disturbed by the construction of the rail tunnel. The extent of disturbance is unknown for the remainder of the Study Area.

Therefore, FAC recommends:

1) The area identified on ***Figure 3.3.4*** as having low potential requires no further archaeological work, and the area indicated as high potential is recommended for Stage 2: Assessment as *per* the *Standards and Guidelines*, **Sections 2.1.2 and 2.1.7** (MHSTCI 2011), with a mix of shovel testing at five metre intervals and use of a backhoe with a flat-bladed bucket. This strategy should be developed in conjunction with MHSTCI to devise an effective assessment strategy in the area indicated as having high potential;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

5) Marentette Avenue Outfall, STM-C5

Based on the background research, the Marentette Avenue Outfall Study Area has high potential for both Indigenous and Euro-Canadian archaeological resources, and high potential for Indigenous burials. There is also the potential presence for structural remains from the 19th century Verhoeff Wharf. The extent of disturbance from the construction of the roundhouse and other rail yard associated activities and from other activities is unknown for the Study Area.

Therefore, FAC recommends:

1) The area identified on ***Figure 3.5.6*** as having high potential is required to have a Stage 2: Assessment as *per* the *Standards and Guidelines*, **Sections 2.1.2 and 2.1.7** (MHSTCI 2011), with a mix of shovel testing at five metre intervals and use of a backhoe with a flat-bladed bucket. This strategy should be developed in conjunction with MHSTCI to devise an effective assessment strategy for the Study Area.

It should also be noted that there may be contaminated soils in the area, and prior to any field work, soil testing should be conducted, and appropriate health and safety measures then be followed as required;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

6) Drouillard Underpass Pump Station, STM-C8

The Drouillard Underpass PS Study Area has seen a number of construction and destruction activities over the 20th century. The Study Area possesses high archaeological potential for those areas that have not been extensively disturbed. This property was part of the boom of the early 20th century and part of Ford City.

Therefore, FAC recommends:

1) Those areas indicated on ***Figure 3.8.4*** as having low archaeological potential require no further archaeological work. The remainder of the Study Area, including the footprints of the small garden sheds or backyard structures, is considered to retain high archaeological potential as the degree of disturbance to these areas cannot be confirmed at this level of study. Therefore, a Stage 2 Assessment through shovel testing at five metre intervals is recommended based on ***Figure 3.8.4***. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

East Windsor

There are 11 individual Study Areas in the East Windsor section of this project. The following are FAC's final recommendations for these Study Areas based on historical research, review of the visual sources, and the individual Property Inspections. The Study Areas in this section consist of the five pump stations: St. Rose (PS-E-ROSE); Ford (PS-E-FORD); St. Paul (PS-E-STPAUL); Pontiac (STM-E6); and Blue Heron/Lakeview (STM-E5). The other Study Areas include four Stormwater Management Facilities: Brumpton Park (STM-E6); Meadowbrook Park (ROAD-E4); Commercial Lands, Wyandotte at Watson (ROAD-E9); and Roseville Public School and Roseville Gardens (ROAD-E11). The last two Study Areas in the East Windsor section of this project are the Low Impact Design, Lauzon Parkway Swales (ROAD-E4), and the Stormwater Management Pond, Lauzon Parkway, Little River Golf Course (ROAD-E4).

Pump Stations, East Windsor

1) St Rose PS, PS-E-ROSE

The St. Rose PS Study Area originally consisted of a small strip of land along the Detroit River. This strip of land has been enlarged over the latter part of the 20th century (made land), and was used as a construction stock-piling area. Thus, the Study Area's potential has been greatly reduced, with only a small strip of land abutting Riverside Drive East that may still retain archaeological potential.

Therefore, FAC recommends:

1) For the area that is indicated as having low archaeological potential, no further archaeological work is recommended as *per* ***Figure 4.1.5***. The small strip of land indicated as retaining high potential, as *per* ***Figure 4.1.5***, will require Stage 2: Assessment through

shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

2) Ford PS, PS-E-FORD

Ford PS is located along the Detroit River, across from Ford Boulevard. While some of the Study Area has been infilled to a small extent and impacted by utility installation, there does not appear to have been much other disturbance overall.

Therefore, FAC recommends:

1) For the area that is indicated as having low archaeological potential, no further archaeological work is recommended as *per* ***Figure 4.2.5***. The majority of Study Area indicated as retaining high potential, as *per* ***Figure 4.2.5***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

3) St. Paul PS, PS-E-STPAUL

The aerial and historic mapping of the St. Paul PS Study Area demonstrates that most of this section of the Detroit River shoreline has been altered and infilled. Most of this Study Area has no archaeological potential, but there is a small section in the eastern part of the Study Area that could retain archaeological potential.

Therefore, FAC recommends:

1) For the majority of the area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.3.5***. The small section of Study Area indicated as retaining high potential, as *per* ***Figure 4.3.5***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

4) Blue Heron/Lakeview PS, STM-E5

The Blue Heron/Lakeview PS Study Area straddles Riverside Drive East. The northern section has been infilled, and extensively disturbed, as has the road bed itself. The southern section also has been impacted by 20th century construction activities, with the level of disturbance being unknown.

Therefore, FAC recommends:

1) For the northern section, including the footprint of Riverside Drive E. which does not retain any archaeological potential, no further work is required as *per* ***Figure 4.4.4***. The southern section which retains high archaeological potential in those areas that have not been extensively disturbed, as *per* ***Figure 4.4.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

5) Pontiac PS, STM-E6

The Pontiac PS Study Area is in between the Little River, and the 'Old' Little River -- both have been channelized. Archaeological potential is high, but there have been obvious impacts to parts of the Study Area with the construction of the PS itself, service installations, and landscaping associated with the channel and intake channel. Therefore, while the integrity of the Study Area is uncertain, since no photographic evidence could be found for extensive and overall disturbance to the whole of the Study Area, certain sections may still retain archaeological potential.

Therefore, FAC recommends:

1) For the majority of the area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.5.4***. The small section of Study Area indicated as retaining high potential, as *per* ***Figure 4.5.4,*** will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

Stormwater Management Facilities, East Windsor

1) SMF, Brumpton Park, STM-E6

The SMF, Brumpton Park Study Area background research confirms its use first as agricultural fields, with slow development in the vicinity of the area into the late 20th century. Given the distance to the Detroit River and the presence of the former mouth of Little River, a large portion of the Study Area is considered to have high Indigenous and Historic potential. Areas of obvious modern disturbance, such as the infilled former mouth of Little River, the raised north end by the Ganatchio Trail and around the playground, are considered to have low potential.

Therefore, FAC recommends:

1) For the northern and western portions of the Study Area that are indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.6.4***. The remainder of the Study Area indicated as retaining high potential, as *per* ***Figure 4.6.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) SMF, Meadowbrook Park, ROAD-E4

The Study Area is a park, and of rectangular shape. The northern end of the park has been extensively disturbed in the past. The southern end contained a baseball diamond, its level of disturbance is unknown. A watercourse connected to the Little River also appears to have been present in the southeast corner of the Study Area, but was not shown after 1975. Therefore, based on the background research, the SMF, Meadowbrook Park has low archaeological potential in the northern section, and while there may have been disturbance to the remainder, it is being designated as having high archaeological potential due to the watercourse and unknown level of disturbance (see ***Figure 4.8.4***).

Therefore, FAC recommends:

1) For the northern part of the Study Area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.8.4***. The majority of Study Area indicated as retaining high potential, as *per* ***Figure 4.8.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

3) SMF, Commercial Lands, Wyandotte at Watson, ROAD-E9

The proposed new Stormwater Management Facility (SMF), Wyandotte at Watson consists of a shopping plaza and vacant lands. The west end of the Study Area has been extensively disturbed from previous construction activities. The west end as well as the shopping plaza with parking are considered to have low archaeological potential, while the grassed areas in the southeastern section are considered to retain high archaeological potential.

Therefore, FAC recommends:

1) Most of the Study Area is indicated as having low archaeological potential, and no further archaeological work is required as *per* ***Figure 4.10.4***. The small remainder of the Study Area indicated as retaining high potential, as *per* ***Figure 4.10.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

4) SMF, Roseville Public School & Roseville Garden, ROAD-E11

The SMF, Roseville School & Park has mostly been agricultural in land use up to the last quarter of the 1900s. While there does not appear to have been any extensive land disturbance, and the area is currently a park, there are no criteria that would act as triggers for an archaeological assessment. The WAMP (CRM Group *et al*. 2005: Figures 1 & 2) places the Study Area within an area of low potential, and this current background study indicates that no criteria were found which would negate the WAMP's observations.

Therefore, FAC recommends:

1) That the whole of the SMF, Roseville School & Park Study Area is deemed to have low archaeological potential (***Figure 4.11.4***), and no further archaeological work is required.

Low Impact Development (LID) and Stormwater Management Pond (SMP), East Windsor

1) New LID Swales, Lauzon Parkway, ROAD-E4

The background research for the Lauzon Parkway Swales indicates that this Study Area has variable archaeological potential. The Study Area itself is just over 300 metres from Little River, and was identified as an area of low potential by the WAMP (CRM Group *et al*. 2005: Figures 1 & 2, see ***Figure 10***), however the detailed background research conducted for this study has identified an historic tributary of Little River within 300 metres of the southern half of the Study Area. The northern half of the Study Area does not meet any of the high potential triggers and has been extensively disturbed from previous construction and landscaping, and therefore has low archaeological potential. The southern half of the Study Area has both high and low potential areas.

Therefore, FAC recommends:

1) For those areas of the Study Area that are indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.7.4***. The small portion of Study Area indicated as retaining high potential, as *per* ***Figure 4.7.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) SMP, Lauzon Parkway, Little River Golf Course, ROAD-E4

The Study Area for the proposed Little River Golf Course SMP is almost the entire golf course. Based on the background study, the Golf Course has a mix of potential. There is a small area that can be confirmed as disturbed, since it is a parking lot. There are two areas that can be considered to possibly retain high potential, but there has been landscaping and grading, and therefore, probably have sections of both extensive disturbance, and areas still retaining potential. The remaining areas have been indicated as retaining high archaeological potential.

Therefore, FAC recommends:

1) For the area of the Study Area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.9.5***. The remaining portions of Study Area indicated as retaining high potential, as *per* ***Figure 4.9.5***, will require Stage 2: Assessment through shovel testing either judgmentally, or at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

South Windsor

There are four individual Study Areas in the South Windsor section of this project. The following are FAC's final recommendations for these sections based on historical research, review of visual sources and Property Inspections. The four Study Areas are: SMP, Dougall Underpass (ROAD-S1); SMP, 2829 Howard Avenue (ROAD-S2); SMF, 2459 Chrysler Centre (ROAD-S3); and SMP Central Avenue Expansion (STM-S7)..

All four of these Study Areas have been found to have, or to retain, no archaeological potential. The background research for SMP, Dougall Underpass has agreed with the WAMP (CRM Group *et al.* 2005) that this Study Area has no archaeological criteria that would trigger the requirement of an archaeological assessment, apart from the northern corner that is within 50 metres of a railway. Even that is negated by the presence of the former intersection in the northern end of the Study Area. Therefore, this Study Area has low potential. The SMF, 2459 Chrysler Centre also does not meet any of the criteria that indicate high potential, and has been disturbed within the past 50 years. Therefore, the SMF 2459 Chrysler Centre also has low potential.

The other two Study Areas in South Windsor, SMP, 2929 Howard Avenue and the Central Avenue SMP Extension, were shown that while they may originally have had archaeological potential, the background research and Property Inspections have shown that there is no archaeological potential remaining.

Therefore, FAC makes the following recommendation:

1) The SMP, Dougall Underpass (***Figure 5.1.4***), the SMP, 2829 Howard Avenue (***Figure 5.2.6***), the SMF, 2459 Chrysler Centre (***Figure 5.3.5***), and SMP Central Avenue Expansion (***Figure 5.4.2***) Study Areas all have low archaeological potential and do not require any further archaeological work.

Riverside Drive Vista Phase 2A and East Riverside and Riverside Drive East- Coastal Flood Protection Landform Barrier

The Landform Barrier is situated in a long and fairly narrow Study Area, running parallel to the Detroit River and Riverside Drive East, through the eastern part of the City of Windsor to the eastern boundary at the city limits with the Town of Tecumseh. The Study Area includes areas that will require upgrades to the berm, new construction, and portions that do not currently require any work. The Landform Barrier has been divided into three main sections: Riverside Area 1 (BERM-1-2); Riverside Area 2 (BERM-2-1); and Riverside Area 3 (BERM-3-1). The Riverside Drive Vista Phase 2A Study Area contains the whole of the Riverside Landform Barrier Area 1, and includes a few metres of Area 2, and covers the whole Riverside Drive East ROW with additional lands to the north and south.

The Riverside Vista Phase 2A begins at 5245 Riverside Drive East and extends eastwards to 7050 Riverside Drive East, encompassing the whole of the Riverside Drive ROW, 10 metres north of the ROW and 4.5 metres south of the ROW.

The Riverside Area 1 berm work will start on the north side of Riverside Drive E., at the eastern end of property 5686, heading eastward, and ends at the eastern side of the St. Rose PS property. The Riverside Area 2 Study Area continues on the north side of Riverside Drive E., until approximately just west of Frank Avenue where the berm work will switch to the south side of the Riverside Drive E. The Riverside Area 2 Study Area continues to Brumpton Park. It is approximately halfway between Frank and Watson Avenues, on the south side of Riverside Drive, that the West Marsh Drain began, continuing as the East Marsh Drain east of Little River to the city border. And at the east end of the Riverside Area 2 the Electric Railway came in from the south at Brumpton Park to meet the Study Area, and then continued south of both Riverside Drive E and the East Drain, parallelling the shore of Lake St. Clair. The Riverside Area 3 Study Area started at the end of Brumpton Park continuing east to the City of Windsor Limits with the Town of Tecumseh.

The Riverside Vista Phase 2A and Riverside Areas 1 and 2 consist mostly of residential sections, the potential is highly variable depending on the level of landscaping, infilling and paving, and some areas are made land. These sections are considered to have variable potential ranging from low to high archaeological potential. The Riverside Area 3 consists mostly of land that has been identified as having low potential, with only one area considered to retain high potential based on the background study and Property Inspection.

Therefore, FAC recommends:

1) For the Study Area consisting of Riverside Drive Vista Phase 2A and Riverside Area 1 (BERM-1-2), those areas indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figures 6.10a-c***. The remainder of the Study Area indicated as retaining high or variable potential, as *per* ***Figures 10a-c,*** will require Stage 2:

Assessment through shovel testing at five metre intervals, or judgmentally as indicated *per* the figures. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) For the Study Area consisting of Riverside Areas 2 and 3 (BERM-2-1, and BERM-3-1) those areas indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figures 6.10c-h, 6.10j-k***. The remainder of the Study Area indicated as retaining high or variable potential, as *per* ***Figures 10c-e***, and *10j*, will require Stage 2: Assessment through shovel testing at five metre intervals or judgmentally as indicated *per* the figures. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

3) A marine archaeological assessment is required for the riverbed portion of this Study Area.

CITY OF WINDSOR SEWER MASTER PLAN, TYPE 2,
CITY OF WINDSOR
IN THE GEOGRAPHIC TOWNSHIP OF SANDWICH, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

FINAL REPORT

1.0 PROJECT CONTEXT

The following is a Stage 1 report, prepared for review by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI). Archaeological consultants, licensed by MHSTCI, are required to follow the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011) during land use planning as part of the evaluation of cultural heritage resources. This includes reporting all findings to MHSTCI. There are four stages for archaeological work — Stages 1 to 4.

Stage 1 — Background Study and Property Inspection. The purpose of the Stage 1 archaeological assessment is two-fold. Firstly, it is to determine the potential for the presence of as yet undocumented cultural heritage resources, and secondly, to determine whether known cultural heritage resources are extant on the subject land(s).

Stage 2 — Field work. Stage 2 is the actual field examination of high potential areas, and involves either surface survey of ploughed fields or shovel testing in areas that are undisturbed or cannot be cultivated.

Stage 3 — Testing. The purpose of the Stage 3 is to ascertain the dimensions of the site, its cultural affiliation (if possible), and to evaluate its significance. If the site in question is determined to be archaeologically significant, then appropriate mitigation measures will be decided upon.

Stage 4 — Mitigation. Stage 4 involves the mitigation of the development impacts to the archaeological site through either site excavation or avoidance (preservation).

Stage 1 determines the amount of Stage 2 work required. Stage 2 determines if Stage 3 is warranted, and Stage 3, in turn, determines if the archaeological resources are significant and warrant a full excavation (Stage 4) or if the site may be preserved.

All work was conducted under archaeological licence P359. This Archaeological Stage 1: Background Study report pertains to project information number P359-0117-2019.

1.1 Development Context

Fisher Archaeological Consulting (FAC) was retained by Dillon Consulting Limited to conduct the Archaeological Stage 1 Background Study component for the Windsor Sewer Master Plan (WSMP) Type 2 project, in the City of Windsor, Ontario. The intent of the WSMP is to provide both short and long-term solutions for sewer and coastal flood protection within the mainland City of Windsor, and is conducted as a Master Plan under the Municipal Class Environmental Assessment. Implementation of the proposed solutions in the WSMP will be carried out over a number of years. Proposed solutions include, but are not

limited to, separation of combined storm and sanitary sewers, addition of new sewer lines, construction or upgrading of storm sewer outfalls and pump stations, and creating new stormwater management facilities and ponds (City of Windsor 2020f, and Dillon & Aquafor 2020a-2020d). The WSMP Stage 1 Assessment Strategy approved by the City of Windsor and provided by the proponent is as follows:

1) Improvements within the Municipal ROW (pipe replacements, culverts, LIDs)
Where improvements are proposed within the existing Road ROW, these are Schedule A/A+ projects and would follow the City's protocol regarding the need to complete archaeological assessment. Note: any such projects that may ultimately be considered Schedule B projects will need to be clarified during Planning and Design;

2) Infrastructure Improvements Outside of the ROW (pump stations, ponds, underground storage, berms, new storm sewer outlets)
Stage 1 Assessments will be completed for all preferred Schedule B and Schedule C projects;

3) Riverside Vista Phase 2A
Complete Stage 1 for the project limits of the Riverside Vista Phase 2A project to include the proposed property acquisition from both the road widening and the proposed berm.

The overall project area is therefore the City of Windsor, Essex County, Ontario (***Figure 1.1***), which consists of the former Townships of Sandwich East and Sandwich West. The City has been divided into three sections for the WSMP based on its sewersheds: East, Central (including former Town of Sandwich), and South. Within these sections 23 specific solutions have been proposed that address storm sewer surcharge needs under point 2 above. Additionally there is the proposed Riverside Landform Barrier, in East Windsor, that is to provide improved coastal flood protection (addresses points 2 and 3 above) and the Riverside Vista Phase 2A from Ford Boulevard to St. Rose Avenue (point 3 above). These specific solutions will have substantial ground impact and generally affect private property as well as public lands, and therefore a full archaeological Stage 1 Background Study for each solution is included as part of the Environmental Assessment process. A list of these solutions and their current or historic property designations is provided in **Table 1.1**.

Sewer replacements and other proposed solutions that will only impact the current road right-of-ways (ROWs) are not covered by this Stage 1 Background Study, as indicated in point 1 above. For these solutions, the City will utilize the Windsor Archaeological Master Plan (CRM Group *et al.* 2005) and its companion Windsor Archaeological Master Plan Implementation Manual (CRM Group 2005) to address any archaeological concerns.

Table 1.1
List of Proposed Solutions Covered under this Stage 1 Background Study

Report Section	Solution	Label Code	Address	Historic Lot Designation
3.0	**Central Windsor Sewer Shed**			
3.1	New Prince Road Sewer Storm Sewer Outfall	STM-C1	Includes parts of 3800 & 4017 Russell Street	Town of Sandwich Plan 40 (1847): Part of Park Lot B West of Russell St; West of Russell St #28; Chappell St/ Grove/ End Street ROW; Closed Russell Street ROW
3.2	Detroit Street Storm Sewer Outfall Upgrades	STM-C2	210 Detroit Street	Part of the Indian Reserve; part of the Water Lot between Detroit and Chappell; Plan 40 Lot 1 - Lot 4 & pt Lot 5 West side Russell St; Closed Detroit Street (west side of Russell); part of Russell St ROW
3.3	New Cameron Avenue Storm Sewer Outfall	STM-C3	1530 Riverside Drive West	Part of Farm Lots 72 & 73, Concession 1, Former Township of Sandwich West
3.4	New Bruce Avenue Storm Sewer Outfall	STM-C4	620 Riverside Drive West	Part Lots 78 & 79, Concession 1, Former Township of Sandwich West
3.5	New Marentette Avenue Storm Sewer Outfall	STM-C5	1388 Riverside Drive East	Part Lot 89, Concession 1, Former Township of Sandwich East
3.6	New Stormwater Surcharge (Underground) Storage, Optimist Memorial Park	STM-C6	1075 Ypres Avenue	Part Lot 91, Concession 2,Former Township of Sandwich East
3.7	New Albert Road Storm Sewer Outfall	STM-C7		Part Lot 98, Concession 1, Former Township of Sandwich East
3.8	New Drouillard Underpass Pump Station	STM-C8	Includes 290 Drouillard Road plus the Cadillac Street Park	Part Lot 99, Concession1, Former Township of Sandwich East
4.0	**East Windsor Sewershed**			
4.1	New St. Rose Pump Station	PS-E-ROSE	6902 Riverside Drive East	Part of Lot 122 & Lot 123, Concession 1, Former Township of Sandwich East

Report Section	Solution	Label Code	Address	Historic Lot Designation
4.2	Upgrades, Regional Area 3, Ford Pump Station	PS-E-FORD	5270 Riverside Drive East	Part of Lot 113, Concession 1, Formerly Township of Sandwich East
4.3	Expansion, Regional Areas 1&2, St Paul Pump Station	PS-E-STPAUL	7730 Riverside Drive East	Part of Lot 126 and part of Lot 127, Concession 1, Former Township of Sandwich East
4.4	Upgrades, Regional Area 5 , Blue Heron/Lakeview Pump Station	STM-E5	11997 Riverside Drive East, Windsor & 12042 Riverside Drive East, Tecumseh	Part of Lot 149 and Part of Lot 150, Concession 1, Former Township of Sandwich East
4.5	Upgrades, Regional Area 6, Pontiac Pump Station	STM-E6	9410 Little River Road	Part of Lot 134, Concession 1 Former Township of Sandwich East
4.6	New Stormwater Management Facility (Underground Storage), Regional Area 6, Brumpton Park	STM-E6	8890 Riverside Drive East	Part of Lot 131 and Lot 132, Concession 1 Former Township of Sandwich East
4.7	New LID Swales, Lauzon Pkwy (between Hawthorne & Cantelon)	ROAD-E4	2755, 2825, 2885 Lauzon Parkway	Part of Lot 124 & Lot 125, Concession 2 Former Township of Sandwich East
4.8	New Stormwater Management Facility (Underground Storage), Lauzon Parkway, Meadowbrook Park	ROAD-E4	2851 Meadowbrook Lane	Part of Lot 125 Concession 2, Former Township of Sandwich East
4.9	New Stormwater Management Pond, Lauzon Parkway, Little River Golf Course	ROAD-E4	2861 Lauzon Road	Part of Lots 126 & 127 Concession 2, Former Township of Sandwich East
4.10	New Stormwater Management Facility (Underground Storage), Wyandotte at Watson	ROAD-E9	part is 8380 Wyandotte Street East	Part of Lot 129 and Part of Lot 130 Concession 1, Former Township of Sandwich East
4.11	New Stormwater Management Facility (Underground Storage), Roseville Public School & Roseville Garden Park	ROAD-E11	Park - 6405 Roseville Garden Drive; School - 6265 Roseville Garden Drive	Part of Lot 119 and Part of Lot 120 Concession 2, Former Township of Sandwich East
5.0	**South Windsor Sewershed**			

Report Section	Solution	Label Code	Address	Historic Lot Designation
5.1	Stormwater Management Pond, Dougall Underpass	ROAD-S-1		Part of Lot 79 Concession 2, Former Township of Sandwich West
5.2	Stormwater Management Pond, 2929 Howard Avenue	ROAD-S2	2929 Howard Avenue	Part of Lot 85 Concession 2 & Lot 85 Concession 3, and the Road Allowance between Concessions 2 & 3, Former Township of Sandwich West
5.3	Stormwater Management Facility (Underground Storage), 2459 Chrysler Centre	ROAD-S3	2459 Chrysler Centre	Part of Lot 99 Concession 2, Former Township of Sandwich East
5.4	Expansion, Central Avenue Stormwater Pond	STM-S7	3600 Central Avenue & part 4001 Plymouth Drive	Part of Lot 102 and Part of Lot 103 Concession 2, Former Township of Sandwich East
6.0	**Riverside Vista Phase 2A & Coastal Flood Protection, East Windsor, Riverside Landform Barrier***			
	Riverside Vista Phase 2A - Ford Boulevard to St Rose Avenue		Part 5270 to 7050 & 5245 to 7045 Riverside Drive East	Part 113 to 123 Concession 1, Former Township of Sandwich East
	Riverside Landform Barrier Area 1 - Ford Boulevard to St Rose Avenue	BERM-E1 (BERM-1-2)	Part 5656 to 6902 Riverside Drive East	Part 115 to 123 Concession 1, Former Township of Sandwich East
	Riverside Landform Barrier Area 2 - St Rose Avenue to Riverdale Avenue	BERM-E2 (BERM-2-1)	Part 7010 to 8040 & 8031 to 8885 Riverside Drive East	Part 123 to 132 Concession 1, Former Township of Sandwich East
	Riverside Landform Barrier Area 3 - Riverdale Avenue to East City Limits	BERM-E3 (BERM-3-2)	Part 500 Mountbatten Crescent, Part 11997 Riverside Drive East (rest in Riverside Drive East ROW)	Part Lots 132 to 149 Concession 1, Former Township of Sandwich East

*Note that the final codes for the BERM have altered at the end of the project, (with the former code given in brackets here), and references to either code are in this report.

The specific archaeological Study Areas for each of these proposed solutions have been provided to FAC by the proponent. However, as the timeline for completing the construction will extend over many years, and the Master Plan does not include detailed design, the Study Area maps provided for the sewershed solutions include a broad scope for construction manoeuvring and laydown. The Study Areas utilized in the report figures are copied from these maps, with the originals included in the attached **Development Plan** file. It is expected that, once the final construction zones are defined during the design phase, the footprint of the study

areas required may be reduced and any further archaeological assessment could be confined to those refined boundaries.

The Landform Barrier development plan provided is of greater detail for the proposed work than those available for the individual sewer solutions, but does not outline the archaeological Study Area. The Study Area is based on verbal directions provided to FAC by the proponent and applied by FAC to the development plan, and also includes scope for construction manoeuvring and laydown. The archaeological potential and results figures for the Landform Barrier utilize the provided mapping, the originals of which are also available in the **Development Plan** file. The Riverside Vista Phase 2A Study Area scope, where outside the Landform Barrier, was provided in writing to FAC in order that it be incorporated into the Landform Barrier drawings.

The 2011 *Standards and Guidelines* (MHSTCI) address land-based archaeology only and this report cannot address any archaeological concerns within water bodies. Any registered marine archaeological sites within proximity to any of the Study Areas will be noted under the Known Archaeological Sites sub-sections. Six of the Study Areas (Detroit Street, Cameron Avenue, Marentette Avenue, Albert Road, St. Rose Pump Station and St. Paul Pump Station) have a small portion of the Detroit River within their Study Areas, and the Landform Barrier Area 3 includes a section of the dredged Little River.

Property Inspections were conducted over a number of days in 2019 and 2020, and permission to enter for the purposes of conducting the inspection was obtained through Dillon Consulting Limited on behalf of the City of Windsor for private property or else the inspection was conducted from the public ROW only. Permission to conduct the Property Inspections on municipally owned properties, such as the parks and accessible pump stations, was likewise provided by Dillon Consulting Limited on behalf of the City of Windsor. See **Section 2.2** for details on the Property Inspection methodology.

1.2 Archaeological Context

The WSMP Archaeological Stage 1 Background Study's overall project area is the City of Windsor. Windsor is located at the westernmost point of southern Ontario, bounded on the north/northwest by the Detroit River and the United States, and on the northeast by Lake St. Clair (***Figures 1.1*** and ***1.2***). The individual Study Areas for the 24 proposed solutions under examination are spread across the City, with many located on the Detroit River and Lake St. Clair shorelines. These proposed solutions are grouped by sewershed (**Sections 3.0, 4.0** and **5.0**) and within these sections, they are each addressed separately, with the proposed landform barrier in its own section (**Section 6.0**).

The following introductory sections (**Sections 1.2.1 - 1.4.2**) provide a general background overview of the overall project area, *i.e.* the City of Windsor. While a previous overview of the archaeological, environmental and historical context of the City of Windsor may be found in the Windsor Archaeological Master Plan (WAMP) (CRM Group *et al.* 2005), more recent studies, changes in archaeological interpretation and standards (including descriptive terminology), and a wider set of research tools (such as geo-referenced aerial photographs) allow for not only an updated broad overview, but also more detailed research into the individual solution Study Areas. This document is not intended to replace the WAMP, but to complement it, and to provide complete Stage 1 studies that meet the current provincial standards for the proposed solutions listed in **Table 1.1**.

1.2.1 Archaeological Sites & Previous Work

As of 1 November 2019, the Ontario Archaeological Sites Database maintained by MHSTCI recorded 84 archaeological sites within the City of Windsor boundary. The cultural affiliation of these sites varies: thirteen are Indigenous, twenty-four are Euro-Canadian, seventeen have both Indigenous and Euro-Canadian affiliations, five are Afro-Canadian, one has both Afro-Canadian and Euro-Canadian affiliations, eleven have indeterminate historic affiliations, and the affiliation of thirteen sites is not recorded in the database. See individual Study Area sections, below for information about the specific archaeological sites in close proximity to the current project.

Archaeological sites with an identified Indigenous component include village sites, burials, longhouses, camp sites, a Jesuit mission, indeterminate artifact scatters, and isolated findspots. The earliest evidence of the presence of people in the area are findspots of single artifacts dating between 8,000 and 10,000 years old; archaeological investigation of these sites and others in Windsor dating to more than 3,000 years ago appears limited. There has been more investigation of Indigenous sites from the past 3,000 years, many of which are larger and easier to identify in the archaeological record.

Archaeological sites with an identified Euro-Canadian component include homesteads and farmsteads, house foundations, middens, a railway depot, burials, a jail, a Jesuit mission, and indeterminate artifact scatters. The earliest sites date to the 18th century and the beginning of French settlement in the Windsor area; later sites are associated with the growth and development of Windsor as an important trade and industrial centre.

Archaeological sites with an identified Afro-Canadian component are all residential in nature, and none have been investigated through subsurface testing. Archaeological sites are generally determined to have an Afro-Canadian affiliation only after thorough historical research, and it is possible that more of these sites exist than is generally recognised.

Unregistered Sites

There are a number of unregistered sites within the City of Windsor boundary, mostly Indigenous burials associated with the Late Woodland/Historic period Odawa and Huron villages (see **Section 1.4.1**). The *Archaeological Master Plan* for the City of Windsor from 2005, contains a comprehensive list, from that time, of known but unregistered burials, along with site leads for known historic features which have not been archaeologically investigated (CRM Group *et al.* 2005). See individual Study Area sections, below for unregistered sites in close proximity to the current project.

Previous Archaeological Work

See individual Study Area sections, below for previous archaeological work within 50 metres of the current project.

1.3 Environmental Context - Overview

1.3.1 Physiographic Features

The surficial geology of southwestern Ontario formed primarily as a result of the most recent glaciation and subsequent glacial retreat. Windsor is located within the Essex Clay Plain subregion of the St Clair clay plains physiographic region (Chapman and Putnam 1984:Figure 19). In this region, till plains laid down during the glacial retreat were inundated during Lakes Maumee, Whittlesey, and Warren (Chapman and Putnam 1984:Figures 11e-h); while these lakes did not leave behind deep layers of sediment, "shallow deposits of lacustrine clay … settled in the depressions" on the till plain while wave action further levelled the topography (Chapman and Putnam 1984:147). This left the clay plains quite flat, with only a few notable physiographic features in the Windsor area. Along the south side of Lake St Clair, deeper lacustrine clay deposits are a remnant of the shoreline of Early Lake Algonquin (Chapman and Putnam 1984:68); the glacial till plain is more evident in central Windsor, with some areas of sand plain evident on the western side of the City (Chapman and Putnam 1984:Map P.2715).

1.3.2 Bedrock and Soils

The bedrock beneath Windsor dates to the Middle Devonian, when southwestern Ontario was covered by shallow inland seas (MNDM 2004). For most of the City, the uppermost bedrock strata belong to the Dundee Formation, fossiliferous limestones and dolostones with occasional chert lenses (Armstrong and Dodge 2007:10; Bailey Geological Services Ltd. and Cochrane 1985:29; OGS 1991). At the east end of the City beginning around Thompson Boulevard, the Dundee Formation is overlain by shales and mudstones of the Hamilton Group (MNDM 2004; OGS 1991; MHSTCI 2016). Economic importance of the Dundee Formation stems from its oil and gas deposits, and its use as a source of aggregate material (MNDM 2004). Hamilton Formation shales have been used in brick and tile production (Hewitt 1972:12).

The dominant soil types in the Windsor area are Brookston Clay ("dark clay over mottled clay then blue-grey compact gritty clay"), and Brookston Clay Loam ("dark clay loam over mottled and blue-grey gritty clay and clay loam") (Richards *et al.* 1949:soil map). Brookston soils "developed under a swamp forest of elm, black and white ash, silver maple, and other moisture-loving trees" (Chapman and Putnam 1984:149). In Windsor's east end, Riverside and East Riverside neighbourhoods, soils along the waterfront are Colwood Fine Sand Loam ("black and dark grey sandy loam over mottled and grey fine sand, silt and clay") with Clyde Clay soils farther inland ("deep black clay over mottle blue-grey clay") (Richards *et al.* 1949:soil map). All four soil types are characterised by poor natural drainage. Pockets of other soil types occur in some areas of Windsor. See individual Study Areas for more detail (see ***Figure 1.3*** for soil types).

1.3.3 Water Sources

Proximity to water sources is a key criterion when considering potential for archaeological resources. The availability of water is crucial to settlement viability, varied resource procurement, transportation, *etc*. A property located within 300 metres of a water source is considered of high archaeological potential in **Section 1.4.1 Standard 1 cii** of the *Standards and Guidelines* (MHSTCI 2011).

Water sources in the modern Windsor area changed greatly in the millennia following the retreat of the Laurentide Ice Sheet. Vast amounts of meltwater filled the basins of the modern Great Lakes, completely submerging the Windsor area until around 12,500 years ago (Chapman and Putnam 1984:Figures 11a-o; Eyles 2002:222; Larsen 1987:4). At this time, Lake Algonquin had formed in the basins of modern Lakes Huron, Michigan, and Superior, hemmed in to the north by the still-retreating ice sheet (Chapman and Putnam 1984:Figure 11j; Eyles 2002:Figure 18-6). As a result of isostatic rebound and the opening of a northward-

draining outlet near present-day North Bay, water levels in Lake Algonquin dropped drastically beginning about 12,000 years ago (Larsen 1987:14; Manny *et al.* 1988:1), and by about 10,000 BP, the remnant of Lake Algonquin in the Lake Huron (known as Lake Stanley) was hydrologically closed (as, likely, was Lake St Clair) (Chapman and Putnam 1984:Figure 11n; McCarthy *et al.* 2015:13). Water levels gradually rose before reaching their current levels around 4,000 years ago and have remained relatively stable since (Manny *et al.* 1988). The most important water sources for the City of Windsor today are Lake St Clair and the Detroit River, which form part of the Great Lakes-St Lawrence Seaway.

Lake St Clair is a large, shallow lake between Lakes Huron and Erie, especially significant for the large bird-foot delta on its northern edge, at the mouth of the St Clair River (Maynard and Wilcox 1997). Along with the Detroit River, Lake St Clair is a critical migratory stopover for waterfowl, and an important habitat for numerous fish and other aquatic species. The outlet of the Lake via the Detroit River borders the east end of the City of Windsor.

The Detroit River is the defining waterway for Windsor, connecting the Great Lakes and providing an important transportation corridor, as well as serving as a boundary between Canada and the United States. The river flows southwest from Lake St Clair at the north end of Windsor, eventually curving south to head towards Lake Erie. It formed around 13,000 years ago as water levels dropped in the former Lake Lundy basin, cutting through glacial tills and lake plain sediments to create a channel between the Lake St Clair and Lake Erie basins (Chapman and Putnam 1984:Figures 11i-k; Manny *et al.* 1988:1). Water levels in the region continued to drop following this initial formation, and it appears that for at least part of the period of Lake Stanley (around 10,000 BP) the river bed was dry (Manny *et al.* 1988:1; McCarthy *et al.* 2015:13).

When water levels rose again, the river became a wide, slow-moving channel connecting Lake St Clair to Lake Erie. Coastal wetlands developed along both sides of the river for most of its length, continuing inland for as much as a kilometre in some places; marshes formed at river mouths and on some of the islands (Manny *et al.* 1988; Maynard and Wilcox 1997). The river, its wetlands, and its islands became important habitats for a diverse array of plant and animal species, especially fish and migrating waterfowl (ERCA 1998, 1999; Manny *et al.* 1988). The Indigenous peoples living along the river valued it for the abundant natural resources, and it formed part of a trade network that spanned the Great Lakes. The river also served as an important route for early European exploration and the development of the fur trade, and some of the earliest Euro-Canadian settlement in Ontario occurred along its banks (ERCA 1998).

While early Euro-Canadian settlers valued the wetland habitats lining the Detroit River, by the late 19th century much of the shoreline had been dyked or filled for agriculture, and the development of heavy industry along the waterfront in the 20th century substantially altered the character of the river (Manny *et al.* 1988). Pollution from industrial effluents and agricultural runoff, dredging for large ships, the introduction of invasive species, and other changes caused a decrease in the biodiversity of the Detroit River and a loss of much of its coastal wetland and marsh habitats (ERCA 1998; Manny *et al.* 1988). Today the Detroit River remains an internationally-important shipping corridor, and has been designated a Heritage River under both the US and Canadian systems, with ongoing efforts to restore and protect wetland habitats and reduce levels of water pollution (ERCA 1998, 1999; Maynard and Wilcox 1997).

Remnants of a few small tributaries of the Detroit River can still be found in Windsor today, though often in a substantially modified form. Turkey Creek, now modified into the Grand Marais Drain, flowed southwest out of south-central Windsor to enter the Detroit River near Fighting Island (formerly Ile de Dindes). The

heavily-channelized Little River flows north through the east end of the city to enter the Detroit River across from Peche Island. The Ruisseau de la Vielle Reine (Stream of the Old Queen or the Old Woman River) once flowed from the inland swamps into the Detroit River at La Pointe de Montreal, now the base of Huron Church Road (***Figure 1.5***); this watercourse has since been diverted underground and is no longer visible.

1.3.4 Vegetation and Fauna

The forest vegetation of southern Ontario has undergone considerable change since the last deglaciation. Following the retreat of the Laurentide Ice Sheet beginning *ca.* 15,000 BP, the region was colonised first by small tundra plants, similar to the landscape north of the tree line in Ontario today (McCarthy *et al.* 2015:14; Stewart 2013; Yu 2003). Tree species like poplar, tamarack, and spruce began to establish themselves within a few hundred years, creating a "harsh forest-tundra transitional habitat" ecosystem, home to caribou, mammoth, mastodon, giant beaver, and a few other large mammal species but incapable of supporting large human populations (CARF 1992; Stewart 2013: 26-27; Storck and Spiess 1994; Suffling *et al.* 2003:486; Yu 2003). Over the next several thousand years, this spruce parkland gradually gave way to a boreal forest dominated by jack and red pine, which in turn was succeeded by white pine boreal woodland (McCarthy *et al.* 2015:14; Stewart 2013:28). The climate was "colder and drier than present" until around 8,000 BP (O'Shea and Meadows 2009:10120; also McCarthy *et al.* 2015:15) when a "rapid increase in mean annual precipitation" across eastern North America shepherded the migration of deciduous woodland species from regions to the south (McCarthy *et al.* 2015:15; also Julig and Beaton 2015; Suffling *et al.* 2003:486).

Between 9,500 and 7,000 BP, deciduous tree species overtook boreal species to become dominant, creating woodland of a decidedly different character and one much more similar to modern conditions (Julig and Beaton 2015:54; Stewart 2013:28). Species such as sugar maple, beech, hemlock, and birch provided the preferred habitat for white-tailed deer, eastern cottontail, and important fur-bearing species such as striped skunk and muskrat (Maynard and Wilcox 1997:60; Stewart 2013:28). Warmer environmental conditions between 6,000 and 4,000 BP saw the establishment of areas of oak savanna and tallgrass prairie north of Lake Erie, as well as a significant decrease in hemlock for the latter half of this period which was reversed after 4,000 BP (McCarthy *et al.* 2015:14; Stewart 2013:28; Suffling *et al.* 2003:487).

The modern Windsor area is within the Deciduous Forest Region, sometimes referred to as the Carolinian Forest Zone. Considered "one of the most biologically diverse regions of Canada", the Deciduous Forest Region is defined by the presence of maple, ash, hemlock, oak, elm, and beech, among many others (Riley *et al.* 1996:3; also McCarthy *et al*. 2015:15). The Detroit River was once lined by coastal wetlands and elm-ash woodlands which formed important habitat for migrating waterfowl; for spawning fish such as lake sturgeon, lake whitefish, and lake trout; and for plant species such as wild rice (Manny *et al.* 1988; Maynard and Wilcox 1997). Away from the riverfront, historical records from the 17th and 18th centuries indicate that the southern and eastern banks of the Detroit River from historical Windsor south to the River Canard marsh was tallgrass prairie and oak savanna; moisture-loving trees typical of the Essex Clay Plain (Bakowsky and Riley 1994:7-8; Manny *et al.* 1988:4). Some of these ecosystems were likely actively managed by the Indigenous groups living in the area prior to European settlement, through mechanisms such as controlled burns to maintain ideal landscape for hunting and agriculture, and propagation of desirable wild plant species such as wild rice. The long-term effects of land clearance for horticulture on the environment is likely to have been minimal and localised, especially in comparison with later deforestation by Euro-Canadian settlers (Campbell and Campbell 1994). Ecosystem change in the Windsor area accelerated in the latter half of the 19th century as land was cleared for agriculture on a large scale, leading to the extirpation of numerous native

species such as elk, and the disappearance of wetlands, oak savanna, and tallgrass prairie (CARF 1992:80; Manny *et al.* 1988).

1.3.5 Lithic Sources

The most common type of rock used to manufacture stone tools is called chert in North America, and flint in Europe and elsewhere. There is no clear-cut geological division between what is considered flint and chert, as both are crypto-crystalline or micro-crystalline rocks containing quartz (SiO2). "Flint" is typically found in chalk formations, while "chert" is found in limestone, dolomite, dolostone or shale formations (Eley and von Bitter 1989:32). Sources of siliceous stone, specifically chert, were often focal areas for pre-Contact Indigenous peoples. There are no primary sources of chert in Windsor or the immediate surrounding area, but secondary chert sources in the form of nodules deposited by glacial activity are scattered throughout the region (Julig *et al.* 1992:38; Luedtke 1984:74). Also, it should be noted that the Windsor area is a natural stopping place where people from near and far have rested, fished, and lived. Documented chert quarries exist around Lake Huron's southeastern shore and Saginaw Bay, at the west end of Lake Erie south of Detroit, east end of Lake Erie on the Niagara Peninsula, and in central Ohio (Eley and von Bitter 1989:Figure 2; Luedtke 1984:Figure 6.2; Reid 1986:Figure 5). These would have become more accessible to Indigenous peoples living in the Windsor area over time with the development of extensive trade networks in the Great Lakes basin.

Some of the lithic raw materials that may be present on sites in the Windsor area would include the following list of chert. A brief description is provided below.

Abitibi Rhyolite

This igneous rock originates in outcrops in the Lake Timiskaming area of northern Ontario. It is a light green "sea foam" colour with a slight lustre (FAC 2012a). It has been identified on at least one site in Windsor.

Detour Chert

"This shiny-lustred light gray to black chert is distinguished by small, cream-coloured patches throughout its matrix. It outcrops on Drummond Island and the adjacent tip of the Upper Michigan Peninsula" (Fox 1990:3 in Gunn 2013).

Norwood Chert

"Middle Devonian Whiskey Creek Formation Norwood (Eastport) chert has low translucency and is reported in various shades of gray and tan, usually mottled within the same block of raw material. Its diagnostic feature is the darker, wavy laminations that generally are aligned parallel to the plane of the chert bed. It outcrops on the eastern side of the mouth of Traverse Bay in Northern Michigan in lenses of up to 15 cm thickness" (Luedtke 1992:139 in Gunn 2013).

Kettle Point Chert

Kettle Point chert is found at the tip of Kettle Point (at the northern end of Cape Ipperwash) on the Ontario side of Lake Huron (Janusas 1984:2). The beds range in thickness from 2 cm to over 20 cm (Eley and von Bitter 1989:15) and form a boundary between Late Devonian Kettle Point Formation shales and Middle Devonian Ipperwash Formation limestones (Janusas 1984:2; Eley and von Bitter 1989:15). Many of the beds in the vicinity of Kettle Point are now under water. It may also be found in glacial till deposits further inland in the Ausable Basin (Kenyon 1980:12), and in Essex County (Janusas 1984:3).

Kettle Point chert is highly variable, ranging in colour from a waxy dark blue-gray, to black with occasional darker banding or mottling, to a mottled medium gray. Sometimes it is a translucent white with black circles. Another common colour range is a purplish blue to purplish red (maroon). These purplish colours are less lustrous, and contain crinoid fossil cross sections that appear as "cheerios" (Fisher, personal observation). It can also exhibit specks of rusty staining (Eley and von Bitter 1989:15, 28; Fox 1979:7). Bedding or banding may also be a characteristic of the chert (Eley and von Bitter 1989:15), and this banding may be deliberately positioned to have a wide range of colours run laterally up a projectile point (Fisher personal observation).

Bayport Chert

"Bayport chert originates in the Upper Mississippian Bayport formation which outcrops in the Saginaw Bay area (Luedtke 1992:126 in Ellis and Deller 2002:16). Bayport chert has five distinguishing characteristics: 1) it usually has "a thick nodular dolomitic to sandy limestone[,] limestone cortex (Luedtke 1992:126 in Ellis and Deller 2002:16); 2) it is "well known for having a concentric under one cm thick, banding which originates at the centre of the nodules" (Luedtke 1992:126 in Ellis and Deller 2002:17); 3) the "nodules frequently exhibit various kinds of inclusions which occur at the centre of nodules. Chalcedony masses are on such inclusion but fossils and quartz crystals also occur" (Luedtke 1992:126 in Ellis and Deller 2002:17); 4) generally the chert "has an open, coarser, more porous, structure ... compared to many other cherts in the Lower Great Lakes area" (Luedtke 1992:126 in Ellis and Deller 2002:17); and 5) the unweathered chert "is of a distinctive neutral grey (10YR6/2) to grey (10YR6/1) (ibid). Weathering also occurs with Bayport chert, displaying as a chocolate brown patina (Luedtke 1992:126 in Ellis and Deller 2002:18).

Flint Ridge Chert

"The main source for Flint Ridge chert is from the Upper Middle Pennsylvanian Vanport limestones of the Allegheny Group that outcrop in Flint Ridge Ohio. The chert is laminated and often brightly coloured, occurring in shades of green, red or white, and when exposed to heat turns blood red, dull red or pink" (Gunn 2013). It was most popularly used around 1,000 BCE, and by the start of the Late Woodland its use had waned (Malcuit *et al.* 1975:18 in Gunn 2013).

Upper Mercer Chert

"This chert is found in the Upper Mercer Formation of the lower Pennsylvanian group (Luedtke 1992:146). It occurs in 15 cm thick beds or as nodules. Its mottled appearance is due to wisps of white or bluish chalcedony appearing in a black to dark blue-gray matrix. It was favoured by early Archaic groups in the Ohio Valley, and outcrops have been sourced in Coshocton, Hocking, and Perry Counties, Ohio" (Malcuit *et al.* 1975:18 in Gunn 2013).

Onondaga Chert

Onondaga is a Middle Devonian chert whose primary sources are found on the northeast shore of Lake Erie and continues eastward into New York Stage (Parkins 1977 in Fisher 1997:19). The chert is composed of three members: Edgecliff, Moorehouse and Cliff that cannot be distinguished macroscopically (Eley and von Bitter 1989:18). As a secondary source Onondaga is ubiquitous in southern Ontario, and its "prevalence in the region is reflected by secondary deposit use on sites extending from Paleo... to historic sites. Onondaga chert was used extensively throughout the Archaic, and was almost the sole chert relied on during the Early Woodland Meadowood Phase" (Ellis *et al.* 1988:14 in Fisher 1997:19; Granger 1978:237-238; Ritchie 1969:183).

Zebra Chert

Zebra Chert is the informal name for a chert with alternating bands of dark and light colour. The dark stripes can be a dark purplish brown to black and the light stripes can be white to cream. Its source and parent formation are unknown, but artifacts and till samples of Zebra Chert have been found on Manitoulin Island, Bruce County, Huron County and Essex County (Fisher personal observation). This suggests a source somewhere in the Huron basin, possibly a rock formation that is now underwater. Movement of till by the Lake Huron glacial lobe could account for the observed distribution of this chert.

1.4 Historical Context - Overview

1.4.1 Indigenous History

Indigenous peoples have been living in southwestern Ontario since time immemorial, something that is generally not acknowledged or reflected in the archaeological practice of subdividing the past. Discussions in the Ontario archaeological community have started to recognise the sharp divide between Indigenous and archaeological understandings of the past, and to acknowledge the negative effect that certain archaeological terminology has on the ongoing process of reconciliation (Hazell 2019; Hinshelwood 2019; Sherratt 2019; Taylor-Hollings 2019). In light of this, FAC would like to discuss Indigenous history of southwestern Ontario using the Early, Middle, and Late Periods suggested by Taylor-Hollings, in place of standard terminology.

Table 1.4
Summary of Archaeological Chronology for Southwestern Ontario

	Date Range	Environment	Geological Event	Archaeological Signatures
Early Period				
Early	13,500 - 11,500 BP	- Tundra giving way to tamarack and spruce parkland	- Lake Algonquin in the Huron Basin	- Small sites associated with shorelines - Large fluted points such as Gainey, Barnes, and Crowfield - Use of primary sources of rock for making tools
Late	10,500 - 10,000 BP	- Red and jack pine forests, eventually replaced by white pine forests	- Low water stages in Great Lakes	- Small sites; lack of fluting of projectile points - Holcombe points - Hi-Lo points in south - Lanceolate points in the north
Middle Period				
Early	10,000 - 5,500 BP	- White pine forests, eventually replaced by deciduous-dominant forests	- Low water stages in Great Lakes	- Groundstone tools - Bannerstones - Notched projectile points
Middle	5,500 - 4,500 BP	- Deciduous forests - Temporary disappearance of hemlock	- Nipissing high water levels	- Hammered copper tools - Bone tools - Appearance of fish weirs - Grouped burials
Late	4,500 - 3,000 BP	- Deciduous forests	- Essentially modern lake levels	- Groundstone artifacts: bird effigies, gorgets, net weights, grinding stones - Exotic traded materials showing extensive trade networks - Early cemeteries
Late Period				

	Date Range	Environment	Geological Event	Archaeological Signatures
Early Woodland	3000 BP - 400 BCE	- Deciduous forests, with more open areas of oak savanna and tallgrass prairie	- Essentially modern lake levels	- Consistently reinhabited warm season sites - Cemeteries established - Ceramics present (at first thick & friable, later thinner & fired at higher temperatures) - Small projectile points
Middle Woodland	400 BCE - 500 CE			- Coil-built ceramics - Sites with large middens - Lots of fish and deer remains - Elaborate burial customs
Late Woodland	500 - 1650 CE		- Beginning of the Little Ice Age	- Agriculture with the Three Sisters: maize, beans, and squash - Smoking pipes - Large, consistently re-inhabited warm season sites
Contact (Settler)				
	1650 CE - present	- Beginning of large-scale deforestation	- Essentially modern lake levels	- European trade goods - Evidence of disease - Large-scale social upheaval – mass movements of people across large territories -reduction of population -smaller footprints within older continuously-reinhabited sites

Early Period

The First Peoples began to move into or back into what is now southwestern Ontario as the ice sheet retreated and water levels in the Great Lakes basins lowered. As populations increased in southeastern North America around 13,000 years ago, small groups of people gradually moved north into a newly-revealed land (Chaput *et al.* 2015; Lothrop *et al.* 2016). The landscape that greeted them would have been open and cold, sparsely vegetated with tundra plants such as lichens and sedges, with spruce and tamarack trees growing up over time (McCarthy *et al.* 2015; Stewart 2013; Yu 2003). The spruce parkland was home to mammoth, mastodon, stag-moose, giant beaver, caribou, arctic fox and snowshoe hare, California condors, and many other boreal species which no longer call the area home (Ellis 2013; Stewart 2013; Storck and Speiss 1994). The first peoples would have moved across this landscape in small groups, following herds of migrating animals and searching for food in a post-glacial landscape that was constantly changing. As they moved across the landscape, they often followed the shoreline of Lake Algonquin or one of the waterways that shifted across the clay plains, camping close to the water's edge: gathering nearby stones to support a portable shelter, cooking meals prepared from animals hunted, trapped, or fished that day, resharpening large fluted spear points or remaking them into smaller tools for other uses (CARF 1992; Ellis 2013; EMCWTF 2002; Julig and Beaton 2015).

Middle Period

As time passed and the first peoples became more familiar with the seasonal changes and the habits of local animals, they began to establish regular camps to return to on a seasonal basis. Some of these camps could have been at chert sources near Collingwood, to gather stone and prepare blanks to eventually turn into notched spear points; or at wetlands where waterfowl gathered annually to lay eggs and raise young; or river crossings where migrating herds of caribou were forced to slow down and bunch up (Ellis 2013; Roosa and Deller 1982). The most evocative example of large, seasonally-visited sites is the evidence, now submerged beneath the waters of Lake Huron, of caribou hunting structures on the Alpena-Amberley Ridge (AAR). The network of hunting blinds, drive lines, cairns, caches, stone rings, and shelters are all that remains of a landscape in which, between 10,000 and 7,000 years ago, many of those living in the Great Lakes area would gather to take advantage of a constricted area on the annual caribou migration route (Julig and Beaton 2015; Lemke and O'Shea 2015; O'Shea and Meadows 2009). While this is a good distance to the north of what is now Windsor, there are few landscapes like the AAR which can be examined on a large scale archaeologically, but the identification of sites of a similar age near Windsor is difficult due to their probable scarcity and small size. The Holcombe site, an 11,000-year-old caribou hunting site in a suburb north of Detroit, is evidence that similar modified landscapes to the one identified on the AAR may have once been found in the Windsor area as well.

As the climate warmed around 9,000 years ago, the land in southern Ontario became more hospitable and food resources more abundant. Some groups began to establish claims over specific areas of land and to follow the seasonal round within a more restricted territory, often within a particular watershed (Ellis 2013; EMCWTF 2002). One side effect was that access to the highest quality tool stone was no longer available to all groups (Fox 2013). Poorer quality local chert sources were sufficient for making everyday tools, but as a result the spear points and other lithic objects were never as finely made as those carried by earlier hunters (Ellis 2013; Fox 2013). Groundstone axes and adzes were added to the toolkit as coniferous forests established themselves in southern Ontario and the people made wooden dugout canoes and cooking troughs; other new groundstone tools were used to process a diversifying array of plant resources, or as weights for fishing nets (CARF 1992; Ellis 2013; Kapches 2013).

Ways of life changed slowly over the next few millennia, as deciduous woodlands replaced the coniferous forests, and the post-glacial tundra became a distant cultural memory. Warmer waters in the Great Lakes, and stable stream and river beds provided new habitats for many of the fish species still found in the region today. These were caught using fish hooks made of bone or antler, or copper transported by canoe from the western end of Lake Superior (Ellis 2013; EMCWTF 2002; Fox 2013). Increasingly, large groups of people gathered together during spring and autumn fish spawning runs to catch fish in nets and to cooperate in the cleaning and processing of large catches (Needs-Howarth 2013). In parts of Ontario, fish weirs built at river narrows during this period were subsequently used for thousands of years; even when no longer used to harvest fish, the weirs still served as important gathering places for ceremonies and trading (Needs-Howarth 2013). More changes to food gathering came with the introduction of the bow and arrow, which allowed hunters to target smaller game with something other than traps and snares (Needs-Howarth 2013). A surplus of food, hides, or fur could be exchanged in trade or as gifts for exotic materials, allowing copper from Lake Superior, marine shells from the Atlantic coast and the Gulf of Mexico, and finely-made Onondaga chert bifaces from the Niagara Peninsula to find their way into the hands of people living in diverse parts of eastern North America (Ellis 2013; Fox 2013). By about 3,500 years ago, favoured resource sites on the seasonal round were being re-inhabited year after year, with some groups beginning to establish cemeteries for their dead, marking ritually and territorially important places on the landscape (Ellis 2013; Spence 2013; Stewart 2013).

Late Period

Around 3,000 years ago, people in southern Ontario began to make low-fired ceramics, a change in technology which would eventually have a profound impact on ways of life. The earliest pots broke or wore out quickly, and so were made and used in the same camp and disposed of before moving on to a new location (Kapches 2013). They did not at first replace the string bags, birch bark containers, and skin sacks which were already being used as storage vessels but were instead used to cook foods at a simmer, allowing the integration of more plant foods into the diet (Kapches 2013; Williamson 2013).

Changes that had begun on a small scale in earlier times were now more entrenched, especially regarding treatment of the dead. The ancestors were buried in knolls, sandbanks, and other visible natural features, often close to a favoured camp re-inhabited on an annual basis (Spence 2013; Williamson 2013). The remains of those who died close to the cemetery were buried soon after death, some with finely-made stone objects, or with red ochre, or with exotic traded materials like marine shells or galena (natural form of lead sulphite) obtained through exchange networks built up over the preceding millennia (CARF 1992; Williamson 2013; Spence 2013). The remains of those who died at a distance from the cemetery were temporarily laid to rest on platforms or cremated, until they could be reunited with their community in the cemetery, often bundled together with other ancestors (CARF 1992; Spence 2013). The gatherings around this reinterment may have coincided with the spring resource harvest and included feasting and the presentation of gifts to the ancestors in the form of caches of stone tools, gorgets, and food such as turkey, deer, fish, and dog which were buried within the bounds of the cemetery but not necessarily with any particular individual (Spence 2013).

Over the next several centuries, the daily life and sense of identity of those living in the Windsor area began to diverge from that of people living farther east. Some of this was a result of the widespread influence of mound-building peoples in the Ohio and Mississippi river valleys, whose extensive trade networks introduced new materials such as Flint Ridge chalcedony, and new ceremonies involving the construction of earthworks and burial mounds (CARF 1992; Fox 2013; Watts 2016; Williamson 2013). These earthworks usually consisted of a circular or semicircular embankment with associated ditches and mounds, enclosing an open area “from around 100 m2 to more than a hectare”; their use likely varied depending on time and context, providing defensive capabilities, an open space for trading, or for ceremonies (Watts 2016:1).

Life continued to follow a seasonal round; people congregated in larger groups for the warm season, usually in a succession of camps near the Detroit River, and dispersed to smaller, single-family camps in the interior during the cold season, with visits to numerous other small satellite camps throughout the year to take advantage of specific resources as they became available (Spence 2013). Harvesting fish formed a major dietary focus, with different water and environmental conditions requiring the use of a wide variety of tools: harpoons, spears, leisters, and fish hooks to catch single fish; and seine nets to take advantage of spawning runs of fish such as walleye in spring, and freshwater drum in summer (Foreman 2011; Needs-Howarth 2013). Ceramic construction improved during this time: grit temper was added to clay to strengthen the fabric, and coil-built pots were fired at higher temperatures than they had been previously (CARF 1992; Kapches 2013). Regional differences in ceramic decoration and stone tool knapping across southern Ontario indicated that people held distinct identities tied to their places of settlement, which would be further delineated as life became increasingly settled (Monkton 2013; Williamson 2013).

By about 1,200 years ago, those living in the Windsor area shared their way of life with the people living in what would become southeastern Michigan and northwest Ohio, but lived according to a different pattern than those living in south-central Ontario (Lennox and Dodd 1991; Stothers and Abel 2002). Spring was a time

of gathering, when people reconnected to harvest spring spawning fish and to feast and hold ceremonies with the ancestors buried nearby (Killion *et al.* 2019; Lennox and Dodd 1991; Stothers and Abel 2002; Wright 1977). The warm season, from spring until early autumn, was spent in large, multi-family settlements on the shores of the Detroit River. Houses were small, oval, bark-covered structures for one or two families each, which could be disassembled and moved to new locations (Ferris 2013; Warrick 2013). Here, the coastal marshes provided an abundance of animal and plant resources, as well as a defensive advantage in the event of the inter-group violence which was on the rise (Stewart 2013; Warrick 2013; Williamson 2013).

Women of the villages gathered clay from well-known spots along the river bank, prepared it to remove impurities and strengthen it, then shaped the vessels and fired them in shallow pits covered in brush and wood, situated a good distance away from the settlement to avoid setting structures alight (Kapches 2013). In most cases women made pots for themselves and their daughters, and decorated them with motifs with personal or ancestral significance; children learned to make pots by watching their mothers, and by playing with clay to make small, rudimentary pinch pots of their own (Kapches 2013; St John and Ferris 2019; Williamson 2013).

Both directly and indirectly, favoured wild plants were encouraged to establish themselves close to re-inhabited settlements, whether through replanting them just outside the village or by depositing food waste in nearby middens (Monkton 2013). These husbanded plants included raspberries, plums, elderberries, and other fruits along with chenopod, sumac, cattail, and spikenard. Techniques developed in husbanding wild plants began to be applied to new crops which had spread to Ontario from central America along exchange networks developed over the preceding millennia: first maize, then later squash, beans, sunflowers, and tobacco (Carroll 2013; Monkton 2013; St John and Ferris 2019; Stothers and Abel 2002; Williamson 2013).

Deep storage pits were excavated to cache surplus food in large ceramic pots for later use (Ferris 2013; Kapches 2013). With the arrival of autumn, people dispersed from the warm season villages to small, one- or two-family cabins in the interior, located to take advantage of nut harvests, and as a base from which to set trap lines and for sugaring in winter (Ferris 2013; Lennox and Dodd 1991; Warrick 2013). The autumn nut harvest was also an opportunity to hunt terrestrial animals such as deer, turkeys, squirrels, and raccoons, all of which were attracted to nut groves for their own subsistence purposes (Foreman 2011). The colder months were also the most intensive time for deer hunting using blinds, drives, and corrals in addition to the bow and arrow (Needs-Howarth 2013). In addition to meat, deer were a critical sources of hides for clothes and shoes, antlers for tools, bones for awls and needles, and marrow and grease for food flavouring; a surplus of hides could potentially have been exchanged with those living to the east around Lake Ontario (Foreman 2011; Needs-Howarth 2013).

In the following centuries maize and other imported crops, initially consumed only at feast times or as a minor supplement to husbanded or wild local plant foods, began to form an increasingly significant part of the daily diet (Monkton 2013; Stothers and Abel 2002; Williamson 2013). The greater investment in time required to grow large quantities of these domesticates conflicted with the timed gathering of other food resources: spring planting occurred around the time of fish spawning runs, and the autumn harvest conflicted with nut gathering and deer hunting (Foreman 2011).

As a result, warm season settlements were located in places with good ground for crop planting, as well as access to a wide variety of aquatic foods which would be available for most of the season (Foreman 2011; Needs-Howarth 2013; Stothers and Abel 2002). Women and children would catch turtles and amphibians and

gather shellfish from the rich marsh environments; deer, squirrels, raccoons, turkeys, and other animals attracted to the crops were hunted in small numbers year-round rather than primarily in the autumn (Foreman 2011; Lennox and Dodd 1991; Needs-Howarth 2013). The crops did not require constant monitoring and so smaller groups still spent time hunting and fishing at satellite camps, with locally-available fish from the Detroit River forming an increasingly important part of subsistence (Foreman 2011; Lennox and Dodd 1991).

Warm season residences began to resemble the longhouses of the peoples to the east, though with a smaller footprint and different internal structure. Settlements were surrounded by palisades and sometimes by earthworks to add some measure of protection, and were inhabited for more months out of the year (Ferris 2013; Lennox and Dodd 1991; St John and Ferris 2019; Stothers and Abel 2002). The increased time spent living in large communities had an effect on social organisation, with more emphasis placed on matrilineal descent and identification with lineage groups (Carroll 2013; Ferris 2013; Spence 2013; Williamson 2013). Inter-community conflict borne out of stronger internal group identities and competition for access to exchange networks was partially mitigated through lavish feasting and gift giving, maintaining social networks across the lower Great Lakes region (Carroll 2013; Jamieson 2013; Killion *et al.* 2019; Spence 2013; Stothers and Abel 2002). Political leaders were men, selected by influential women, responsible for diplomacy with nearby settlements, scheduling the seasonal round, organising raids, and other tasks, and governance was by consensus rather than by decree (Jamieson 2013).

By the early 1500s, pressure from the westward expansion of Iroquoian peoples living around Lake Ontario caused many of those living in the Windsor area to relocate west and south for several decades, beginning to return to the area just before the onset of profound changes set in motion by European contact (CARF 1992; Lennox and Dodd 1991).

Historic Period

The impacts of the European arrival in North America were felt in the Windsor area before any Europeans physically visited the region. The spread of European diseases among the closely-linked Great Lakes peoples decimated populations by the 1630s, leading to shifts in settlement as previously distinct groups amalgamated, and others (particularly Iroquoian peoples living around Lake Ontario) raided neighbouring groups for captives in an attempt to replenish their populations (LTBBOI 2005; Middleton 2007; Sultzman n.d.; Williamson 2013; Warrick 2013). Some of the peoples regularly inhabiting the Windsor area in the 17th and 18th centuries relocated there from lands farther to the north and east, moving into an area depopulated by warfare and disease (LTBBOI 2005; Sultzman n.d.; Wiikwemikong Unceded Territory 2020). In addition to the spread of diseases, exchange networks also facilitated the spread of new European trade goods such as kettles, pipes, glass beads, and metal tools, which were sought after for political gift giving at feasts and incorporated into burial customs (Jamieson 2013; Spence 2013; Williamson 2013). As some of these goods became more common they began to replace Indigenous-made artifacts: by the 1650s production of native ceramics had declined substantially, with clay pots replaced by copper and brass trade kettles, and many of the knowledge keepers of the techniques of native ceramic manufacture lost to disease (Kapches 2013; Warrick 2013). Exchange networks across the Great Lakes established over the preceding millennia were reoriented to Montreal, and Algonquian and Huron people from the Windsor area and beyond transported furs by canoe to trade with the French for ammunition, European textiles, and other goods (Middleton 2007).

Much of the history of Indigenous people in the Windsor area during the early historic period is viewed through the lens of missionaries and fur traders. French missionaries visited the Windsor area in the winter of 1640-1641, staying at a village called Khioetoa on the south shore of the Detroit River (Lajeunesse 1960).

Khioetoa and a nearby village also on the south shore of the river, Skenchioe, were both abandoned in the early 1650s but likely re-inhabited in later decades (CARF 1992; Sewick 2016). During the later 17th century, Detroit River-area Ottawa and Potawatomi peoples made alliances with the French against the Iroquois Confederacy to the east, who were blocking direct French access to the lower Great Lakes region at the time (Middleton 2007; Wiikwemkoong Unceded Territory 2020). Huron-Wendat, Tionantati, Ottawa, and Potawatomi people all had settlements, seasonal camps, and hunting and fishing grounds on both shores of the Detroit River in the late 17th century, but settlement locations and the frequency of their use varied (CARF 1990; Lajeunesse 1960).

Following the cessation of Iroquois-French hostilities, the French established trade forts in the upper Great Lakes including Fort Ponchartrain du Dètroit in 1701. For several decades, the presence of the French fort encouraged consistent habitation of Indigenous settlement sites on the south shore of the Detroit River: a Huron-Wendat village in the area of the future village of Sandwich, and an Ottawa village on the east side of the future historic village of Windsor (***Figures 1.4 - 1.6***). Both villages were located in areas that had been inhabited repeatedly for 1,500 years or more, sometimes for many years at a time (CARF 1992; FAC n.d.-a, n.d.-b; Lajeunesse 1960; Sewick 2016) (***Figures 1.5 & 1.6***).

Inhabitants of the villages continued to follow a seasonal round that occasionally required travel to hunting grounds on the south shore of Lake Erie near the Maumee River, or to northeast Michigan (Middleton 2007). Furs trapped at winter camps were brought to Detroit to exchange, as the fort was less a military installation and more a trade post and missionary centre; the French attempted to foster good relations with their Indigenous neighbours by participating in their political gift-giving traditions, and providing medical and smithing services at the fort (Middleton 2007). The first European settlers in the lands around Fort Ponchartrain were not particularly successful farmers, and trade with the nearby Indigenous villages was crucial for their initial survival (Lajeunesse 1960; Sewick 2016).

During attacks on the fort by the Fox peoples in 1712, local Indigenous warriors assisted in the defence of the fort; several decades later they also supported the French in battles in Ohio during the Seven Years War (Middleton 2007; Sewick 2016). Jesuits established a mission beside the Huron village at La Pointe de Montreal in 1748, and had moved from an earlier location on Bois Blanc island. The Huron there were one of the few nations in the region who had converted to Christianity at the time (CRM Group *et al.* 2005; Middleton 2007; Sewick 2016). The following year, the French government began to encourage the settlement of the south shore of the Detroit River with its own farmers. Since the French viewed land titles as belonging to the Indigenous groups in the area at the time, parcels were gifted or sold by the Ottawa and the Hurons to individual settlers and officials at Detroit (Douglas 2001; Sewick 2016). French settlement on the south shore remained limited for the next few decades, and the Huron and Ottawa continued to raise maize and other crops in their own villages, and to trade with the fort and the nearby settlers.

In 1760, the French surrendered their control of the Great Lakes region (including Detroit) to the British following significant military setbacks in the Seven Years War (see below). The French had maintained a stable alliance with the Detroit River Huron, Ottawa, and Potawatomi throughout the 18th century through gift giving and somewhat equitable trade, but the transfer of the region to British control was seen by Indigenous groups as being conducted without their consent (Douglas 2001; Middleton 2007). Following the British takeover at Detroit, subsequent exploitative trade practices and a refusal to participate in political gift giving with local Indigenous groups caused significant hostilities which eventually broke out in a conflict known as Pontiac's War beginning in 1763 (Middleton 2007; Plain n.d.). The conflict involved a number of

Indigenous nations from the wider Great Lakes region and resulted in the capture of multiple British forts and a months-long siege of Detroit. The siege was led by Pontiac, one of the chiefs from the Windsor area Ottawa village, with support from Potawatomi, Ojibwa, and Huron warriors and some material assistance from local French settlers (Middleton 2007; Plain n.d.; Sewick 2016). Hostilities ended in 1764 as it became clear that French military assistance to the Indigenous nations was not forthcoming, and the Ottawa people abandoned their village on the Detroit River soon after (CARF 1992; Middleton 2007; Sewick 2016). Pontiac deeded the land encompassing the village to the Presidents of Detroit in 176, but at least some Ottawa may have continued to inhabit the land occasionally after that (CARF 1992; Sewick 2016). The Huron remained in their south shore village until at least 1790 and continued to gift or sell parcels of their land to Europeans for settlement, against the wishes of the British Crown (Sewick 2016). In 1790, a formal cession of Indigenous lands was drafted by Alexander McKee (an Indian Department agent) and 27 chiefs of the Ottawa, Potawatomi, Huron, and Ojibway at Detroit. The chiefs agreed to surrender most of the lands on the eastern side of the Detroit River, retaining the Huron Reserve and the Huron Church Reserve (Lajeunesse 1960; Surtees 1994). Many of the Huron gradually moved away from the Detroit River area as their European neighbours shifted their focus from the fur trade to agriculture (Sewick 2016). The area comprising Bkejwanong ("where the waters divide") Territory is unceded land as it was never part of any land transfers.

Today, the nearest First Nations on the Ontario side are Bkejwanong Territory (Walpole Island), some 50 kilometres to the northeast around Lake St. Clair, and Caldwell First Nation outside of Leamington. The descendants of the Huron are today known by various names, including Wendat and Wyandot. Wyandot Nations include the Wyandot Nation of Anderdon in Trenton, Michigan, the Huron-Wendat Nation at Wendake, Quebec, Wyandot Nation of Kansas, Kansas City, and Wyandotte Nation of Oklahoma, located at Wyandotte, Oklahoma.

There continues to be a strong Indigenous presence in the City of Windsor, represented by the Can-Am Indian Friendship Centre.

1.4.2 Historic Settlement

French & English 17th-18th Centuries

The earliest record of Euro-Canadian activity in the Windsor area is from 1640-1641, when French missionaries Jean de Brébeuf and Joseph Marie Chaumonot spent the winter at Khioetoa, somewhere on the south shore of the Detroit River (Lajeunesse 1960). French exploration of the area began in earnest in the 1660s - prior to this time, poor relations with Iroquoian peoples living around Lake Ontario focussed French trade efforts further north along the Ottawa River and around Lake Huron (Lajeunesse 1960). As part of their efforts to control the North American fur trade, the French founded Fort Pontchartrain du Détroit on the north side of the Detroit River in 1701 (Douglas 2001; Morrison 1954). Father Armand de La Richardie established a Jesuit mission on the west side of the Huron village in 1748, relocating from an earlier site down river at Amherstburg (Morrison 1954). The mission was initially established to minister to the Huron and Odawa living on the south shore of the river, but would later become an important religious centre for Euro-Canadians as well.

Beginning in 1749, the then governor of Québec encouraged French families to settle and farm the land on both sides of the Detroit River in order to promote trade at the Fort and prevent British expansion into the region (CRM Group *et al* 2005; Douglas 2001). The land was settled according to the seigneurial system, comprising long, thin "ribbon farms" fronting a watercourse, which helped to concentrate settlement and

create transportation networks without having to build roads (Sewick 2016) (***Figures 1.4 - 1.8***)[1]. Within the individual lots, homes and farm buildings clustered close to a trail along the riverfront, and settlers maintained small cleared plots and planted orchards of pear, apple and cherry. The interior of the lots and the land beyond was primarily marshland, and remained mostly unaltered until much later (CRM Group *et al.* 2002; Sewick 2016). French settlement on the south shore began in 1749 as a cluster of ribbon farms known as Petite Côte, located between *Le Ruisseau de la Vieille Reine* (Stream of the Old Queen) and Turkey Creek (***Figure 1.5***). Land grants a bit farther upstream close to the Ottawa village began ca. 1751, but some were not actually taken up until a decade later. This settlement was referred to initially as *La Côte des Hurons* and later as *L'Assomption* and a third, later cluster of ribbon farms from the Ottawa village to Lake St Clair was known as *La Côte des Outouais* (Lajeunesse 1960).

The British assumed control of Détroit in 1760 following French defeats farther east at Quebec and Montreal (Douglas 2001). Changes in British policy in response to Pontiac's War (see **Section 1.4.1 Historic Period**) first placed the Windsor area within "Indian territory", although existing military installments were maintained and settlers around Fort Detroit remained in the area (Douglas 2001). In 1774, the Quebec Act extended the boundaries of Quebec to include the area around the Great Lakes, but did little to change the day-to-day lives of French settlers in *Petite Côte* and *Cote des Hurons* (Douglas 2001). The settlements on the south shore expanded along the river in the 1770s as local families grew and some new settlers moved west from Montreal (Lajeunesse 1960).

With the conclusion of the American Revolution in 1783, a line dividing American and British holdings was drawn down the middle of the Detroit River (Douglas 2001). Settlers in the newly-independent American lands who wanted to remain in British-controlled territory began to relocate to Canada. The presence of an established settlement project on the south side of the Detroit River made it a strategic spot for the relocation of some of these United Empire Loyalists. The British government was not interested in continuing the practice of the French settlers of purchasing individual farm lots directly from local Indigenous groups (Douglas 2001; Lajeunesse 1960). In 1790 Alexander McKee signed Treaty No. 2 with the Ottawa, Ojibwa, Potawatomi, and Huron Nations for a large area that included what would become Windsor, excluding the Huron Church Reserve around the Huron village on the south side of the Detroit River (Government of Canada 2016). The following year, Patrick McNiff resurveyed and slightly altered the extant seigneurial lots within the new purchase and laid out new townships, and in 1792 and 1793 the government Land Board confirmed the claims of pre-existing settlers to lands in McNiff's second concession (Douglas 2001; Lajeunesse 1960).

19th and 20th Century Sandwich

The oldest Euro-Canadian settlement in the Windsor area, Sandwich grew out of the earlier French-Canadian Petite Cote settlement. An influx of new settlers to the area in the 1790s included approximately 1,100 people who had been living just across the river around Détroit (Lafreniere and Rivet 2009). In order to facilitate the

[1] There is some confusion about the Léry map dates, and the various copies that have been consulted. ***Figure 1.5*** was taken from a copy of the map modified for Lajeunesse 1960 (Fig. 6) who attributes it to Léry *fils* c. 1749. However ***Figure 1.7*** shows a number of dates on the map itself with the "*nouvelles habitations françaises de 1749*" in the upper right corner, but the map was based on observations of Léry's trip in "mars de 1755", with a final notation in the lower right of "*Donné par Mr Léry fils 1759*" (though the last number is partially faded. ***Figure 1.7*** portrays a map of the area from Lajeunesse modified from the "*Plan du Topographique du Détroit*" by Gal Collot in 1796 and listed in the figure description as by Léry *fils* c. 1754. It would appear that the various dates have been muddled through time.

settlement of these people, Peter Russell (the President of the Executive Council) endeavoured to purchase the triangular Huron Church Reserve in 1797[2]. A portion of the purchased lands were then divided into one-acre town lots for the new settlement of Sandwich, and a draw was held to determine the owners of the non-public lots (Lafreniere and Rivet 2009; Lajeunesse 1960:193). Russell also offered incentives to settlers in the form of extra land grants upon completion of the first houses in the settlement, consisting of 24-acre park lots to the south of the town site (Lafreniere and Rivet 2009).

The division of part of the newly-purchased land into town plots was intended to concentrate settlement in a way that the earlier seigneurial system had not done, and encouraged the development of businesses and infrastructure in Sandwich especially along the waterfront. Jacques Baby established a grist mill between the town plots and the river in 1796; and Alexander Duff built a Hudson's Bay Company trading post in 1798, which later also incorporated its own wharf (Ontario Heritage Trust n.d.). Wealthy Detroit merchant John Askin established a ferry between Detroit and the foot of Mill Street in Sandwich by the winter of 1798, using a large flat-bottomed canoe to transport timber, market crops, furs, and information between the two settlements (Lafreniere and Rivet 2009). Russell's grand plans for Sandwich were slow to be realised: by 1800 most of the town lots were still unimproved and planned roads still unopened, and only seven or eight houses had been built (Lafreniere and Rivet 2009).

As a border community, Sandwich was on the front lines for much of the War of 1812, and both American and British forces raided livestock and commandeered local buildings for military uses (Douglas 2001; Neal 1909). Despite its position as Seat of the Western District, following the end of the war, the growth of Sandwich remained slow with only about a dozen houses, two churches, a courthouse and a few other improvements. This situation did not improve as the focus of development began to shift to Windsor in the 1830s (see **19th and 20th Century Windsor**, below). Spurred by the passage of the US Fugitive Slave Act in 1850, Sandwich became an important terminus for the Underground Railroad, with fugitive African-Americans travelling from the United States and crossing over the river at Detroit (CRM Group *et al.* 2002; Morrison 1954). The Act, which required northern US states to return runaway slaves to their owners in southern states, made Canada the only viable destination for those seeking permanent emancipation. Many of those who crossed into Canada at Sandwich settled permanently in the surrounding area, and a black neighbourhood grew up in Windsor around McDougall and Mercer Streets (Morrison 1954; Wayne 1995).

In spite of its continued slow growth, by the 1860s Sandwich was considered something of a country suburb compared to the more industrialized Windsor. This was reinforced when, while drilling for oil in 1864, prospectors discovered sulfur springs close to the river in Sandwich, which led to the establishment of the Mineral Spa Springs Resort. The Mineral Spa Springs catered to health tourists from the States and from farther east in Canada, earning Sandwich a reputation as a seasonal resort town rather than an independent settlement. Hotels and related improvements grew up around the Spa, and a horse-drawn railway was constructed to connect the Spa and points in between to the Windsor ferry docks in 1874 (Lafreniere and Rivet 2009). As Windsor grew in importance as an industrial centre around the turn of the century, Sandwich

[2] Representatives for the Ottawa, Chippewa, Potawatomi, and Wyandot signed Treaty No. 12 on 11 September 1800, with Thomas McKee signing on behalf of the Crown (Government of Canada 2016). Sixty-one riverfront acres in the eastern corner of the Reserve were not relinquished at this time, but were retained for the exclusive use of the Huron (Wyandot) people (Lafreniere and Rivet 2009).

lost its independent character and gradually transitioned into a bedroom community for the larger city. The Town of Sandwich was amalgamated into the City of Windsor in 1935.

19th and 20th Century Windsor

Located within the area of 18th century ribbon farms referred to as *La Côte des Hurons*, by the early 19th century much of the land along what would become the Windsor riverfront was cleared and settled. François Baby, for example, had a mature orchard and a new brick house under construction - which was commandeered for military use during the War of 1812 first by the Americans, and later by the British (Douglas 2001; Lafreniere and Rivet 2009). In the 1820s the settlement (then referred to as Sandwich Ferry) consisted of ferry landings at the Ouellette and Baby farms plus a few taverns. Most businesses on the south shore of the river operated out of Sandwich, and most prominent citizens lived there (Douglas 2001; Lafreniere and Rivet 2009; Morrison 1954). In 1832 Vital Ouellette and François Baby surveyed in a town plot on their combined lands close to the river, and within a few years the new settlement, now called "Windsor", boasted a blacksmith shop, lumberyard, saddlery, bakeries, tailors, and other businesses, in addition to several new houses (Douglas 2001). On 4 December 1838, Windsor was briefly captured by American supporters of the Upper Canada Rebellion in what became the final confrontation of the so-called "Patriot War" (Douglas 2001).

In 1851 Windsor had a modest population of 300 persons, fewer than nearby Sandwich; ten years later that population had reached 2,500, eclipsing Sandwich (Lafreniere and Rivet 2009). This rapid rise was tied directly to the completion of the Great Western Railway (GWR) in 1854, connecting Windsor to Niagara; the well-established ferry service from Windsor provided additional connections from the train to Detroit. The completion of the GWR signalled the rise of Windsor as an international trade nexus and focus for new industrial development, and in 1858 Windsor was incorporated as a town. As Windsor grew, the prominent citizens and businesses of Sandwich relocated east; new industries such as meat packing and older ones benefited enormously from access to the railroad (Lafreniere and Rivet 2009; Morrison 1954).

The 1860s were a time of continued growth for Windsor, with the railroad acting as a stimulus for the formation of new industries and the development of trade infrastructure, especially along the waterfront. The railroad provided locals with a way to get agricultural and timber goods to markets in Detroit, Toronto, Chicago, and elsewhere; more farmland was cleared including in the marshier concessions away from the river which had been mostly undeveloped until then. Access to markets in the larger population centres caused farmers to shift away from personal subsistence crops towards cash crops such as wheat, corn, and tobacco, and a few wealthy local families amassed large land holdings for streamlined agricultural production, like Hiram Walker's tobacco farm and processing centre in Sandwich East Township (Morrison 1954). Catches of whitefish and herring from the Detroit River's productive fisheries were shipped as far as Boston, New Orleans, and San Francisco (Morrison 1954).

Windsor's development and expansion continued into the 1870s and 1880s, with new industries drawn by the expansion of transportation networks. Michigan Central Railway built to Windsor in 1883. A horse-drawn railway built to Sandwich 1874 was reorganised as the Sandwich, Windsor and Amherstburg Railway in 1887, extended to Amherstburg in 1880, and electrified in 1891. Canada's first electric street railway system was constructed from Windsor to Walkerville in 1886, and the Canadian Pacific Railway came to Windsor in 1890, providing additional connections to the rail network developing across Canada and the United States (Lafreniere and Rivet 2009).

Other infrastructure improvements to the town in the 1880s included resurfacing of streets, the construction of sewers, and the introduction of electrical street lighting (Morrison 1954). Some Detroit-based companies, such as the Frederick Stearns pharmaceutical company, took advantage of the improved transport networks to establish Canadian subsidiaries in Windsor. Windsor was incorporated as a City in 1892, in recognition of its growth and importance as an international trade and shipping hub. Important industries at the time supplied both national and international markets, shipping products out by rail and by ship (Morrison 1954).

The tone for the 20th century development of Windsor and the surrounding area was set in 1904, with the establishment of Ford of Canada in Walkerville that year (see **Walkerville**, below). The McPhillips map of 1905 (***Figure 1.9***) showed the essential modern divisions of Windsor and the surrounding townships; reflecting the earlier French division of land into long strips.

As in earlier decades, the city's position as a transport hub led to its continued popularity as an industrial centre, especially during World War I (Morrison 1954). The steady immigration of people to Windsor to work in manufacturing into the 1920s caused a growth in Windsor's population and the subsequent construction of new residential suburbs on lands between the original Euro-Canadian settlements of Windsor, Sandwich, and Walkerville, and local agricultural production began to shift to other parts of Essex County (Morrison 1954).The beginning of prohibition in the US in 1920 was another boon for Windsor's economy. In the early years, independent rum runners brought locally-produced alcohol across the river to Detroit, but by 1923/1924 many of Windsor's breweries and distilleries were exporting their products themselves, and many improvements were made to waterfront infrastructure specifically to aid in the export of alcohol to the US (Morrison 1954).

Economic conditions related to the depression in the 1930s caused a temporary decline in industrial production, and the resultant loss of manufacturing jobs caused a significant emigration out of Windsor. The need for streamlined administration and government services led to the amalgamation of Sandwich, Walkerville, and East Windsor into the City of Windsor in 1935. The onset of World War II caused a revival in industrial and agricultural production in Windsor and the surrounding area, which in turn created a construction boom with the need to build new housing for those immigrating to Windsor for revived manufacturing jobs (Morrison 1954). See **Recent History** below for the history of the City of Windsor from post-World War II until the present.

19th and 20th Century Walkerville

Hiram Walker founded Walkerville on the riverfront to the east of Windsor in 1858 around his new Canadian Club Whisky distillery (Hoskins 1964:4). Walker located his development to access the GWR, which connected Windsor to Niagara, and by ferry to Detroit and from there by rail to Chicago and Cincinnati. In addition to the distillery, Walker and his family also owned large land holdings throughout Essex County used to raise cattle, and to grow and process tobacco and other cash crops which were shipped out of the area on the railway. By 1884, Walkerville consisted of four streets running north-south and five running east-west with its economic centre on Sandwich Street (later Riverside Drive East) along the riverfront (Hoskins 1964:40). In addition to the distillery, the Kerr Brothers Engine and Foundry Company and the Dominion Syrup and Sugar Refining Company also had their operations in Walkerville in the 1880s (Hoskins 1964:71). To serve these and other local industries, Hiram Walker opened his Lake Erie, Essex and Detroit River Railroad to Kingsville in 1888, extending it to Leamington the following year and eventually providing Walkerville businesses and farmers with market access across southern Ontario (University of Windsor n.d.).

This development encouraged more industries to locate within the settlement in subsequent decades (Chauvin 1927).

Throughout the 1880s, the Walker family closely controlled virtually all local development with a personal interest in building an enduring model settlement (Hoskins 1964:70). Walker initially financed much of the town's infrastructure, including pumped waterlines, fire protection services, and police. He financed the construction of St. Mary's Church, named after his late wife. He also financed the construction of the first school for his children, and the first bank, the Walker Bank. The town incorporated on 29 January 1890, releasing the Walker family from financing of the police and fire department (Hoskins 1964:71). The early 1900s saw continued growth for Walkerville and the continuing involvement of the Walker family in the town's industries, through aggressive buying of shares in local businesses or their suppliers.

In the early 20th century Gordon McGregor, owner of the Walkerville Wagon Works, saw the beginning of Henry Ford's operations across the river in Detroit and endeavoured to convert his wagon factories to the production of automobiles (see **Ford City**, below). Ford City, the settlement that grew up around McGregor's factory after 1904, gained independent status from Walkerville in 1913, but the success of Ford-Canada encouraged the continued expansion of manufacturing within Walkerville as well. Walkerville was amalgamated into the City of Windsor in 1935.

Ford City

The settlement of Ford City developed along Sandwich Street near Drouillard Avenue, just east of Walkerville along the riverfront. While this part of the waterfront was settled by the French beginning in the late 18th century, the area did not develop an independent identity from the adjacent settlements until the 20th century. In 1904 Gordon McGregor, owner of the Walkerville Wagon Works, approached Henry Ford about the possibility of building and selling Ford-designed automobiles out of his buildings in Walkerville. Ford agreed, and after McGregor secured the necessary investment the Ford Motor Company of Canada was born (Anastakis 2004). Ford City grew up around the first Ford plant in the Wagon Works buildings, and gained village status independent of Walkerville in 1913, and town status in 1915 (Morrison 1954). The introduction of the Model T in 1908 proved an important breakthrough for Ford-Canada and the company expanded its manufacturing facilities substantially in the 1910s and 1920s (Anastakis 2004). Ford-Canada facilities operated independently of US Ford in the 1920s and 1930s, producing automobiles for the domestic market as well as for export across the British Empire including to India and New Zealand (Anastakis 2004; Morrison 1954).

Many of Ford City's residents during this period were European immigrants who settled there to take up jobs in the manufacturing sector. In 1929, Ford City changed its name to East Windsor and incorporated as a City, and Chrysler constructed a new automobile plant in the city around that time (University of Windsor 2020b). During World War II, Ford and other East Windsor-based automobile companies were involved in manufacturing for the war effort, including the construction of light-armoured vehicles (University of Windsor 2020c). A shift in focus of Ford's manufacturing operations from East Windsor to Oakville in 1951 marked the beginning of a decline in fortune for the area that would continue until the end of the 20th century (University of Windsor 2020a, d).

Town of Riverside[3]

The Town of Riverside was incorporated in 1921, stretching back from the waterfront between Westminster Boulevard and the east boundary of the current City of Windsor. The town was formed on land that originally included Sandwich East Township. Incorporation was part of a plan by several local residents to develop the rural area into a bedroom community for workers in Windsor's industrial sector. In 1922, construction began on the town's municipal building, as previously all municipal business had been conducted in the home of the mayor, or one of the other town officials. The population of the town increased four-fold in the years leading up to 1930 as new neighbourhoods were laid out and residential construction took off, and much of the river shoreline was filled in for the construction of large private homes with impressive views of Detroit. The town took on significant debts to fund infrastructure developments, which caused financial hardships during the Depression and into the early 1940s. Riverside began to recover and grow again following the return of soldiers from World War II, as the increased need for new housing fuelled a construction boom. The town was amalgamated into the City of Windsor in 1966.

Recent History

The post-World War II period saw the expansion and continued dominance of manufacturing in Windsor, benefiting from the city's extensive rail network and good road and rail links to Detroit. The sector followed a boom-and-bust cycle in subsequent decades and its workers had strong ties to the labour movement in the rest of Canada and the United States. Long-term effects of the rapid industrialisation of Windsor, especially along the waterfront, became increasingly apparent in the 1960s and 1970s, leading to efforts to clean up the Detroit River and develop the waterfront into an attractive space for public use (ERCA 1998, 1999). A city councillor, Roy A Battagello, championed the vision of parks and a series of pathways all along the waterfront. The Can-Am Indian Friendship Centre was established in 1982 to meet the needs of the city's Indigenous population. They have been active in taking initiatives to meet the needs of an urban Indigenous community, and reaching out to non-Indigenous members and organizations based on the concepts of mutual benefit and respect (CAIFC 2020). A number of First Nations are involved with the greater Windsor community, and are actively engaged in looking after their heritage.

The impact of the 2008 global recession on major industries based in Windsor led to a loss of stable jobs which have not yet been fully recovered (Radwanski 2014). To compensate for the decline in manufacturing, Windsor has increasingly focussed on the tourism and technology sectors. Caesars Windsor Casino is a popular destination for visitors from both sides of the Canada-US border, and the city's rich heritage is another significant draw. The downtown area has much to offer with the facilities such as the St. Clair Theatre, the Art Gallery, Aquatic Centre and the Chimczuk Museum. Windsor's rail, water, and road networks remain critically important for Canadian and international shipping and transportation.

[3] **This section is summarised from Fullarton (2008).**

2.0 METHODOLOGIES

2.1 Background Research

Information about the archaeological potential of each Study Area component within this project was gathered from various sources. The archaeological potential for Indigenous sites has been assessed using data collected from the Ontario Archaeological Sites Database (OASD), past research within the City, including reference to the City of Windsor's Archaeological Master Plan (WAMP) (see ***Figure 2.1***). The current background study reviewed not only the final, generalized potential map from the WAMP Figure 4, but also its Figures 1 and 2 which provided the specific cultural and environmental base modelling for the final potential (CRM Group *et al.* 2005). Additionally, environmental data was collected from geological, soils, NTS topographic and Ontario maps and historic sources. Pioneer (Euro-Canadian and others) site potential has been assessed using the same data sources plus historic maps (including but not limited to Registered Plans, Fire Insurance Plans, 18-19th century maps), other primary documents (*e.g.* Land Registry records), aerial photographs, and secondary sources.

The MHSTCI provided FAC location data for the currently registered sites in Windsor from the OASD on 1 November 2019, which was utilized to determine the proximity of the individual Study Areas to registered archaeological sites. A review of the Windsor Archaeological Master Plan (WAMP) and its background research in FAC's library was undertaken to determine the relationship of known but unregistered sites to the Study Areas.

In order to determine if there had been previous archaeological work within 50 metres of the individual Study Areas, FAC examined the current list of archaeological reports for Windsor, Ontario as provided by MHSTCI on 18 November 2019. Additional sources included the local archaeological community and the FAC library.

To determine the original 18th century Lot designation, the Land Registry Property Map Index was referenced (Teranet and ServiceOntario 2020b). The majority of the original Farm Lots, within the City of Windsor, are designated according to Patrick McNiff's Survey, ca. 1790, as listed on Land Registry Patents, Deeds and other Instruments. The Administrative Boundaries and Spatial Reference Grid KML file (MENDM 2017) for use in Google Earth provides lot designations for Sandwich Township from Lot 80 onward, that do not correlate with Land Registry documents and are based on Abraham Iredell's Survey, ca. 1800, and incorrectly refers to all Lots in the City of Windsor as "Petite Cote", contrary to Land Registry documents. Some previous reports reviewed for this project may have utilized this KML file for lot designation and therefore may have discrepancies with FAC designation. Also listed in the Land Registry Patent Book, Lots in Concession One Sandwich Township are listed within the following 18th century French Settlements: Lots 1 to 59 are within Petite Cote (south of Sandwich Town) and Lots 63 to 153 are within L' Assumption (east of L' Assumption Church) (Teranet and ServiceOntario n.d.). The original Farm Lot surveys within the present City of Windsor boundaries were listed under Sandwich Township, until 1861, when the township was divided into East and West townships (City of Windsor 2020a). In 1893, East Sandwich Township was divided into East and South Sandwich (see ***Figure 2.2***).

Unless otherwise indicated, the original shoreline referred to in this report and depicted on the *Potential and Recommendation* figures was derived from the Land Registry Property Map Index (Teranet and ServiceOntario 2020b).

2.2 Property Inspection

Property Inspections were conducted for all locations, with the exception of the existing Pontiac Pump Station within the Little River Treatment Plant facility (partial inspection only), and according to **Section 1.2 Property inspection (optional)** of the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011). The Property Inspections were conducted over a number of days between October 2019 and February 2020 (see **NPD Table**). The weather was clear to light rain, and the ground conditions and lighting were good. No snow was present in the October, November or December 2019 inspections. Due to the changing scope of work over the winter in which new locations were added to the archaeological study, or Study Area boundaries shifted, additional Property Inspections were conducted in January and February of 2020. The winter was mild in Windsor, and the inspections were conducted when there was no snow cover to impede the view of the ground. The ground conditions and lighting were good for the 2020 Property Inspections. The dates and conditions for each location are detailed under their specific sections and also in the **NPD table**. In some cases, images from Google Earth Street View were utilized when additional Property Inspections were unnecessary as the full area had been previously viewed but not photographed.

2.3 Determinations of Potential

Archaeological potential is derived from multiple factors, including the past and current environment, a proximity to known sites or important historical events or places, and integrity. The potential for each Study Area within this project is based on the background research combined with the Property Inspection results (*i.e.* current conditions) and compared to a list of factors or features that indicate potential as dictated in the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011) **Sections 1.3.1** and **1.4.1**. These features are:

- Previously identified archaeological sites
- Water sources
    - primary water sources (lakes, rivers, streams, creeks)
    - secondary water sources (intermittent streams/creeks, springs, marshes, swamps)
    - features indicating past water sources
    - accessible or inaccessible shorelines
- Elevated topography (drumlins, plateaux, dunes)
- Pockets of well-drained sandy soil
- Distinctive land formations (waterfalls, caves)
- Resource areas
    - food or medicinal plants (migratory routes, spawning areas)
    - scarce raw materials (copper, chert outcrops)
    - early Euro-Canadian industry (fur trade, logging, prospecting)
- Early historic transportation routes (roads, rail, portages)
- Areas of early Euro-Canadian settlement
- Property listed on a municipal register or designated under the Ontario Heritage Act or that is a federal, provincial or municipal historic landmark or site
- Property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations

3.0 CENTRAL WINDSOR

There are eight proposed solutions in the Central Windsor area that are included in the archaeological background study. All are within the Detroit River drainage area of the City of Windsor. They are as follows:

1) Proposed New Prince Road Sewer Storm Sewer Outfall (STM-C1) - includes the extension of an existing sewer line from Chappell Avenue to a new outfall in McKee Creek at the Detroit River;

2) Proposed Detroit Street Storm Sewer Outfall Upgrades (STM-C2) - the existing outfall to the Detroit River in the Southwestern West Windsor Dock yard is to be expanded and a new sewer line connected;

3) Proposed New Cameron Avenue Storm Sewer Outfall (STM-C3) - a new outfall and sewer is proposed at the Detroit River in Centennial Park at the foot of Cameron Avenue;

4) Proposed New Bruce Avenue Storm Sewer Outfall (STM-C4) - a new outfall and sewer is proposed at the Detroit River in Legacy Park at the foot of Bruce Avenue;

5) Proposed New Langlois Avenue Storm Sewer Outfall (STM-C5) - a new outfall and sewer is proposed at the Detroit River in Great Western Park at the foot of Marentette Avenue;

6) Proposed New Stormwater Surcharge (Underground) Storage in the Optimist Park, 1075 Ypres Avenue (STM-C6) - the proposed stormwater storage location is beneath the Optimist Park parking lot across from Woodlawn Avenue;

7) Proposed New Albert Road Storm Sewer Outfall (STM-C7) - a new outfall and sewer is proposed, the outfall to be located on vacant former industrial land across from Albert Road on the Detroit River waterfront;

8) Proposed New Drouillard Underpass Pump Station (STM-C8) - the new pump station would be located in the Cadillac Street Park adjacent to the existing pump station.

Figure 3.1 presents the locations of the Central Windsor solution Study Areas on a current National Topographic System (NTS) map. ***Figure 3.2*** depicts the Study Areas on the 1880 East and West Sandwich Township map from the *Illustrated Historical Atlas of Essex and Kent Counties, 1880-1881* (H. Belden & Co. 1881).

For guidance with any solutions confined to the municipal ROWs (ie pipe replacements, culverts, LIDs) within the Central Windsor Sewershed, please refer to **Section 1.1**.

3.1 Proposed New Prince Road Sewer Storm Sewer Outfall (STM-C1)

The proposed new Prince Road Sewer Outfall is to be located off Chappell Avenue, west of Sandwich Street. The work would entail approximately 200 metres of new sewer lines beginning within Chappell Avenue and then turning southwest off its intersection with Russell Street towards the channelized canal off McKee Creek at the Detroit River, where the new outfall would be located (***Figure 3.1.1***). Extant sewers within the Study

Area are a sanitary and a combined sewer within the Russell Street ROW, and a stormwater sewer within the Chappell Avenue ROW at the eastern end of the Study Area (City of Windsor n.d.-b). The Study Area includes the new line in the road as well as the construction zone for the outfall itself, and is an irregular shape of a rectangle with a tail. The maximum dimensions are approximately 245 by 125 metres, and it is 1.8 hectares in size. The Study Area includes both private and municipal lands. Approximately 0.4 hectares of the Study Area is within the road (Chappell Avenue and Russell Street) or railroad ROWs. The majority of the Study Area, approximately 1.3 hectares, is within 3800 Russell Street, a private industrial lot, and includes part of its front work yard, driveway and railway access. The final approximately 0.05 hectares is a section of McKee Creek within the bounds of 4016 Russell Street.

The property designations for the Prince Road Sewer Outfall Study Area are rather complex. They relate to the Town of Sandwich Plan 40, from 1847: Part of Park Lot B West of Russell Street; Park Lot B; West of Russell Street #28; Chappell St/ Grove/ End Street ROW; and Closed Russell Street ROW.

The proposed new Prince Road Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.1**.

3.1.1 Prince Road Sewer Outfall - Known Archaeological Sites

There is one registered archaeological site in the OASD within one kilometre of the Prince Road Sewer Study Area. AbHs-21, the Nordic Power site, is a 19th and 20th century artifact scatter or dump with no further CHVI. The site is located to the south of the Study Area; it is not within 300 metres.

In addition to the registered archaeological site, there is one potential site lead concerning an historic structure. The Mineral Spa Springs Resort once stood at the southwest corner of Sandwich Street and Chappell Ave, within 50 metres of the Chappell Road portion of the Study Area (CRM Group *et al.* 2005:Figure 2). The discovery of sulphur springs during oil drilling in 1864 led to the establishment of the Resort, which was in operation for 50 years and attracted health tourists from across the continent (City of Windsor 2020a).

3.1.2 Prince Road Sewer Outfall - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the Prince Road Sewer Study Area.

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The Study Area is located within the Original Huron Reserve, and within the buffer for a water course, as identified by the WAMP. West of Russell Street, the Study Area is within an area of pre-1800 Euro-Canadian settlement, and east of Russell Street, the Study Area is within the buffers for historic Sandwich Street and the Windsor and Amherstburg Railway (CRM Group *et al.* 2005:Figures 1 & 2).

3.1.3 Prince Road Sewer Outfall - Environmental Factors

The proposed Prince Road Sewer Outfall Study Area is located approximately 390 metres from the Detroit River, and encompasses a section of the historic McKee Creek, which extends northwest to the Detroit River.

This creek was re-routed in the 19th century with the construction of a canal. Historical documents identify the western area, west of Russell Street, as marshy (Teranet and ServiceOntario n.d.).

The topography of the Study Area is variable. The western part of the Study Area is slightly undulating, and at a significantly lower elevation than Sandwich Street to the east. From Sandwich Street, Chappell Avenue slopes down then levels out at Russell Street.

The soil within the Study Area consists of Burford Loam, a brown gravelly loam over reddish brown clay loam, with many cobblestones (Richards *et al.* 1949:soil map). Burford Loam supports good natural drainage and the vegetation associated is predominately hard maple, beech, ash and elm (Richard *et al.* 1949).

3.1.4 Prince Road Sewer Outfall - Historical Research Summary

The proposed Prince Road Sewer Outfall Study Area is located within the historic Indigenous area, later designated as the "Indian Reserve" (Lajeunesse 2010). French settlement started on the east side of the Detroit River, directly south of the Study Area within the Petite Cote settlement, in the early 18th century. With the purchase of the Reserve, the Town of Sandwich was established in 1797 (see **Section 1.4.2** for more detail).

Plan 40 Park Lot B was granted to Thomas McKee, in 1801, including the water lot (Teranet and ServiceOntario n.d.). In the Land Registry Abstract, the water lot of Park Lot B, is also described as the Marsh Lot (Teranet and ServiceOntario n.d.). Iredell's *1800 Sandwich Town Map* illustrated the division of this lot by Russell Street (**Table 3.1.1**). Park Lot B topography consists of a slope down, just west of Sandwich St, to the lower elevation along the creek. The Sandwich Mineral Springs Hotel had been built on the centre of Park Lot B along Sandwich Street, outside of the Study Area (***Figure 3.1.3***). A canal had been excavated, accessing the Detroit River within Park Lot B, on the west side of Russell Street, to cater to the thousands of tourists visiting the Mineral Spa Spring's Bathhouse and Hotel, although sometime before the turn of the century, the springs ran dry (Newman and Weeks 2015). In 1913, a Lagoon Park was noted north of the canal, the southeastern part within the Study Area. The tree lined road within the Lagoon Park and the Study Area, was called Grove Ave, later Chappell Avenue (**Table 3.1.1**).

Jean B. Gauthier, original owner of the Sandwich Mineral Springs Hotel, had been granted all of Plan 40 Lot 28 West side Russell Street and the water lot, in 1869 (Teranet and ServiceOntario n.d.). By 1911, the Gauthier family had sold Lot 28 West side Russell Street and in 1913, the Essex County Light and Power Company purchased part of the lot (Teranet and ServiceOntario n.d.). This area remained unimproved and Russell Street was nothing more than a dirt track until the 1950s (***Figure 3.1.5a-b***).

The 1937 Fire Insurance Plan identifies a one storey dwelling on the southwest corner of Sandwich Street and Chappell Avenue within Park Lot B although, in the aerial photograph of 1931, the building appears to be bounding Chappell Ave. roadway, within the Right of way (**Table 3.1.1**; ***Figure 3.1.5a***).

After the demise of the Mineral Spring's tourism and growth of the Canadian Industries Limited Salt Plant to the south of the Study Area, the area became more industrialized. In 1922, the Western Cartridge Company purchased the Lot 28 East side of Russell Street, southeast of the Study Area, and retained the Lot until 1931, when the Essex Terminal Railway Corporation purchased the Lot (Teranet and ServiceOntario n.d.). By 1949, the rail line was constructed across the east side of Russell Street in the Study Area, although the rest of the Study Area remains undeveloped (***Figure 3.1.5a-b***).

The 1956 aerial photo shows fill in the northwest part of the Study Area and surrounding area to raise the ground level, and Chappell Ave was widened with gravel fill (***Figure 3.1.5c***). The structure on the corner of Sandwich and Chappell is nonexistent. In the early 1960s vegetation had covered the fill, and the addition of a fence surrounding the canal and rail line, in the south of the Study Area, were the only improvements until the 1980s (***Figure 3.1.5d***).

According to the 1981 Aerial photo, the three rail lines which run through the Study Area, a gatehouse, as well as a fence line along Russell Street and Chappell Avenue are the only significant changes to the Study Area (**Table 3.1.1**).

Table 3.1.1
Prince Road Sewer Outfall, Summary of Historical Records

Document	Date	Comments
Plan du Topographique du Détroit G-J Chaussegros de Léry	1754	-SA located N of Petite Cote settlement -McKee Creek bisects road running N along top of bluff -Area N of Creek depicted as marsh
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Bedford (Sandwich) St divides Park Lot B -Russell St extends past End (Chappell) St
Plan of purchase of Indian Reserve A. Iredell 10 Chains : 1 Inch ***Figure 3.1.2***	1797	-SA depicted as marsh (except for Chappell Ave. section) -No streets or Lots depicted in SA -Bluff depicted back from Detroit R. edge
No.47 Sandwich Township (Sandwich Townsite) A. Iredell 3 Inch : 1 Mile	1800	-Park Lot B depicted as 6 acres, not subdivided; on S side of End St, divided by Russell St -Russell and Bedford (Sandwich) St present -Bedford St does not extend past End St -Lot 28 divided into two Town lots -Deed issued for Lot, name illegible -Area W of Russell St depicted as marsh
Map of Windsor and Sandwich [author unknown] 20 Chains : 1 Inch ***Figure 3.1.3b***	1879	-Mineral Springs Hotel present SE of SA -End St labelled -McKee Creek runs along SW corner of SA and empties into the Detroit R. N of Park St -No canal present
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 3.1.3a***	1881	-Park Lot B not labelled -Part of SA within area marked as Town of Sandwich, East of Russell lots
Mineral Springs Canal, Sandwich [photo] *The Township of Sandwich, Past and Present*, p. 59 F. Neal	n.d.	-Looking down canal facing E, with Grove (Chappell) St on left side -Shows condition of road, canal width

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Canal within Water Lot of Park Lot B -Hotel present outside of SA, S along Sandwich Street -Russell extends S to boundary of Sandwich Town -No buildings depicted in SA
Sandwich Canal, Lagoon Park, Windsor, Ont., Canada Valentine & Sons United Publishing SWODA, University of Windsor	1907	-postcard of the Lagoon Park looking from SE end of Canal -note planted trees along edge of canal -notes springs ran dry shortly after 1902 -used to Ferry Americans from Detroit to the springs -just outside of SA
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 3.1.4a***	1913	-No buildings within SA -Canal and Lagoon Park at base of slope, W of Russell St -Russell St does not extend to Chappell St -Hotel S of canal, not within SA -N side of canal depicted as treed, marsh N of Lagoon Park -Wooden bridge over McKee Creek just outside SA
Lloyd's map of the Border Cities F.P. Lloyd 1 Inch : 1000 Feet	*ca.* 1930	-Grove (Chappell) Ave present (related to Lagoon Park) -No buildings in SA -Hotel on NE side of Sandwich St -Creek flows into canal
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 3.1.5a***	1931	-Russell St S of Chappell Ave consists of fill -No street/road N of Chappell Ave along Russell St -Halfway up slope along Chappell, road intersects Chappell and curves to run along N edge of canal -Two structures on corner of Chappell Ave and Sandwich St - Chappell Ave narrow gravel road
Pages 65 & 67, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd	rev. 1937 (orig. 1920)	-Chappell extends from Sandwich to Detroit R. (20m wide) -Russell St extends S past Chappell (20m wide) -Canadian Industries Ltd. Salt Plant S of SA -No buildings or fence in SA, only roads -Canal labelled "Springs Canal" -Area surrounding SA industrial -1-storey dwelling and back building on SW corner of Chappell and Sandwich St (outside SA)
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360 ***Figure 3.1.4b***	1939	-Chappell Ave extends to Detroit R. -Rail line depicted S of end of Russell St, S of SA -No buildings in SA
HA-4-84, *City of Detroit Aerials* [publisher unknown] ***Figure 3.1.5b***	1949	-Chappell a narrow gravel road W of Sandwich St, tree-lined -SA consists of raised area of rail line -rail line crosses SA along Russell St. -NE area of SA is in scrub -No structures or other disturbances within SA

Document	Date	Comments
Pages 65 & 67 *Insurance Plan of Windsor (Vol. 1)* Underwriters' Survey Bureau Ltd 1 Inch : 200 Feet	1952	-Same as 1937 FIP -No structures in SA S of Chappell, no rail line -Russell St extends S of Chappell Ave
GA-1-108, *City of Detroit Aerials* [publisher unknown] ***Figure 3.1.5c***	1956	-Fill over NW part of SA -Gravel road (Russell) extends to Chappell Ave -Chappell is gravel, wider -SW part of SA: gravel road extends from crossroads to loop down N side of canal to hydro tower (outside SA)
Windsor, Ontario 40J06A (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 3.1.4c***	1961	-Chappell Ave runs from Sandwich St to Detroit R. -Rail line extends NE along Russell St -Fence: E side of rail, NE to Chappell, NW on N side canal -Russell St ends at Chappell Ave -no structures in SA
FM-30-122, *City of Detroit Aerials* [publisher unknown] ***Figure 3.1.5d***	1961	-Disturbance in NE part of SA around rail; fill to level line -Narrow road extends SW from intersection -A few trees along edge of Chappell -Rail line to W of Russell St
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	-Historical site identified S of SA (hotel) -No other changes from previous NTS map
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-SA outside residential area -No structures in SA -Chappell and Russell depicted as gravel roads
17562-13-381, *City of Detroit Aerials* [publisher unknown]	1981	-Gravel fill on W side Russell St, some fill in SW part of SA -Russel St straightened, with fence along W side -Structure, gatehouse at end of Russell St within fence -Second rail line inside fence on SA
Windsor 40J06 (Ed. 6) Dept of Energy, Mines and Resources Scale 1 : 50,000 ***Figure 3.1.4d***	1986	-Pipeline crosses E end of canal in SA and runs parallel to its N side into Detroit R. -Rail like present within SA -Chappell and Russell terminate at their intersection
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 3.1.1a***	1988	-Gravel covers entire SA -Three rail lines present -Russell St gravel -Another rail line extends from intersection of Russell/Chappell
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Russell St gravel, berm present on W side of fence -Gatehouse the only structure -Second rail line within fenced area to W

Document	Date	Comments
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 3.1.1b***	2000	No change from previous aerial image
Windsor 40J06 (Ed. 8) Natural Resources Canada Scale 1 : 50,000 ***Figure 3.1.4e***	2001	-Pipeline across canal no long depicted -Structure N of canal just W of SA -Russell St extends S of Chappell Ave
MyWindsorAerial *MappMyCity* City of Windsor	2010	-Landscaping along berm on W side of fence, within SA -Russell and Chappell paved, gravel along edge of Chappell -SW area of SA has fill and used as storage area -Rail lines weave through NW part of SA
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-Sewers extend down Russell St and rail lines -Storm sewer down Chappell Ave -Old sewer follows rail lines up from S

The background research indicates the proposed Prince Road Sewer Outfall is located within an industrial area, although the majority of it originally was listed as being a marsh (***Figure 3.1.2***). Significant disturbances have occurred from the dredging of the canal at the southwest corner. Through the 20th century the creation of a berm, the addition of modern fills, and the construction of rail line and road ways, as well as the asphalted parking lot have added to the general disturbance of the main section of the Study Area.

3.1.5 Prince Road Sewer Outlet - Historical Plaques

There are no historical plaques in the vicinity of the Study Area.

3.1.6 Prince Road Sewer Outlet - Property Inspection Results

The Proposed Prince Road Sewer Outlet Study Area Property Inspection was conducted on 20 February 2020, under clear skies and a temperature of -5 °C. No snow cover impeded the Property Inspection.

The Study Area is composed of asphalt and gravel roadways, a rail line, manicured grass, tall reeds, fences, berms and a small building. The properties along Chappell Avenue and Russell Street have high metal fences, with barb wire, and gates (***Plates 3.1-2 - 3.1-3***). The western area of the Study Area is composed of a gravel yard, with a small gatehouse beside the gate and a berm extends along the inside of the fence line obstructing the view of the yard (***Plate 3.1-6***).

The rail line runs along the bottom of the slope, crossing both Chappell Avenue and Russell Street (***Plates 3.1.-3 - 3.1-4***). Both sides of the rail line, on the south side of Chappell Avenue, are composed of high reeds (***Plate 3.1-1***), suggesting a seasonally wet area. Mounding is visible on the east side of the rail line south of Chappell Avenue. The fencing extends along each side of the rail line. The canal has bermed banks, with a hydro tower on its edge within the Study Area (***Plate 3.1-5***). See ***Figure 3.1.6*** for images from the Property Inspection.

3.1.7 Prince Road Sewer Outlet - Archaeological Potential

The proposed Prince Road Sewer Outfall, encompassing the Chappell Avenue ROW from Sandwich Street to the main part of the Study Area to the west of Russell Street (***Figure 3.1.1***) has been filled in and impacted

extensively over the last 150 years. According to Iredell's 1797 map (***Figure 3.1.2***) as well as the 1913 NTS map (***Figure 3.1.4***) the main part of the Study Area was originally all marsh. A canal lined with trees on its northern edge was dredged sometime in between 1879 and 1905 to facilitate the transportation of American clients coming across the Detroit River to the Mineral Springs Spa and Hotel, that was located just to the southeast of the Study Area. The springs ran dry sometime in the early 1900s, and shortly thereafter in the 1920s, the area became industrialized and infilling of the marsh started. The historic aerial photographs from the 1930s onwards (***Figure 3.1.5 and Supplemental Figure 3.1.1***) illustrate the various levels of fill throughout the 20th century. The 1988 aerial photograph especially shows the development of the land with a large structure, its surrounding parking lot, and road and rail networks (***Supplementary Figure 3.1.1***). Therefore, given that the main part of the Study Area was at the base of the original rivershore bank and consisted of a marsh that has been impacted over much of the 20th century, this area does not contain any archaeological potential (***Figure 3.1.6***).

The Chappell Avenue ROW part of the Study Area consists of the road bed and gravelled shoulders and is mostly on the slope of the original shoreline bank and of low archaeological potential (***Figure 3.1.6***). The historic spa/hotel is just outside of the Study Area. There is only a small section of Study Area within the ROW at the eastern end that is at the top of the bank, and while this area is currently paved/gravelled, there is not enough information to determine if all of the road's ROW has been deeply impacted. It has been impacted along the southern edge with the installation of a sewer line, but the level of disturbance in the remaining section is unknown. Therefore, this area retains high potential for buried archaeological deposits due to its proximity to the River, raised elevation, and location abutting the early Sandwich Street, and should be monitored at the Stage 2 level due to the potential for the presence of archaeological resources including burials (***Figure 3.1.6***).

3.2 Proposed Detroit Street Storm Sewer Outfall Upgrades (STM-C2)

The proposed Detroit Street Storm Sewer Outfall work includes the installation of a new sewer line adjacent to the existing line along Detroit Street and upgrading the size of the outfall at the Detroit River. The sewer line and outfall construction zone on private property at the foot of Detroit Street, as well as small portions of the Detroit and Russell Street ROWs, comprise the archaeological Study Area (***Figure 3.2.1***). The Study Area is an irregular rectangle approximately 284 by 184 metres, and is 5.6 hectares in size. It consists primarily of the West Windsor Dock at 210 Detroit Street which includes 0.27 hectares of water along the River's edge (note that archaeological potential has not been assigned to the riverbed portion in this report). The Study Area is almost entirely covered in aggregate piles with two large silos near the waterfront. In addition to the current storm sewer, there are extant sanitary and combined storm and sanitary sewers within the Russell Street ROW that intersect or are adjacent to the Study Area (City of Windsor n.d.-b).

The historic property designation is: Part of the Indian Reserve; part of the Water Lot in front of Indian Reserve Between Detroit and Chappell; Lot 1 to Lot 4 and part of Lot 5 West side of Russell Street, Plan 40; Closed Detroit Street (west side of Russell); and part of the Russell Street ROW.

The proposed Detroit Street Storm Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a

caveat, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.2**.

3.2.1 Detroit St. Outfall - Known Archaeological Sites

There are 16 registered archaeological sites in the OASD within one kilometre of the Detroit St. Study Area (**Table 3.2.1**). Ten of the sites are within 300 metres of the Detroit St. Outfall.

Table 3.2.1
Registered Sites Within One Kilometre of Detroit St Outfall

Borden Number	Affiliation	Site Type	Proximity to SA
AbHs-10 Duff-Baby House	Euro-Canadian 1798-1833 CE	Homestead	<300m
AbHs-12 Mackenzie Hall	Euro-Canadian 19th century	Gaol	>300m
AbHs-16 Heritage Park Windmill Reconstruction	Euro-Canadian Early-to-mid 19th century	Unknown	<300m
AbHs-27 Huron Mission Site	Indigenous 1700-1800 CE	Village	>300m
AbHs-28	Indigenous Late Archaic Euro-Canadian 19th century	Unknown (Disturbed) Unknown (Disturbed)	>300m
AbHs-29	Indigenous Euro-Canadian 19th century	Unknown (dist) Unknown (Disturbed)	>300m
AbHs-30	Indigenous 1400-1600 CE Euro-Canadian 1850-1900 CE	Unknown (Disturbed) Homestead	<300m
AbHs-31	Indigenous Euro-Canadian 19th century	Unknown (dist) Unknown (Disturbed)	<300m
AbHs-32	Indigenous Euro-Canadian 19th century	Unknown (dist) Unknown (Disturbed)	<300m
AbHs-33	Indigenous Euro-Canadian 19th century	Unknown (dist) Unknown (Disturbed)	<300m

Borden Number	Affiliation	Site Type	Proximity to SA
AbHs-34	Indigenous Archaic Middle Woodland Late Woodland (Western Basin) Euro Canadian 19th century	 Traditional Village Midden?	<300m
AbHs-60 Mill Cove Marina Location 1	Euro-Canadian Late 19th and early 20th century	Secondary deposit	<300m
AbHs-63 Essex County Jail	Euro-Canadian 1933, 1943	Burials	>300m
AbHs-64	Indigenous Pre-Contact	Campsite	<300 m
AbHs-69	Euro-Canadian	Scatter	<300m
Lead-0056	1800-1900 CE		>300m

The sites in **Table 3.2.1** cover most of the history of human habitation of the Windsor area, from the Indigenous Middle Period to the 20th century, and represent a diverse array of site types.

AbHs-10, the Duff-Baby House, is an extant house located 150 metres south of the Detroit St. Outfall. Built in 1798, the house is associated with the fur trade and the development of the waterfront industry in Windsor.

AbHs-16, the Heritage Park Windmill Reconstruction, is a Euro-Canadian site identified during monitoring of the construction excavation for the reconstructed windmill in the southeast corner of Mill Park. Multiple archaeologically-significant layers were identified within the construction area, dating to the early-to-mid 19th century (MPAI 1991:6). No direct evidence of the original 18th century Baby Mill was identified during monitoring (see **Section 3.4.2**).

AbHs-60 (Mill Cove Marina Location 1) is a scatter of late 19th and early 20th century Euro-Canadian domestic material. The site, located south of the current Study Area, on the west edge of Mill Park, was unexpectedly identified during construction work for the Mill Cove Marina. The Engineering firm Golder initially speculated that the deposits could relate to the 18th century Baby Mill, which is the only improvement depicted on historic maps of the immediate area (Golder 2014:Map 4). Further investigation determined that all strata consisted either of fill, secondary deposits, or natural soils, and that the recovered domestic artifacts derive from the use of the marshy waterfront as a dumping ground beginning in the mid 19th century and have no relation to the earlier Baby Mill (Golder 2014:39).

AbHs-64 is a multicomponent Indigenous and early Euro-Canadian site near Riverside Drive W/Sandwich Street, to the northeast of the Study Area. The Indigenous component of the site includes an Early Archaic period projectile point, as well as evidence for habitation stretching from the Archaic into the Contact period. Later historic material includes early 1800s artifacts. Analysis of the site by FAC is currently ongoing. The site has been documented for 200 metres in a northeast-southwest direction, and it is possible that intact deposits continue into the current Study Area (see **Section 3.4.2**).

Additionally, there are two areas of unregistered burials within 100 metres of the eastern edge of the Study Area (CRM Group *et al.* 2002:Figure 2).

3.2.2 Detroit St. Outfall - Previous Archaeological Work

There are three previous archaeological reports for work within 50 metres of the Detroit St. Outfall Study Area, and two reports located just outside the 50 metre buffer. All five are summarized below, with the two beyond the buffer listed last in sequence.

1) Mayer, Poulton and Associates Inc. (1991). *Archaeological Monitoring of Construction Excavation, Heritage Park Windmill Reconstruction, City of Windsor, Ontario*.

In 1991, MPAI conducted archaeological monitoring for the foundations of a reconstructed historic windmill in the southeast corner of what is now Mill Park; the archaeological monitoring was conducted 80 metres south of the proposed Detroit Street Outfall, but the background research for the report encompassed the whole of Mill Park. The reconstructed windmill is located within lands owned by Jacques Baby in the late 18th century, and upon which he constructed one of Windsor's early gristmills. MPAI identified the area as having high potential for archaeological resources related to the original windmill, preserved beneath later fill layers (MPAI 1991:3). No direct evidence of the original mill was identified during monitoring, but MPAI did identify several early-to-mid 19th century cultural strata, as well as a blue-grey clay stratum predicted to contain "subsurface structural features (*e.g.* building foundations, privies, *etc.*) related to the [Jacques] Baby windmill" in other areas of Mill Park (MPAI 1991:6). MPAI recommended "additional monitoring and possibly a detailed archaeological excavation" in the event of subsurface disturbance in the area, especially in the north end of the park (MPAI 1991:6).

2) Golder Associates (2013). *Stage 1 Archaeological Assessment, Mill Park, Mill Street and Russell Street, Part of Lots 5, 6, 7, and 8, North Side of Mill Street, West Side of Russell Street, The Waterlots in Front, Formerly Sandwich Township, Now City of Windsor, Essex County, Ontario*. PIF P364-007-2013.

In 2013, Golder conducted a Stage 1 background study for infrastructure upgrades in Mill Park, which abuts the southern edge of the Detroit St. Outfall Study Area. The report determined that the property had high potential for Indigenous and historic archaeological resources in areas retaining archaeological integrity, and highlighted the connection of the property to Jacques Baby's 1796 windmill, and to the American invasion of Canada during the War of 1812 (Golder 2013a:ii, 15-16). Golder recommended Stage 2 assessment through shovel testing at 5m intervals and mechanically-excavated trenches every 10m, with the potential to proceed directly to Stage 3 site-specific assessment if archaeological resources were encountered during machine trenching (2013a:17).

3) Golder Associates (2013). *Stage 2 and 3 Archaeological Assessment, Mill Park, Part of Lots 5, 6, 7, and 8, Plan 40, North Side of Mill Street, West Side of Russell Street, The Waterlots in Front, Formerly Sandwich Township, Now City of Windsor, Essex County, Ontario*. PIFs P364-009-2013 & P364-022-2013.

In 2013, Golder conducted a Stage 2 assessment of limited areas of Mill Park (30 metres south of the Detroit Street Outfall), following on from recommendations made as a result of their Stage 1 background study (see above). The assessment was conducted via a combination of shovel test pits at 5m intervals, and mechanical

excavation of test trenches (Golder 2013b:15-16). According to Golder, "the Stage 2 assessment within Mill Park did not provide a conclusive determination regarding the presence of deeply buried archaeological resources within the area of the utility easement", and so Stage 3 monitoring was conducted for this portion of the construction (2013b:17). Machine trenching within the utility easement identified "a black organic clay layer containing cultural material from the late 19th century to 20th century"; this was later determined to be of low cultural heritage value or interest (Golder 2013b:40, 42). Further Stage 2 archaeological assessment was recommended for any additional ground disturbance within other areas of Mill Park.

4) Golder Associates (2014). *Stage 3 Archaeological Assessment, Mill Cove Marina, Part of Lots 5, 6, 7 and 8, Plan 40, North Side of Mill Street, West Side of Russell Street, The Waterlots in Front, Formerly Sandwich Township, Now City of Windsor, Essex County, Ontario*. PIF P364-023-2013.

Construction work at the Mill Cove Marina (80 metres to the south of the Detroit Street Outfall Study Area) accidentally uncovered potential archaeological resources, registered as AbHs-60, in 2013. Following recommendations from Parks Canada and the Department of National Defence, Golder Associates conducted a Stage 3 assessment of the resources to "assess their significance, and to provide specific direction for [their] protection and management" (Golder 2014:ii). It was determined that all exposed archaeological strata were fill layers with no cultural heritage value or significance, but that these could overlie intact early-mid 19th-century strata. While no further archaeological work was recommended within the impacted area, trench excavation was recommended prior to any additional deep disturbance within the Mill Cove Marina (Golder 2014:40). The report specifically highlighted the possibility of unearthing remains of the mill constructed in 1796 by Jacques Baby, originally located close to the Detroit River between Detroit and Mill Streets (Golder 2014:10, 40).

5) FAC (2019). *Riverside Drive West/Sandwich Street Improvements Project: Sandwich Street Arch, Archaeological Stage 1: Background Study and Stage 2: Assessment and Monitoring*. PIF P115-0024-2017.

The archaeological assessment for this project, located 75m to the northeast of the proposed Detroit Street Outfall, identified a continuation of previously-registered multicomponent site AbHs-64, which has been assessed by FAC in multiple reports (FAC 2019a, 2019c, n.d.-a, n.d.-b). Analysis of the site is currently on-going (see above). The site has been documented for 200m along Riverside Drive W and Sandwich Street, and there is potential for it to extend away from the roadway in the direction of the Detroit River. FAC identified deeply-buried intact archaeological deposits along the north side of the roadway which were recommended for Stage 4 Excavation.

FAC highlighted the importance of thorough archaeological assessments in this area of Windsor, considering the presence of deeply-buried intact deposits and previous unexpected impacts to human remains.

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The Study Area is located within a high-potential area as identified by the WAMP (CRM Group *et al.* 2005: Figure 2). It is within the Original Huron Reserve in the location of the Huron Village & Jesuit Mission, with several unregistered Indigenous burial sites in the immediate surrounding area. The south half of the Study Area is also within the land identified as pre-1800 Sandwich; the north half is within 100 metres of an historic road.

3.2.3 Detroit St. Outfall - Environmental Factors

The proposed Detroit Street Outfall Study Area is located along the shoreline of the Detroit River, along the eastern edge of the curve southward. The River is narrow at this point and current swift.

The topography of the Study Area is relatively level, with the original shoreline filled and the property extended into the Detroit River to the Harbour line.

The soil within the Study Area consists of Burford Loam, a brown gravelly loam over reddish brown clay loam, with many cobblestones (Richards *et al.* 1949:soil map). Burford Loam supports good natural drainage and the vegetation associated is predominately hard maple, beech, ash and elm (Richard *et al.* 1949). The Study Area also consists of 19th century infill along the riverfront.

3.2.4 Detroit St. Outfall - Historical Research Summary

The proposed Detroit St. Outfall Study Area consists of parcels within the "Indian Reserve" and 18th century Town of Sandwich Plan 40, dated 1847, specifically: part of the Indian Reserve between Detroit and Chewett Streets and part of the Water Lot in front; Lot 1 to Lot 4 and part of Lot 5 West side of Russell Street and water lots, Plan 40 (Teranet and ServiceOntario 2020b).

The Sale of the Huron Church Reserve by the Chief Warriors of the Ottawa, Chippewa, Potawatomi and Wyandotte Nation to Captain Thomas McKee, on behalf of the Crown, was recorded in 1800, with a significantly smaller wedge along Huron Church Road designated as "Indian Reserve" (Teranet and ServiceOntario n.d.). Businessmen negotiated for parts of the remaining Reserve and by 1833, the block of land between the Main Street and Detroit River, composed of fourteen and three quarter acres, was granted by John Mears to John Prince (Teranet and ServiceOntario n.d.). Although, not until 1854 were Crown Patents registered for the remaining Reserve and, with John Prince granted all of the land bounded by Detroit Street, Main Street (Sandwich), Chewett Street and the Detroit River, comprised of seven and three quarter acres (Teranet and ServiceOntario n.d.). The *Plan of the Indian Reserve*, dated 1854, illustrated Prince's Lot, with a road running north/south just east of Russell Street and no structures (**Table 3.2.2**). Part of this block of land includes the north part of the Study Area, which falls within the southwest part of John Prince's land, including the area illustrated as marsh. In 1874, a Crown Patent for the Water Lot in the Detroit River, composed of two and three quarters acres, was granted to John B. Gauthier (Teranet and ServiceOntario n.d.). The Land Registry Plan 41 lists the transactions for this part of the Study Area.

Of interesting note, on the American side of the River, within 1.4 kilometres and sight of the Study Area, is the Historic Fort Wayne, built in the 1840s, retaining the original earthworks and buildings (HFWC 2020).

On the plan of Sandwich in 1797, the Lots west of Russell Street were not included in the grants (***Figure 3.2.2***). The Lots west of Russell Street are later divided as narrower lots within Sandwich Town Plan 40, registered in 1847, and extend to the Detroit River, comprised of approximately one acre (**Table 3.2.2**). The southern part of the Study Area is composed of Plan 40 Lots 1, 2, 3, 4 and part of Lot 5 West of Russell Street and water lots (Teranet and ServiceOntario 2020b). Patents listed in 1802, grant one acre lots as follows: Lot 1 Richard Patterson, Lot 2 Alex Harrow, Lot 3 Robert Innis, Lot 4 no Patent, Lot 5 (Mill Lot) Honourable James Baby (Teranet and ServiceOntario 2020a). By 1899 Jerome H. Bishop was in possession of Lot 1 and 2, as well as Lot 3 in 1906. Except for the Mill on part of Lot 5 outside the Study Area, the land within the Study Area is not improved at this time. The government dock is located at the end of Mill Street, south of the Study Area.

In 1926, Samuel P West was in possession of the north part of the Study Area, between Detroit and Chewett, and sold the part to Ryan Contracting in 1938. By 1950, Ryan Contracting also had Patents for water lots in Lot 1, 2 and 3 Plan 40, part of the southern portion of the Study Area (Teranet and ServiceOntario n.d.).

The *1924 Fire Insurance Plan* notes the construction of a Dock on the northwest corner of the Study Area and within Plan 40 Lot 4 a "Disused Dock" labelled a canal extending almost to Russell Street but no structures within the Study Area (**Table 3.2.2**).

The *1931 DTE aerial photo* portrays the northern part of the Study Area as modified, with infill extending the property to the harbourline, construction of gravel roads, structures positioned along the property line, at the corner of Detroit and Russell Streets and a dock is located at the end of Detroit Street (***Figure 3.2.5a***). The *1937 Insurance Plan* illustrates the position of the cement structures and notes Coke Pile and Scrap Iron Pile on the infilled west area (**Table 3.2.2**). The southern portion of the Study Area appears to be undisturbed except along the southernmost edge, where gravel infill extends from Russell Street into the Detroit River, suggesting the infill of the canal (***Figure 3.2.5***).

By 1949, as portrayed on the *DTE Aerial Photo*, construction of buildings along Detroit Street and the northern Russell Street are visible, along with fill of a portion of the Study Area south of Detroit Street (***Figure 3.2.5b***). The *1952 Insurance Plan* notes the buildings as primarily concrete and wood, one storey buildings owned by Ryan Builder Supplies Ltd. (**Table 3.2.2**). By 1956, the entire Study Area was industrial, with additional buildings south of Detroit Street (***Figure 3.2.5c***). A silo appears on the 1975 Topographic Map although located within the infilled section (***Figure 3.2.4c***). The buildings begin to disappear after the 1980s, with the majority of the Study Area used for storing extremely large piles of aggregate (***Supplementary Figure 3.2.1***).

Table 3.2.2
Detroit St Outfall, Summary of Historical Records

Document	Date	Comments
Plan du Topographique du Détroit G-J Chaussegros de Léry	1754	-Village of the Hurons N of SA -Land on curve of Detroit R. is depicted as marshy
Plan of purchase of Indian Reserve A. Iredell 10 Chains : 1 Inch ***Figure 3.2.2***	1797	-SA noted as lower elevation -no Lots S of Russell or N of Detroit St -Written description notes "Oaks in the area", " soil sandy".
No.47 Sandwich Township (Sandwich Townsite) A. Iredell 3 Inch : 1 Mile	1800	-Wedge N of Detroit St 'Lot not purchased from the Indians' -Detroit St parallel to Detroit R. -Lots S of Detroit St subdivided into narrow strips, two strips per Town Lot
Plan of Indian Reserve in the Town of Sandwich W. McCleary 2 Chains : 1 Inch	1854	-No structures in SA -Russell St present N of Detroit St -N part of SA marshy except along Prince/ Russell St -Beach along waterfront -SA property of Colonel Prince, 7 79/100 acres -N end Russell (Prince) St 15m wide -146.13m from corner of Russell to water N of Detroit St

Document	Date	Comments
No. 85 Indian Reserve, Town of Sandwich A.N. Morin 2 Chains : 1 Inch	1854	-John Prince owner of land and water between Detroit St and Chewett W of Main (Sandwich), 7 79/100ac -John B Gauthier has the Deed for water, 2 3/4ac -Original shoreline depicted -Lots divided but not numbered S of Detroit St -Modern notation: water area W of Russell 1.687ac (84854)
Map of Windsor and Sandwich [author unknown] 20 Chains : 1 Inch ***Figure 3.2.3b***	1879	-Russell St depicted N of Detroit St -No divisions in N part SA -No structures present in SA
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 3.2.3a***	1881	-Detroit St extends to river -SA inside area designated as residential
Plan of the Town of Sandwich, Ontario O. McKay 200 Feet : 1 Inch	1913	-Waterfront unmodified -124.15m along Detroit St, Prince (Russell) St to riverfront -Prince St is 175.44m in length -S part SA narrow strip lots, with harbour line shown -SA within #1-4, part of 5
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 3.2.4a***	1913	-No buildings in SA -Elevation line is located back from the river's edge
Page 24, *Fire Insurance Plan for Sandwich, Ontario* Charles E. Goad 800 Feet : 1 Inch	rev. 1917 (orig. 1913)	-Corner of Detroit St and Russell not shown -No structures in SA on index map
Fire Insurance Plan for Windsor Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch	rev. 1923 (orig. 1920)	-No buildings on lots W of Russell St within SA -'disused dock' dredged towards Russell St in area of Lot 5 *-P61 not available to view*
Page 61, *Fire Insurance Plan for City of Windsor including Sandwich* Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch	rev. 1924 (orig. 1920)	-Dock extends into River on N boundary of SA -Two small structures near dock in N part
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 3.2.5a***	1931	-Lot between Detroit St and Chewett divided into present configuration, with gravel piles and infill of shoreline to extend property to harbour line -Detroit St closed at Russell St -Lots W of Russell remain the same

Document	Date	Comments
Pages 61 & 62, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd 100 Feet : 1 Inch	rev. 1937 (orig. 1920)	-Reserve W of Russell between Chewett and Detroit St divided with 3/4 of S part labelled "West Construction Co.", coke pile & scrap noted in the property -Concrete buildings: 3 in centre of area between Chewett & Detroit St, and 2 just S of Russell along Detroit St
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360	1939	-Shoreline is squared and extends into river at end of Detroit St on N side; unmodified S of Detroit St -No buildings depicted in SA
HA-4-84, *City of Detroit Aerials* [publisher unknown] ***Figure 3.2.5b***	1949	-Land N of Detroit St extends past harbour line of Detroit R. -Sheds and piles of gravel on SA -Buildings around edge of SA along Russell and Detroit St -S of Detroit St has fill and a few structures (sheds?)
Page 62, *Insurance Plan of Windsor (Vol. 1)* Underwriters' Survey Bureau Ltd 100 Feet : 1 Inch ***Figure 3.2.6***	1952	-N part of SA: Ryan Builders Supplies Ltd, with 1 building S of Detroit St -Sand & stone piled near river; cinder materials in centre; concrete blk storage along closed Detroit St, tubular kiln near river, storage buildings along Russell -"machinery piled" on S part of SA
GA-1-80, *City of Detroit Aerials* [publisher unknown] ***Figure 3.2.5c***	1956	-Entire SA now used for stone stockpiling -Buildings along closed Detroit St & edge of Russell St. -River's edge extending out to harbour line
Windsor, Ontario 40J06 (Ed. 3) Dept of Mines and Technical Surveys 1 : 50,000	1956	-SA shoreline extends out to harbour line
Windsor, Ontario 40J06A (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 3.2.4b***	1961	-Buildings at end of Detroit St along Russell in N part, and two in S part
FM-30-122, *City of Detroit Aerials* [publisher unknown]	1961	-N part SA has layout shown in 1961 NTS map -Long structure extends from Russell to original shoreline in front of Lot 3 W of Russell Plan 40
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	No change from previous NTS map
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 3.2.4c***	1975	-Cement Plant at the end of Detroit St -Shoreline unchanged from previous NTS map -Silo located on S part of SA in infilled shoreline

Document	Date	Comments
17562-13-381, *City of Detroit Aerials* [publisher unknown] ***Supplementary Figure 3.2.1a***	1981	-Building at end of Detroit St demolished -Piles of granular material over most of SA -1 building S of Detroit St, small ones on N part of SA
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 3.2.1b***	1988	No apparent changes from previous aerial image
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Silo present -All buildings demolished -Piles of granular material throughout SA
MyWindsorAerial *MappMyCity* City of Windsor	2010	No change from previous aerial image
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-Sewers located along Russell St, one extends down Detroit St to Detroit River

The proposed Detroit Street Outfall is within the Sandwich Heritage Conservation District of the City of Windsor (City of Windsor 2012). The background research confirms that the Study Area was not part of the residential area of the 18th century Town of Sandwich. The Study Area has been used as a storage facility for aggregate material since the 1930s, and the original soils are presumed to be buried or have been stripped away. Several structures constructed on the site were industrial based and predominantly one storey. The area consists of an extended and heavily modified shoreline.

3.2.5 Detroit St. Outfall - Historical Plaques

There are no historical plaques within the vicinity of the Study Area.

Six historic houses, within 150 metres of the Study Area, are designated on the Windsor Municipal Heritage Register, and are within the Sandwich Heritage Conservation District of the City of Windsor (City of Windsor 2012, 2019). These houses include: The McGregor-Cowan House, built 1805; The Dominion House Tavern, built 1880; Wigle-Hanaka House built c1890; Duff-Baby Mansion at 221 Mill St, built 1798; and Perry-Breault House at 245 Mill St. built 1895 (City of Windsor 2019).

3.2.6 Detroit St. Outfall - Property Inspection Results

The Property Inspection for the proposed Detroit Street Outfall was conducted on 7 December 2019, under partly cloudy skies and a temperature of 1 °C. Visibility of the ground was excellent.

The topography of the Study Area appears to be relatively flat. The Study Area, situated along the Detroit River, is identified on a sign as the Southwestern West Windsor Dock, with a high wire fence surrounding the property and access was not possible. The Study Area consists of concrete elevators, high gravel piles, gravel roadways for dump trucks and a trailer office (***Plates 3.2-1 - 3.2-5***). The adjacent ROWs of Russell

and Detroit Streets are paved, with grass and trees on the narrow verges (***Plates 3.2-1, 3.2-3, 3.2-4***). See ***Figure 3.2.7*** for images from the Property Inspection.

3.2.7 Detroit St. Outfall - Archaeological Potential

The Detroit Street Outfall is a large industrial section of land along the Detroit River, in the former town of Sandwich. While it is within the designated heritage district of the town, it was not within the 18th century residential section. The mapping from 1797 (***Figure 3.2.2***) indicates that the shoreline area of the Study Area was extensive marsh, and over the last 150 years has been infilled and turned into an industrial cement complex. The original shoreline as mapped prior to the industrial development is shown on ***Figure 3.2.7***, with an overlay of some 20th/21st century structures and infrastructure (storm and sanitary sewer lines). Based on the presence of the former marsh, shoreline and topography, much of the Detroit St. Outfall does not have archaeological potential. However, there may still remain some of the original soils buried beneath fills on the original shoreline bank, depending on the depth of modern disturbance. Those areas that may retain potential have been highlighted as having high potential on ***Figure 3.2.7*** and will require further archaeological work.

3.3 Proposed New Cameron Avenue Storm Sewer Outfall (STM-C3)

The Study Area for the proposed new Cameron Avenue Storm Sewer Outfall is an approximately 150 by 60 metre rectangle situated between Riverside Drive West and the Detroit River at the north end of Cameron Avenue (see ***Figure 3.3.1***). It is 0.9 hectares in size, however 0.26 of that area is within the Detroit River (note that archaeological potential has not been assigned to the riverbed portion in this report).. The Study Area was defined by the proponent to include space for the Outfall and the construction zone. The property description is part of 1530 Riverside Drive West, part of Farm Lots 72 and 73, Concession One, former Township of Sandwich West.

The Riverfront Trail, a multi-use trail system, bisects the Study Area in a northeast/southwest fashion, with a connecting branch leading up to Riverside Drive West in the southeast corner. The Study Area is within Centennial Park (sometimes referred to as Waterfront or Riverside Park), which continues to the east and west. Historically, the Canada Southern Railway ended at a station within this Study Area where passengers could transfer to a ferry to cross the River. Currently, the Michigan Central Railway Tunnel is situated below grade within the Study Area and is still used by the Canadian Pacific Railway (CPR). There are three extant sewer lines crossing the Study Area: two storm sewers roughly north/south either side of the rail tunnel leading to outlets at the Detroit River, and a sanitary sewer parallel to the River on the north side of the Riverfront Trail (City of Windsor n.d.-b).

The proposed new Cameron Avenue Storm Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.3**.

3.3.1 Cameron Ave. Outfall - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the proposed Cameron Avenue Outfall Study Area. The WAMP identifies the possible location of Fort Gowie, an American War

of 1812 fortified encampment, approximately 300 to 500 metres to the east of the Study Area, but this has not been investigated archaeologically (CRM Group *et al.* 2005: 4-12 and Figure 2).

3.3.2 Cameron Ave. Outfall - Previous Archaeological Work

There is one previous archaeological report within 50 metres of the proposed Cameron Ave. Outfall Study Area, and which also covers most of the current Study Area:

1) Fisher Archaeological Consulting (2012). *Continental Rail Gateway Project, Part of Lots 72 & 73, Concession 1 (Former Township of Sandwich West), City of Windsor, Essex County, Ontario, Stage 1: Archaeological Background*. CIF P042-217-2010.

A Stage 1 background study for the proposed Continental Rail Gateway Project assessed the archaeological potential of two parcels overlying the Michigan Central Railway Tunnel; the waterfront section of this study encompasses virtually all of the current Cameron Ave. Outfall Study Area (see ***Figure 3.1.4***)(FAC 2012b). Later project redesign for the Rail determined that surface construction for the waterfront section was not necessary, and therefore no additional archaeological assessment was required, but prior to this some archaeological potential was determined to remain for parts of the section. The Continental Rail report provides a comprehensive history for the proposed Cameron Ave. Outfall Study Area.

The background study determined that there was high archaeological potential requiring archaeological testing for all of the land within the current Cameron Ave. Outfall Study Area except that directly excavated for the Michigan Central Railway Tunnel (FAC 2012b:Figure 20; ***Figure 3.1.4*** this report). The background study also identified the approximate location of a Canada Southern Railroad Station constructed *ca.* 1882 between the current waterfront trail and the Detroit River, on the west side of the current Study Area.

The relevant recommendations are as follows:

> "2) The waterfront section will not involve any surface construction activities, and therefore no further archaeological work is required for this [Continental Rail] project. However, should any future construction activities involving ground disturbance be implemented, then further archaeological work is recommended for those sections indicated as having archaeological potential (Figure 20)" (FAC 2012b:51).

This report and its recommendations were accepted into the MHSTCI Register of Reports on 6 December 2012.

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Additionally, the Study Area is located within an area of pre-1800 Euro-Canadian settlement, within 100 metres of an historic road, and within an early railway buffer as identified by the *Windsor Archaeological Master Plan* (WAMP) (CRM Group *et al.* 2005:Figure 2). It is also within the buffer zone for the Detroit River (CRM Group *et al.* 2005:Figure 1).

3.3.3 Cameron Ave. Outfall - Environmental Factors

The proposed Cameron Avenue Outfall Study Area is situated along the Detroit River shoreline, with an historically steep bluff several metres back from the river's edge and a lower flat section. Riverside Drive is

located at the top of the bluff just south of the edge, following the undulating shoreline. The Detroit River channel is deep, from ~10 to 15 metres, with a swift current in this area (US Army Corps of Engineers n.d.).

The soil in the area of the Study Area is Brookston Clay Loam (ERCA 2016). With the creation of the waterfront Park, the shoreline has been altered by breakwalls and modern fill.

3.3.4 Cameron Ave. Outfall - Historical Research Summary

The Stage 1: Archaeological Background for the Continental Rail Gateway Project, Windsor, Ontario was completed by Fisher Archaeological Consulting in 2012, covering almost the entirety of the current Study Area for the proposed Cameron Avenue Outfall in detail (FAC 2012b). Therefore, this current background section provides a summary drawn from that report with additional updates as required.

The proposed Cameron Avenue Outfall is located within the original Farm Lots 72 and 73, Concession One, Township of Sandwich West (previously L' Assumption) of McNiff's Survey (Teranet and ServiceOntario 2020b). The Study Area is composed of the northern portions of Lot 72 and 73, along the Detroit Riverfront and north of the historic front road, now Riverside Drive (see ***Figure 3.2***). Both Lots were granted to the Mailloux family in 1804 (Teranet and ServiceOntario 2020a).

Lot 72, Concession One

Lot 72 granted in 1804 to Jean Baptiste Mailloux, comprised of 69.5 acres (Teranet and ServiceOntario 2020a, n.d.). In 1819, Joseph Mailloux was awarded Lot 72 by Jean Baptiste Baby, Francois Baby, Jean Baptist Tourneaux and Thomas Lewis (Teranet and ServiceOntario n.d.). The lot remained part of the Mailloux family farm until the early 1870s.

Joseph Mailloux's Will was registered in 1872, thereafter, parts of the Farm Lot 72 were granted to Louis Mailloux through Quit Claim Deeds. By 1874, he had accumulated eighty acres in Lot 72 and the water lot in front. That same year, Louis Mailloux registered an Agreement with James R. Curry, a prominent Windsor banker, and then granted Curry all of Lot 72, Concession One Petite Cote, except for a part near Tecumseh Road (Teranet and ServiceOntario n.d.). James Curry sold his interest in Lot 72 to Alexander Cameron, a lawyer and land speculator, and associates, in 1876, consisting of the sixty nine and a half acres and water lot. Alexander Cameron and John Curry formed the Essex County Bank, after the death of his brother James Curry in 1877 (J.H. Beers & Co. 1905). In 1882, a Patent registered to Alexander Cameron, Francis Cleary and John Curry, consisted of 73/100 acres of the water lot in front of Lot 72, Concession One (Teranet and ServiceOntario n.d.). After securing the Patent for the water lot, Alexander Cameron et al. sold the water lot to the Canadian Southern Railway Company, comprised of 144 by 200 feet of Lot 72 and the water lot in front, including the Study Area (Teranet and ServiceOntario n.d.; see FAC 2012b:Figure 10).

The Study Area at this time was outside and between the emerging Towns of Sandwich and Windsor. Cameron and Curry, created a number of subdivisions within the Town of Windsor and stimulated expansion with Subdivision Plans, such as Plan 260 and 261 within Lot 72, registered in 1883 (Teranet and ServiceOntario n.d.). Plan 260 and Plan 261 do not include the water lot but note the parts owned by the Canadian Southern Railway Company (FAC 2012b: Figure 7).

Lot 73, Concession One

The Crown Patent for all of Lot 73, Concession One registered to Joseph Mailloux, consisted of 68 acres (Teranet and ServiceOntario n.d.). From 1819 to 1850, Joseph Mailloux was proprietor of both Lot 72 and

Lot 73, Concession One, Sandwich West Township, including the water lot. A Will was registered in 1872 for Joseph Mailloux, although a Bargain and Sale was registered in 1850, in which Louis Mailloux (surviving Executor and Trustee of late Joseph Mailloux) granted Charles Mailloux all of Lot 73 in Concession 1 (Teranet and ServiceOntario n.d.). Again in 1874, Louis Mailloux granted Charles Mailloux eighty acres of Lot 73 and the water lot (Teranet and ServiceOntario n.d.).

In 1874, Anastasia Janisse, wife of Remi Janisse was granted part of Lot 73, Concession One, among other lands, by Charles Mailloux but in 1882, Remi Janisse sold the part of 73 and the water lot to the Canadian South Railway Company (Teranet and ServiceOntario n.d.). Charles L. Potter had received a Crown Patent for part of the water lot in Lot 73, in 1880, which consisted of 22/100 acre, then sold the part, in 1882, to the Canadian South Railway Company (Teranet and ServiceOntario n.d.).

It was in the late 19th-century that large scale development occurred on the two lots with the subdivision of lands into housing plots and the construction of the railway.

Canada Southern Railway Co. (CSR)
The Plan of the *Canada Southern Railroad*, dated 1882, illustrates the rail line through the Study Area, along the waterfront (FAC 2012b:Figure 10). The rail line goes under Sandwich Street, now Riverside Drive. On the 1889 *Plan of the Town of Windsor*, a Station House is situated to the north of Cameron Avenue, on the north side of the CSR tracks, between a second set of tracks, owned by Canadian Pacific Railway, which ran along the modified shoreline within the Study Area; the CSR station is also depicted on the 1896 *Plan of the City of Windsor & Part of the Township of Sandwich West, County of Essex* by G. McPhillips (FAC 2012b:Figure 11).

> "This station was replaced after 1901 by the Michigan Central Railroad, who had taken over the CSR (Tennant 1991:130). The new passenger station (Plate 2) was not constructed on the same location, but rather south of the tunnel entrance (Tennant 1991:22 and 130)" (FAC 2012b:34).

The new Michigan Central passenger station referred to by Tennant was located beyond the current Cameron Avenue Study Area, however the original CSR station (FAC 2012b:Plate 1) would have been within the Study Area (see ***Figure 3.3.2*** and ***3.3.3a***).

Competitive efforts to span the Detroit River, by the Grand Trunk Railway, pushed the Canada Southern Railway Company to establish a River crossing not impeded by winter ice conditions. The increasing commercial importance of Detroit-Windsor meant that the principal crossing of the River would have to be made there" (Tennant 1991:117).

A Patent dated 1907, registered to the Detroit River Tunnel Corporation, comprised of a strip of land covered with water in front of Lot 72 and a grant was issued for part of Lot 73 (Teranet and ServiceOntario n.d.).

> "The plans for the tunnel began in 1905, and in 1906, the Detroit River Tunnel Company began purchasing the required lots, including portions of Lots 72 and 73, First Concession from the CSR (Land Registry). During the winter of 1906, calls for tender were extended to contractors who had to bid on four methods of construction of the tunnel (The Evening Record, February 8th, 1906). 'It has been planned to construct the tunnel by the open trench

> method, and it would seem to be almost certain that that method will be followed. The tunnel will be two tubes' (ibid 1906)" (FAC 2012b:36).
>
> "The construction of the tunnel was completed by the beginning of July, 1910, and the first train went through later that month, and the formal opening was in September. The trip was about 15 minutes (The Evening Record, September 20th, 1910) long to pass from depot to depot. Regular service started October 16th, 1910 (Kuschell 1976), which included both freight and passengers" (FAC 2012b:38).
>
> "The railway line and where the tunnel is (just north of College Avenue into the Detroit River) are entirely void of archaeological potential, given the nature of its construction. Plate 4 indicates how much destruction would have been involved in the excavation of the trench for the tunnel sections, and all the land from just north of College Avenue to the River is deep fill that was used to cover over the tunnel sections" (FAC 2012b:41)[4].

The visual documents listed in the Archaeological Background for the *Continental Rail Gateway Project, Windsor, Ontario* (FAC 2012b) confirm the rail line along the shore of the Detroit River within the Study Area was removed in the mid 1950s. No structures are located on the north side of Riverside Drive and by the 1970s the Study Area was designated as Parkland. The original access from Riverside Drive to the lower area along the River, is visible on the 1981 Aerial and is utilized as a pathway to the Park (**Appendix B**). The underpass/overpass was still present on the 1986 Topographical Map of Windsor, but by 1988, it was filled in. By 2000, landscaping and fill had erased all traces of the underpass and rail lines (***Figure 3.3.1***).

City of Windsor mapping identifies two storm sewer drains, from Riverside Drive to the River, and a sanitary sewer bisecting the Study Area from east to west (City of Windsor n.d.-b).

3.3.5 Cameron Ave. Outfall - Historical Plaques

There are no historical plaques within the vicinity of the Study Area.

3.3.6 Cameron Ave. Outfall - Property Inspection Results

The Property Inspection for the proposed Cameron Avenue Outfall was conducted on 7 December 2019, under partly cloudy skies and a temperature of 1 °C, with no snow cover.

The Study Area is situated within Centennial Park, a maintained lawn with shade trees and sculptures bordering the Detroit River. The topography consists of a steeply sloped grass area parallel to Riverside Drive West which levels off just before the multi-use trail, then a slight slope down to the Detroit River. The multi-use sidewalk transects the Study Area northeast/southwest. The artificially straightened shoreline consists of concrete walkway, fence and retaining wall. Various sculptures are located along the multi-use sidewalk.

A utility structure is located in line with Cameron Ave, at the edge of the Detroit River in the centre of the Study Area. This partially buried concrete box structure consists of a concrete platform with railing on the top. Additionally, manholes were located to the east of the Study Area within Centennial Park. See ***Figure 3.3.4*** for images from the Property Inspection.

[4] See ***Figure 3.3.3b*** for the photo referred to as Plate 4 in FAC 2012b, taken during the construction of the tunnel.

3.3.7 Cameron Ave. Outfall - Archaeological Potential

The proposed Cameron Avenue Outfall Study Area is within an area that has been impacted in the past 140 years by railway construction and use, and more recently landscaped to provide a pleasant park setting. Undisturbed portions of the Study Area have a high potential for Indigenous archaeological material based on its location on the Detroit River shoreline, and a high potential for 19th century Euro-Canadian and early industrial archaeological resources (such as the first CSR station). This corresponds to the previous Stage 1 report (FAC 2012b) and there have been no subsequent changes to the Study Area that would alter those recommendations. Therefore, apart from the known disturbance from the railway tunnel construction, Stage 2 is recommended for the remainder of the Study Area (***Figure 3.3.4***). The Stage 2 Assessment will identify other specific areas of extensive disturbance from landscaping and utilities etc. and proceed accordingly.

3.4 Proposed New Bruce Avenue Storm Sewer Outfall (STM-C4)

The proposed new Bruce Avenue Storm Sewer Outfall Study Area is an approximately 200 by 55 metre rectangle situated in Legacy Park (also referred to as Waterfront or Riverside Park) at the foot of Bruce Avenue. It encompasses 1.2 hectares of parkland and a portion of the northern ROW for Riverside Drive West, and includes space for the new outfall and a construction zone (***Figure 3.4.1***). There is an extant storm sewer and outfall within the Study Area, the sewer extending north to the River from a combined sewer at the foot of Bruce Street (City of Windsor n.d.-b). The Riverfront Trail bisects the Study Area in an east-west fashion with an access trail crossing the southwest quadrant of the Study Area. The property description is part of 620 Riverside Drive West, part of Farm Lots 78 and 79, Concession One, former Township of Sandwich West.

The proposed new Bruce Avenue Storm Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.4**.

3.4.1 Bruce Ave. Outfall - Known Archaeological Sites

There are three registered archaeological sites in the OASD within one kilometre of the proposed Bruce Avenue Outfall Study Area.

AbHs-13 is a Euro-Canadian train depot, located 550 metres east of the Study Area along the waterfront. An archaeological assessment identified the stone foundation as a 19th-century train station and conducted a test excavation.

AbHs-14, the Francois Baby House, is a Euro-Canadian homestead site associated with the extant 1812 Maison Francois Baby, within 300 metres of the Study Area and currently housing the Museum Windsor. The Bruce Ave. Outfall Study Area is partially within Lot 79, part of the property owned by the Baby family beginning in the late 18th century.

AbHs-15 (Senator David A. Croll Park) is a Euro-Canadian homestead or settlement, located 700m southeast of the Study Area. A 1991 archaeological assessment identified middens and subsurface architectural features preserved beneath several feet of park fill.

In addition to the registered sites, two site leads identified in the WAMP are within 300 metres of the Bruce Ave. Outfall. Fort Gowie is located 200-300 metres to the west (see **Section 3.1.1**), and Ouellette Wharf is located approximately 300 metres to the east (CRM Group *et al.* 2005: Figure 2).

3.4.2 Bruce Ave. Outfall - Previous Archaeological Work

No previous archaeological work has been conducted within 50 metres of the Bruce Ave. Outfall Study Area.

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The Study Area is located within an area of pre-1800 Euro-Canadian settlement and within 100 metres of an historic road as identified by the WAMP (CRM Group *et al.* 2005: Figure 2). It is also within the buffer zone for the Detroit River (CRM Group *et al.* 2005:Figure 1).

3.4.3 Bruce Ave. Outfall - Environmental Factors

The proposed Bruce Avenue Outfall Study Area is situated on the shoreline of the Detroit River, composed ally of a steep bluff and lower flat section due to erosion. The Detroit River shoreline undulates, and the River channel is deep, from ~10 to 15 metres (35 to 50 feet), with a swift current in this area (US Army Corps of Engineers n.d.). Riverside Drive is set back from, and parallel to, the top of the River's bluff.

The soil in the area of the proposed Bruce Avenue Outfall Study Area is Brookston Clay Loam (ERCA 2016). Although due to modern development, the northern section is composed of infill.

3.4.4 Bruce Ave. Outfall - Historical Research Summary

The proposed Bruce Avenue Outfall Study Area is located historically southwest and across the Detroit River from the original French Fort in Detroit. The Indigenous Ottawa Village was depicted on the 1749 French map on the south side of the River, to the southeast of the Fort (Lajeunesse 2010:liv). As European settlement expanded to the south side of the River, fifteen long, narrow French Farm Lots were mapped on the south shore, across from the Fort, between the two Indigenous villages, the Ottawa to the east and the Huron to the west (Lajeunesse 2010:lviii). The Study Area is located within these early French lots.

Within the later British Survey, the Study Area is bisected by Farm Lot 78 and 79, Concession One Sandwich West (originally L' Assumption) of McNiff's Survey (Teranet and ServiceOntario 2020b). The Study Area is located in the northern section of Lot 78 and Lot 79 along the waterfront and north of the historic front road, now Riverside Drive (Lot 78 is on the west, 79 on the east). Located southwest across the Detroit River from the Fort in Detroit, an early 18th century commercial area, Lot 78 and Lot 79 are within the boundaries of the original Town of Windsor (also known as South Detroit, The Ferry, and Richmond).

Lot 78, Concession One

The Crown Patent for Lot 78, Concession One was granted to Jean Baptiste Tourneaux, comprised of 104 acres, in 1804 (Teranet and ServiceOntario n.d.). The sobriquet or double name of the Tourneaux family is written as "Tourneaux otherwise Janette" and often reversed on the Land Registry Abstract (Lajeunesse 2010). Janette Street is to the west of Bruce Avenue.

In 1852, *Plan 76* for the *Division of Lot 77 and Lot 78 in the First, Second and Third Concession* subdivided Lot 78 into Town Lots (Teranet and ServiceOntario n.d.). Crown Patents were issued for the Water Lots in Plan 76, north of Sandwich Street West, now Riverside Drive, beginning in 1875 (Teranet and ServiceOntario

n.d.). *Plan 76* Water Lots 3, 4, 5 and 6 are within the original Town of Windsor and the proposed Bruce Avenue Outfall Study Area.

In 1894, the Grand Trunk Railway Company was issued a Crown Patent for water lots, including Lots 3, 4, 5 and 6 in *Plan 76* (Teranet and ServiceOntario n.d.:Ins #57002). In 1913, the Water Lots 3, 4, 5 and 6 in *Plan 76* were leased to the Crown, then in 1952, the Grand Trunk Railway Co. granted them to the Crown (Teranet and ServiceOntario n.d.). The water lots were then granted to the City of Windsor in 1953 (Teranet and ServiceOntario n.d.).

During the Lease of the waterfront property, a Government Wharf was constructed after 1913, on the Study Area, which included part of the water lot within Farm Lot 79, Concession One.

Lot 79, Concession One
Although Madame Baby was listed as proprietor of Lot 79, Concession One in 1792, Francois Baby was granted the Crown Patent for the Water Lot in front of Lot 79, Concession One Petite Cote in 1836, which comprised eighteen acres (Teranet and ServiceOntario n.d.). With the growth of the Town of Windsor, Lot 79 was subdivided by *Plan 120*, in 1853 (Teranet and ServiceOntario n.d.). Water lots 13, 14, 15 and 16 of Plan 120 are situated within the proposed Bruce Avenue Outfall Study Area

On the *Land Registry Abstract* for Plan 120, lots 14 and 16 north of Sandwich Street West, are listed as expropriated for a Government Dock in 1912 (Teranet and ServiceOntario n.d.). Lots 13 and 15, north of Sandwich Street West Plan 120, owned by the Great Western Railway Company, were leased to the Crown in 1913, and later granted to the Crown, in 1951 (Teranet and ServiceOntario n.d.).

Study Area
Within the proposed Bruce Avenue Outfall Study Area, historical plans illustrate the shoreline as a bluff, narrow in front of Lot 78, but widening in Lot 79, with a lower flat area (**Table 3.4.1**).

With the Lease and Expropriation of lots within Plan 76 and Plan 120, the Study Area is combined and the construction of the Government Wharf is presumed to start shortly after 1913. The Wharf is visible on a 1931 aerial photograph, although it appears not to extend fully to the west side of the Study Area (***Figure 3.4.3a***). The concrete wharf, illustrated on the revised *1937 Insurance Plan of Windsor,* extends into the Detroit River and juts in slightly, north of Bruce Avenue (***Figure 3.4.3b***). A Park is located on the east side of Bruce, north of Sandwich Street West, now Riverside Drive. To the west of Bruce Avenue, no structures are illustrated on the north side.

In 1967, an Application for Land Title was listed on the Land Registry, by Argosy Construction Limited and construction of a Hotel and Odeon Theatre started within the Study Area (Teranet and ServiceOntario n.d.). The hotel was a Holiday Inn, and the parking lot for the Holiday Inn and Theatre was also located within the Study Area.

The following are a list of viewed documents outlining the development of the proposed Bruce Avenue Outfall Study Area.

Table 3.4.1
Bruce Ave Outfall, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-No settlement on S side Detroit R. across from the Fort -Ottawa Village SE of Fort on S side of Detroit R.
Plan du Topographique du Détroit G-J Chaussegros de Léry	1754	-French Lots, structures on S side of Detroit R. opposite Fort -Lots: #7 Godet, #8 Reaume
Registered Plan 120 E.S. Donnelly 1 Chain : 1 Inch	1853	-SA in Concession 1 Lot 79 -Plan 120 Lots 13, 14, 15, River St and Lot 16 in SA -River St extends over Sandwich St (Riverside Dr) to the waterfront -Beach Road or Water St present in lower flat -Edge of bluff depicted as topographical line
Sketch of the Town of Windsor A.B. Bartley, PLS	1865	-Lot 78 and Lot 79 within boundary of Ward 1, (pop. 1500) -Bruce St on Lot 78 extended S past Wyandotte -Riverside Dr located slightly away from shore of Detroit R.
Bird's Eye View of Windsor T.M. Fowler	1878	-Riverfront area N of Sandwich St narrow, with upper area of bluff wider than lower part N of Bruce Ave - Riverfront widens N of Church St
Town of Windsor *Historical Atlas of Essex and Kent* H. Belden & Co. 750 Feet : 1 Inch ***Figure 3.4.2***	1881	-SA within Town of Windsor
Town of Windsor G. McPhillips	1889	-Lot 78 N of Sandwich St (Riverside Dr): Plan 76 subdivided into lots along waterfront as 'Block A', no buildings noted -Lot 79 N of Sandwich St: River St extends down to Detroit R., Beach St present -SA wider in Lot 79, narrower in Lot 78 -Wharfs and railroad located W of the SA
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Bruce Ave present -Waterfront N of Bruce Ave narrow, then flares out, then straight in front of Church St -Farm Lots identified within SA
Page 16, *Insurance Plan of the Town of Windsor, Ontario* Charles E. Goad	rev. 1909 (orig. 1896)	-Riverfront narrows N of Bruce Ave in Lot 78 and widens in Lot 79 towards Church St -No buildings in SA -Lumber yard and dock at end of Janette (outside SA) -W side Church on N side Sandwich: industrial/commercial buildings (outside SA)

Document	Date	Comments
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 3.4.3a***	1931	-Area along waterfront from Bruce to Church is part of wharf (with large cargo ship docked) -Area to W of Bruce along waterfront is not part of wharf and narrower
Page 16, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd 50 Feet : 1 Inch ***Figure 3.4.3b***	rev. 1937 (orig. 1920)	-Bluff labelled "Park" on N side Sandwich W (Riverside Dr) between Janette and Church -Waterfront from W side of Bruce to Church St extended and is straight, labelled 'concrete wharf, Canada Steamship Lines Ltd.'; fireproof concrete Freight Shed and Office -Private road is located S of sheds -Concrete bridge extends from Park to Freight Shed -Brick building noted as vacant Sept 1937 on N side of Sandwich, W of Church St (outside SA)
Page 16, *Insurance Plan of Windsor (Vol. 1)* Underwriters' Survey Bureau Ltd	1952	-Concrete wharf, Freight Shed, concrete bridge still present -"Park" noted on upper area at end of Bruce and to its E, bounding Riverside Dr within SA -Hydrant located within upper park area
GA-1-79, *City of Detroit Aerials* [publisher unknown]	1956	-Lot 78 waterfront extended out and straight, in line with wharf on Lot 79 -Parkland with trees and grass along S edge of SA atop bluff -Gravel and concrete bridge extends N, to Freight Office on E side of SA -Gravel roadways extend around Freight Sheds in lower area
Windsor, Ontario 40J06 (Ed. 3) Dept of Mines and Technical Surveys 1 : 50,000 ***Figure 3.4.4a***	1956	-Shoreline within SA straight -Long structure positioned along river
The Government dock along the Detroit River in Windsor [photo] *From the Vault*, The Windsor Star	n.d.	-Looking NE of Freight Sheds from Riverside Dr
FM-30-124, *City of Detroit Aerials* [publisher unknown]	1961	-Freight Shed and concrete wharf present -Sloped parkland with trees on S half of SA
Holiday Inn., Windsor, Ontario, Canada [postcard] Peterborough Post Card Co. Ltd. SWODA	1967	Description of Holiday Inn ("Plywood Palace"): -Built out over water on old wharf in 1967 -Destroyed by fire in 1999 -Odeon Cinema formerly attached to W end of hotel
Holiday Inn [photo], Bill Bishop *From The Vault*, The Windsor Star	16 May 1967	-Looking SE, workman constructing Holiday Inn -Demolition of Jamieson building N side of Riverside Dr, W of Dieppe Park

Document	Date	Comments
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-Motel present, w/ Pumping Station W of Motel -Elevation line runs through SA, parallel to Riverside Dr at end of Bruce and is centrally positioned on the W half, flaring out in front of Church Ave
Windsor 40J06 (Ed. 6) Dept of Energy, Mines and Resources Scale 1 : 50,000 ***Figure 3.4.4b***	1986	-Large structure within SA labelled "Motel" -Shoreline straight -Pumping station located W of SA
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 3.4.1***	1988	-Holiday Inn hotel present -Parking lot on E, S, and W parts of SA -Driveway extends from Riverside Dr in SE corner of SA -Narrow area along top of bluff consists of grass and bushes
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Terraced landscaping, pathways; one pathway extends from Bruce Ave -Straight, artificial waterfront -Playground structure in NE corner of SA
MyWindsorAerial *MappMyCity* City of Windsor	2010	-Trees along centre pathway, plaque and garden visible -No other change from previous aerial image
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-One storm sewer line extends from Bruce Ave to Detroit R. -Sanitary sewer located N of Bruce on N side of Riverside

The background research indicates the proposed Bruce Avenue Outfall Study Area became industrialized early in the 19th century. The modification of the shoreline and establishment of a Hotel and Odeon Theatre on the Study Area significantly impacted the original waterfront. The northern portion of the Study Area is composed of infill and concrete.

3.4.5 Bruce Ave. Outfall - Historical Plaques

There are no historical plaques in the immediate vicinity of the Study Area, though there are four further afield that are relevant to the Study Area. The Francois Baby House and the Great Western Railway plaques are directly related, as both Francois Baby and the Great Western Railway Company held property within the Study Area. One commemorates the French settlement and how the land had been divided up based on the French system, while the fourth commemorates a local councillor who championed the green space along the waterfront.

1) The plaque found at the foot of Ouellette Avenue, next to the Detroit River, recognizes the settlement of the Windsor Area in the early 18th century. The plaque, titled *French Settlement on the South Shore* that Windsor is the oldest known continuous settler habitation in Ontario, having had the lots laid out and taken up in 1749. "Additional waterfront lots, including this site, were laid out in 1751. These extended from the Huron Mission, located in the vicinity of the present Ambassador Bridge,

to the Ottawa village situated opposite the fort. When the French regime ended in 1760, about 300 settlers were living here" (Brown 2020b).

2) The *Francois Baby House* plaque identifies this structure as the home of one of the original Euro-Canadian settlers in Windsor, Francois Baby (1763-1856). During the War of 1812, the house and lands played an important role in the War of 1812 (Brown 2020a). Part of the current Study Area was originally owned by Francois Baby.

3) The Great Western Railway was instrumental in the development of Windsor, and a plaque to the railway is located at the foot of Ouellette Avenue. The railway was opened in 1854 from Niagara Falls, through Hamilton and London with its terminus in Windsor. It provided a much needed connecting link for railways in both Michigan and New York State. Eventually this railway merged with the Grand Trunk Railway Company and was subsumed under the latter's name (Brown 2020c).

4) The fourth plaque is dedicated to Roy A Battagello, a person directly related to the Study Area as he fought against the development of the riverfront Holiday Inn, and was instrumental in the acquisition of riverfront properties in order to create parkland with pathways along the Detroit River (Windsor Star 2008). The Plaque is entitled *Roy A. Battagello "Riverfront Warrior" 1927 - 2005* (see Groundspeak 2019).

There are no historic buildings within 50 metres of the Study Area, although two houses within 200 metres are of note: the Francois Baby House (noted above) and the Col. Joseph Hall Beattie House at 173 Bruce Avenue, Queen Anne Revival style, built in 1882-85 (City of Windsor 2019).

3.4.6 Bruce Ave. Outfall - Property Inspection Results

The Property Inspection for the proposed Bruce Avenue Outfall was conducted on 30 January 2020, under partly cloudy skies and a temperature of -1 °C. No snow cover impeded the Property Inspection.

The Study Area is situated within Legacy Park, a maintained lawn with gardens, shade trees, memorials and sculptures, bordering the Detroit River. Sidewalks and a multi-use trail weave throughout the Study Area. The straight shoreline of the Detroit River consists of a sidewalk and fence over the breakwall.

The Study Area topography varies, with a level area along Riverside Drive West at the end of Bruce Avenue, then terraces down to a man-made level area, with a concrete sidewalk along the River's edge. Planted trees are scattered along the terraced area and a garden, with large limestone, decorative rocks, is located at the east end.

Several sewer manholes were noted within the proposed Bruce Ave. Outfall area. Large limestone blocks leftover from previous landscaping are visible through the grass along the top edge of the first tier of terracing, parallel to Riverside Drive West (see ***Figure 3.4.5***, ***Plate 3.4-5***)

The Roy Battagello plaque and square decorative garden is located in the central part of the Study Area, and to the south of the sidewalk along the edge of the river. A sculpture is situated in the central area of the Study Area, north of Bruce Avenue and north of the centre multi-use trail. See ***Figure 3.4.5*** for images from the Property Inspection.

3.4.7 Bruce Ave. Outfall - Archaeological Potential

The proposed Bruce Avenue Outfall is generally within an area of high archeological potential for both Indigenous and historic Euro-Canadian 18th and 19th century material along the original shoreline. This is based on its location on the shore of the Detroit River, the trail/road along the River's edge, and for the 1700-1800s, the documented settlement or activities within 300 metres such as the Francois Baby house, Fort Gowie, and an historic wharf.

All archaeological potential has been removed due to a) the initial infilling and construction of the government docks in the early 20th century (***Figure 3.4.3***); b) the construction of the Holiday Inn and Odeon Theatre with its land alterations and infilling in the late 20th century (***Supplementary Figure 3.4.1***; and c) the subsequent demolition of the Inn and re-landscaping of the area into a park setting. These changes can be seen in ***Figure 3.4.5*** which demonstrate how the proposed Bruce Avenue Outfall Study Area has been completely altered removing archaeological potential. No further work is recommended for this location.

3.5 Proposed New Marentette Avenue Storm Sewer Outfall (STM-C5)

The proposed new Marentette Avenue Storm Sewer Outfall entails the construction of a sewer and outfall, the new sewer being within the road ROWs until north of Riverside Drive East. The archaeological Study Area consists of the construction zone for the proposed sewer connection and outfall within the Great Western Park between Riverside Drive East and the Detroit River at the foot of Marentette Avenue (see ***Figure 3.5.1***). There is an extant storm sewer and outfall east of the Study Area, and a combined sewer crosses the southern edge of the Study Area at the top of slope and parallel to Riverside Drive East (City of Windsor n.d.-b). The Study Area's address is 1388 Riverside Drive East, and the property designation is part Lot 89, Concession One, former Township of Sandwich East.

The Study Area is rectangular in shape, approximately 135 by 92 metres, or 1.25 hectares, and is bounded on the south by the footprint of Riverside Drive East, and on the north by the Detroit River, including 0.01 hectares of water (note that archaeological potential has not been assigned to the riverbed portion in this report). The eastern limit almost abuts the edge of the parking lot west of the Bert Weeks Memorial Fountain, while the western limit is open parkland, landscaped lawn and trees, like the Study Area itself. The Riverfront Trail and smaller access trails cross the Study Area, and breaker walls are present along the river's edge. The northern portion of the Study Area is infilled shoreline.

The proposed new Marentette Avenue Storm Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.5**.)

3.5.1 Marentette Ave. Outfall - Known Archaeological Sites

There are four registered archaeological sites in the OASD within one kilometre of the Marentette Avenue Storm Sewer Outfall Study Area: AbHs-11, AbHs-13, AbHs-15, and AbHs-65. AbHs-11 and AbHs-65 are both within 300 metres of the Marentette Avenue Outfall. See **Section 3.4.1** for descriptions of AbHs-13 and AbHs-15.

AbHs-11, the Great Western Park site, was identified in 1989 and is associated with the 18th century Indigenous Odawa village on the south shore of the Detroit River, as well as earlier Indigenous habitations, and 19th century industrial activity. Historic accounts of the Odawa village describe it as a large area along the waterfront with an associated burial ground, parts of which were disturbed during the construction of the Great Western Railway and 20th century infrastructure upgrades (CRM Group *et al.* 2005:2-15). The site also encompasses mid-19th century railway yards, structures associated with the Windsor Water Works, and wharf remnants along the waterfront. The site has been sampled and tested in part, but never fully assessed, and likely extends through much of Great Western Park and the Bert Weeks Memorial Gardens; some intact archaeological strata have been identified beneath layers of deep fill (see **Section 3.5.2**).

AbHs-65 is a Euro-Canadian homestead site located to the west of the Marentette Avenue Outfall. The site was subjected to Stage 3: Testing via mechanical topsoil removal in 2017, identifying the remnants of a stone building foundation, a number of post moulds, and other features dated *ca.* 1850-1906 (TMHC 2018:Map27).

There are multiple unregistered Indigenous burials located close to the Study Area, and accounts of the construction of the Great Western Railway note that some burials had been disturbed at that time (CARF 1992; CRM Group *et al.* 2002: Figure 2; Dewar *et al.* 2010). The presence of a large cemetery associated with the 18th century Odawa village is documented historically, and the unregistered burials appear to be from this time period and earlier.

Assessments of Great Western Park by CARF in the 1990s identified several areas of heritage interest (see **Section 3.5.2**). One of these, an area of freight sheds on the north side of Riverside Drive between Marentette and Parent Avenues, is located within the current Study Area (CARF 1992:Figure 44). It is also likely that part of the footprint of a historic railway roundhouse and turntable overlaps the current Study Area.

Additionally, the historic Verhoeff Wharf was located on the riverfront between Louis and Marentette Avenues, possibly overlapping the Study Area along the western edge (CRM Group *et al.* 2005: Figure 2).

3.5.2 Marentette Ave. Outfall - Previous Archaeological Work

There are six previous archaeological reports for work within Great Western Park and Riverfront Park. While some of these are slightly more than 50m from the Marentette Avenue Outfall Study Area, their findings are directly relevant to archaeological materials potentially within the current Study Area. There is also a published bioarchaeological study of some of the interments from Great Western Park.

1) Historic Horizon Inc. (2005). *Bert Weeks Fountain and Memorial Gardens Construction, Part Lots 90 & 91, Conc.1, City of Windsor, Archaeological Monitoring*. Report on file at MHSTCI.

This report addresses archaeological monitoring undertaken in 2002 for the construction of the Bert Weeks Fountain and associated infrastructure (HHI 2005), to the east of the current Study Area. The monitoring work was limited to four deeply-excavated areas in and around the fountain footprint, as well as the removal of topsoil from a new path footprint. The monitoring determined that fill overlaid all excavated areas to a depth of 1.5 - 3+ metres, and while no deposits with cultural heritage value or significance were identified, "it is recommended that all future waterfront excavation projects be subjected to archaeological assessment if disturbance of any new areas becomes necessary" (HHI 2005:9).

2) Cataraqui Archaeological Research Foundation (1990). *The CNR Riverfront Lands (AbHs-11), Archaeological Assessment Project, 1989, Volume 2: Descriptive Report*. Report prepared for the City of Windsor, and on file at FAC.

In 1989, CARF conducted archaeological testing of the "Windsor Railway Lands" along the Detroit River between Vale Udine Drive and "the Hiram Walker property", formerly owned by Canadian National Railway (CNR) and slated for redevelopment (CARF 1990:1). The testing was conducted through a combination of test pit survey, mechanical trenching, and hand-excavated trenches on land, as well as sidescan sonar survey of underwater resources along the shoreline (CARF 1990:7, 48). The assessment resulted in the identification of a number of archaeological resources with CHVI, as well as a Contact-period Indigenous burial. This site was registered as a Contact-period Indigenous village, AbHs-11 (Great Western Park site).

The current Study Area is located between Operations 2 and 4 of the CARF assessment, however the assessment itself did not overlap the current Study Area (CARF 1990:Figure 1). Operation 2 identified the foundations of the 1889 water works building, and a few concentrations of 19th century domestic artifacts. Operation 4, which investigated the area around the railway roundhouse and turntable, identified significant deposits of modern fill and disturbance from utilities trenching. Additionally, the sidescan sonar survey along the water's edge, including across the edge of the current Study Area, identified a small brick culvert underwater between Parent and Marentette Avenues, and breaks in shoreline cribbing between Marentette and Louis Avenues (CARF 1990:Figure 11, see this report ***Supplementary Figure 3.5.2a***).

CARF presented a number of recommendations as a result of the assessment (see **Appendix C**). These included:

- Implementing long-term protection plans for the Great Western Park site;
- Further archaeological investigation of and documentary research into heritage resources identified within the Windsor Railway Lands;
- Archaeological assessment in advance of any ground disturbing activities within the Windsor Railway Lands, including minor disturbances such as tree planting;
- Archaeological monitoring of the removal of the railway tracks and the Freight Shed;
- Further exploration of culturally-significant underwater resources, including the brick culverts; and
- Archaeological assessment of the land beneath the railway tracks, following their removal.

In a later report, CARF noted that the Freight Shed was removed without archaeological monitoring, as were the railway tracks (see below).

3) Cataraqui Archaeological Research Foundation (1992). *Feasibility Study for an Assessment of Future uses of the Archaeological Resources of Great Western Park, C.N. Riverfront Lands and Adjacent Underwater Areas, Volumes 1-3*. Report prepared for the City of Windsor. Report on file at FAC.

CARF prepared a feasibility study in 1992 addressing concerns about the long-term management of archaeological resources within the bounds of Great Western Park, following on from the earlier Stage 1-2 assessment of CNR riverfront lands (CARF 1990). The report provides background information for the lands encompassed by Great Western Park, as a record of all previous archaeological work undertaken by CARF, and details of new archaeological land and underwater investigations undertaken by CARF in 1991. The 1992 report covers a broad study area which encompasses the Marentette Avenue Outfall Study Area, however

none of the actual archaeological field investigations conducted under that project were within this current Study Area. ***Supplementary Figure 3.5.2b*** presents an overlay of the current Study Area on the results Figure 44 labelled *Distribution of known archaeological resources on C.N. Riverfront lands* from the 1992 CARF report, which highlights the turntable and freight sheds located within the Study Area.

The report notes that the recommendations from the 1990 report that the removals of the Freight Shed and the railway tracks be archaeologically monitored was not followed (CARF 1992:147-148).

CARF presented a number of recommendations as a result of the feasibility study (see **Appendix C**). These include:

- The City of Windsor establishing a curatorial policy for the management of archaeological resources from the Riverfront Lands;
- The City of Windsor establishing a heritage interpretive centre to facilitate public engagement with materials and information from archaeological work on the Riverfront Lands;
- The City of Windsor developing on-site interpretive panels displaying information about archaeological and heritage resources on the Riverfront Lands;
- The City of Windsor putting in place a procedure to follow in the event of the discovery of native burials;
- Archaeological assessment of the Freight Shed area, after the structure was removed without archaeological monitoring;
- Additional archival research into the history of the Riverfront Property; and
- Archaeological assessment of the land formerly beneath the railway tracks, after the tracks were removed without archaeological monitoring.

The report also highlights the presence of mercury-contaminated soils within Great Western Park, and provides recommendations for dealing with the contamination while also protecting the archaeological resources (and archaeologists), in the event of future archaeological work.

4) AMICK Consultants (1999). *Report on the 1998 Stage 1-2 Archaeological Assessment of the Proposed Bert Weeks Fountain Site*. Report prepared for the City of Windsor, Parks and Recreation, and on file at FAC.

AMICK conducted a Stage 1-2 assessment of lands on the north side of Riverside Drive between Parent Avenue and Langlois Avenue (AMICK 1999:Fig. 3). Field work was conducted through shovel test pitting, with shovel tests excavated at least 30cm beneath the ground surface (AMICK 1999:17). No archaeological resources or archaeologically-significant strata were identified during the assessment, but AMICK suggested that they could remain in some areas beneath up to 10 metres of fill, and that fill within the footprint of the proposed fountain should be removed to examine the area for archaeological resources prior to any construction work (1999:18).

5) AMICK Consultants (2000). *Report on the 1999 Stage 1 Archaeological Background Research, Riverfront Park Shoreline Class Environmental Assessment, Part of Lots 85, 86, 91 & 92, Conc. 1, City of Windsor*. Report not available.

This report is listed in PastPort but was not available for review by FAC. A Stage 1-2 report by AMICK with a similar title (see below) makes no mention of this Stage 1 background study (AMICK 2000).

6) AMICK Consultants (2000). *Report on the 1999 Stage 1-2 Archaeological Assessment - Riverfront Park Shoreline Class EA*. Report prepared for the City of Windsor, Parks and Recreation. Report submitted to the City of Windsor.

In 1999, AMICK conducted a Stage 1-2 assessment of two areas along the south shore of the Detroit River: one, on the north side of Riverside Drive E between Langlois and Moy Avenues, is just to the east of the Marentette Avenue Outfall Study Area (AMICK 2000:Fig. 2). AMICK assessed the property through shovel test pit survey, and determined that the proposed construction of shoreline protection for which the archaeological assessment was being conducted, would not impact archaeological resources due to the presence of deep layers of overlying fill (AMICK 2000:22). AMICK did identify a "plank and piling wall … interpreted as a former shoreline retaining wall related to the former railway use of the Windsor waterfront (2000:22). Avoidance of the wall structure was recommended to preserve it for future study.

7) Dewar, G. *et al.* (2010). A bioarchaeological study of a Western Basin tradition cemetery on the Detroit River. *Journal of Archaeological Science* 37:2245-2254.

In 2001, archaeological monitoring of construction work in Great Western Park encountered five graves, containing the remains of eight individuals (Dewar *et al.* 2010:2245). The remains were recorded and left *in situ*, and small tissue samples were taken at the request of the descendant community (Dewar *et al.* 2010:2246). Radiocarbon dating and an analysis of the burial forms determined that the interments were associated with the transition between the Late Woodland Western Basin, Younge and Springwells Phases ca. 1100-1300 CE (Dewar *et al.* 2001:2252). The stable isotope analysis indicated that maize and fish were important components of the diet of individuals buried in Great Western Park during this period.

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The Study Area is located within several high potential areas as identified by the WAMP (CRM Group *et al.* 2005:Figure 2). It is within the "Ottawa Village/Burying Grounds associated with AbHs-11" (see above), within land identified with pre-1800 Euro-Canadian settlement and with the 1881 Historic City of Windsor Settlement, within the Early Historic Railway Buffer and within 100 metres of an historic road.

The Odawa Village is of particular relevance to this Study Area given the Indigenous burials that have been encountered in its immediate vicinity. According to the WAMP:

> "More recently, burials have been found while repairing a light fixture near the foot of Langlois, and during construction of a bikepath at the foot of Pierre Street. Although the full extent of the Odawa cemetery is not known, the distribution of burials recovered from the area suggests that it may extend as far west as Langlois Street, as far east as Devonshire Road and inland at least to Brant Street." (CRM Group *et al.* 2005:2-15).

McNiff's 1791 map centred the village on what is now Louis Avenue over a natural sand knoll, depicting it as extending from the riverfront south as far as Brant Street (CRM Group *et al.* 2005:2-15). This would place the Study Area securely within the footprint of the Village, as it is located between the sand knoll and the Detroit River. Of special concern is the identification of AbHs-11 in an area which was presumed substantially disturbed prior to assessment, with some strata preserved quite close to the modern ground surface; this should be taken into consideration for any determination of archaeological potential for the Marentette Avenue Outfall.

3.5.3 Marentette Ave. Outfall - Environmental Factors

The proposed Marentette Avenue Storm Sewer Outfall Study Area is situated along the southern shoreline of the Detroit River. The original shoreline was composed of a bluff along the Detroit River. The bluff extended out closer to the Detroit River in this area.

The soil in the Study Area is composed of Brookston Clay Loam (ERCA 2016). This soil type is described in detail in **Section 1.3.2** of this report. The shoreline within the Study Area had been modified in the mid-1800s to construct railway lines.

3.5.4 Marentette Ave. Outfall- Historical Research Summary

The Proposed New Marentette Avenue Storm Sewer Outfall Study Area is situated along the Detroit River, in the vicinity of the earliest settlements recorded on the south side of the River. The 1749 *Carte de La Rivière du Détroit*, identifies the Village of "Ottawas" in the vicinity of the Study Area, southeast of the Fort at Detroit (***Figure 1.5***). By 1754, the *Plan Topographique du Detroit* illustrates the French farm divisions, on the south shore of the Detroit River with the Marentette family listed as one of the proprietors (***Figure 1.6***).

The list of proprietors of the Settlement on the south side in 1792, lists Francois Marentette as proprietor of Lot 89, Concession One (Lajeunesse 2010). There is no Patent for Lot 89, as there was some confusion before 1802, between Iredell's and McNiff's surveys (Teranet and ServiceOntario n.d.). The Land Registry Abstract for Lot 89, Concession One, Sandwich East Township, is not listed (Teranet and ServiceOntario n.d.).

The Land Registry Abstract for Lot 89, Concession One (McNiff's survey) City of Windsor, lists Francois Gaudette alias Marentette and his wife as proprietors in 1805 (Teranet and ServiceOntario n.d.). By 1852, portions of the lot north of Riverside Drive were sold to the Great Western Railway Company, including parts owned by Angelique Hall, Benjamin Marentette and Benjamin Marentette Junior (Teranet and ServiceOntario n.d.). By 1889, the railway was noted as the Grand Trunk Railway (**Table 3.5.1**).

Two dwellings are illustrated on the north side of Sandwich Street (now Riverside Drive) on the 1894 Fire Insurance Plan (***Figure 3.5.3a***). The 1894 Windsor Directory lists Benjamin Marentette as residing on Albert St (now University Ave) and Alexander Marentette as residing across the road from the Study Area, on the southwest corner of Marentette and Sandwich St (now Riverside Dr) (Union Publishing 1894). The Windsor Directory dated 1905, lists, without addresses, the "GTR property", "Seally FX coal yards" and "GTR shops and round house" as well as Joseph Gates, at 222 Sandwich East and Walter Loveridge, at 232 Sandwich East, listed before the Waterworks Pumping Station (Union Publishing 1905). Both dwellings remain until 1917, at which time the dwelling on the east side of the Study Area is removed (***Figure 3.5.3c***). By 1962, the dwelling on the west side of the Study Area does not appear on the topographical map (***Figure 3.5.4b***).

In the 1920s, a long, rectangular building on the east side of the Study Area was located along Riverside Drive (***Figure 3.5.3d***). This building was situated along the area at a higher elevation than the Railway lines to the north (***Figure 3.5.4b***). The Study Area remained unchanged until the early 1970s, when the roundhouse at the edge of the west side of the Study Area was removed, but the turntable remained (**Table 3.5.1**).

In the 1981 Aerial Photograph, the site of the west dwelling was being used as a parking area and was at a higher elevation than the Railway lines to the north (***Supplementary Figure 3.5.1a***). By 2000, the entire Study Area had been transformed into Riverside Park, with sidewalks and manicured grass (***Supplementary Figure 3.5.1b***). The area north of Marentette Avenue and along Riverside Drive east appears to remain at a higher elevation than the area to the north.

The following is a list of viewed documents outlining the development of the proposed Marentette Avenue Storm Sewer Outfall Study Area.

Table 3.5.1
Marentette Ave Outfall, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-Ottawa Village present on S side of Detroit R. in vicinity of SA, SE of Fort
Plan du Topographique du Détroit G-J Chaussegros de Léry	1754	-French lot divisions on S side of river, SE of Fort -Marentette, Goddette listed as proprietors on S shore -Cemetery of the Ottawas in the vicinity of SA
Map of the Town of Windsor, County of Essex, Canada West Charles Pinney	1857	-Area N of Riverside Dr (former Sandwich) noted as GWR -Waterfront straight due to modification
Bird's Eye View of Windsor T.M. Fowler ***Figure 3.5.2***	1878	-Bluff farther away from Sandwich St than area to the W -Ground N of Sandwich Dr is level, extends towards river -N of Sandwich: 1 house N of Marentette, 1 house/ outbuildings E of Marentette, rail roundhouses W of Marentette, Great Western Railway lines along the river
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 3.2***	1881	-SA within the Town of Windsor -Railway along the riverfront
Town of Windsor G. McPhillips	1889	-Windsor and Walkerville Electric Railway on N side Sandwich St (Riverside Dr) -Grand Trunk Railway roundhouses W of Marentette situated close to Sandwich w rail line along river shoreline -No other large structures present -More land between Sandwich and River than to the E, W

Document	Date	Comments
Page 1, *Fire Insurance Plan of Windsor, Ont.* Charles E. Goad 100 Feet : 1 Inch ***Figure 3.5.3a***	rev. 1894 (orig. 1885)	-2 one-storey wood dwellings E of Marentette Ave on N side Sandwich St: -50 Sandwich w 2 outbuildings, property not square (18ft wide at E side) -30 Sandwich (straddling SA) with 1 outbuilding to its W -Grand Trunk Railway lines along riverfront -Cement structure (74 Sandwich) on N side Riverside at end of Marentette -Wood dwelling W of Marentette (78 Sandwich St) w outbuilding to the E -Placement of houses suggest bluff farther from Sandwich St -Electric railway along N side of Sandwich St
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Rail line along waterfront -No divisions on N side of Riverside Dr -Electric Railway along Riverside Dr - Rail round houses S of Marentette -Land N of Marentette between Riverside and river is wide
Page 8 & 23, *Insurance Plan of the Town of Windsor, Ontario* Charles E. Goad 100 Feet : 1 Inch ***Figure 3.5.3b***	rev. 1909 (orig. 1896)	-Dwelling on Sandwich St with two outbuildings to the NW, property is outlined -G.T. Railway lines along the waterfront -"Siding" parallel to Sandwich between street and waterfront -Long rectangular coal bin N of siding, in line w Marentette -Concrete structure at edge of Sandwich St, N of Marentette -222 (formerly 78) Sandwich on W side Marentette in SA -Railway roundhouses W of Marentette
Page 8 & 23, *Fire Insurance Plan for Sandwich, Ontario* Charles E. Goad 50 Feet : 1 Inch ***Figure 3.5.3c***	rev. 1917 (orig. 1913)	-Property outlined where house and outbuildings were located in 1894, no structures depicted -Siding parallel to Sandwich St in E part of SA -1 ½-storey wood dwelling (78 Sandwich) -Concrete coal bins and rail lines along the Detroit River
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360	1913	-Structures along Riverside Dr -Railway lines along waterfront; waterfront modified -Railway buildings W of Marentette
Page 47, *Fire Insurance Plan, City of Windsor* [publisher unknown] 100 Feet : 1 Inch ***Figure 3.5.3d***	1920	-Freight shed and office along Sandwich St w rail line extending alongside to the N -Siding line parallel to Sandwich w coal bin to the N -Multiple railway lines along the waterfront
Page 8, *Fire Insurance Plan for City of Windsor including Sandwich* Underwriters' Survey Bureau Ltd. ***Figure 3.5.3d***	rev. 1924 (orig. 1920)	-Dwelling at 738 Sandwich (formerly 78) on N side Sandwich W of Marentette, with smaller building to the W (738A Sandwich St); Coal Shed (87A) N of 738 Sandwich

Document	Date	Comments
Windsor, Ontario 40J06 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1923	No change from previous NTS map
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000	1931	-Long shed N of Riverside Dr extends from Marentette Ave to Parent Ave, at higher elevation than railway lines -Roundhouse W of Marentette on N side Riverside Dr. -Railway lines run along the modified shoreline
Page 8 & 47, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd 100 Feet : 1 Inch ***Figure 3.5.3e***	rev. 1937 (orig. 1920)	-800 Sandwich: Freight Sheds from Marentette to Parent -Coal bins N of 800 Sandwich w coal chute at W end -Rail lines along riverfront -782 Sandwich (dwelling) on W side of SA -Roundhouse on W edge of SA
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360	1939	-Roundhouses not shown -Railway line along waterfront -Freight sheds visible as a long structure E of Marentette
HA-3-142, *City of Detroit Aerials* [publisher unknown]	1949	-800 Sandwich not visible -No changes from previous aerial image
Page 8 & 44, *Insurance Plan of Windsor (Vol. 1)* Underwriters' Survey Bureau Ltd 100 Feet : 1 Inch	1952	-Freight sheds in E part of SA -Rail line along waterfront -782 Sandwich, roundhouses, coal bins/chute still present
GA-1-79, *City of Detroit Aerials* [publisher unknown]	1956	No change from previous aerial image
FM-30-124, *City of Detroit Aerials* [publisher unknown]	1961	-No change from previous aerial image -Note higher elevation along Riverside, E of roundhouses
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	-Note elevation line extends away from Riverside Dr at N end of Marentette -Freight shed, rail lines, roundhouses still present -Modified shoreline
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-No roundhouse close to Marentette Ave -Railway lines still present along riverfront
17562-16-440, *City of Detroit Aerials* [publisher unknown]	1981	-Site of west dwelling used as parking area -Roundhouse at W edge of SA removed -Freight sheds at higher elevation than rail line to the N
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 3.5.1a***	1988	No change from previous aerial image

Document	Date	Comments
MyWindsorAerial *MappMyCity* City of Windsor ***Supplementary Figure 3.5.1b***	2000	-Ground N and E of Marentette level with Riverside Dr -Former roundhouse area below the road grade -Railway lines are no longer visible -SA appears to be in process of becoming parkland.
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 3.5.1b***	2000	-Trails/paths present in SA from Marentette to parking area on the E, and along the waterfront -Minimal to no sign of the former rail yard
MyWindsorAerial *MappMyCity* City of Windsor	2010	-Construction alongside Riverside Dr in SW area of SA -Rest of SA is manicured grass with winding sidewalks
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 3.5.1c***	2010	-Path constructed along Riverside to the W of Marentette -Construction in area of path from Marentette to parking -Rest of SA is lawn with paths by the River -Breakwall unchanged
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-Sanitary sewer parallel to Riverside Dr approximately 15m to the N
MyWindsorAerial *MappMyCity* City of Windsor	2019	-Change in breakwall, less regular than previously
Property Index Map, Essex (No.12) *Onland* Teranet and ServiceOntario	2020	-Original shoreline depicted -No divisions or plans in SA

The background research indicates the proposed Marentette Avenue Outfall Study Area became part of the Railway system constructed along the shoreline of the Detroit River, in the 19th century. Two dwellings built in the 1890s, on the north side of Riverside Drive within the higher elevated area, remained until 1917 (east side) and 1960s (west side). The remnants of the Verhoeff Wharf may be along the western edge of the Study Area at the shore, as well as other potential features as noted by the CARF 1989 sonar study (CARF 1990:Figure 11) (***Figure 3.5.2a***) The Study Area has undergone extensive disturbance, but the extent of these disturbances is unknown.

3.5.5 Marentette Ave. Outfall - Historical Plaques

There are no historical plaques in the vicinity of the proposed Marentette Avenue Storm Sewer Outfall Study Area.

3.5.6 Marentette Ave. Outfall - Property Inspection Results

The proposed Marentette Avenue Storm Sewer Outfall Property Inspection was conducted on 20 February 2020, under clear skies at -5 °C. There was no snow to impede the ground/landscape of the Study Area.

The Study Area, situated along the Detroit River, is presently within the Great Western area of the Riverside Park System (see ***Figure 3.5.1***). The Study Area consists of manicured grass, multi-use trail, sidewalks, shade trees and modified shoreline (***Figure 3.5.6***). At present, a construction fence extends around the central portion of the Study Area restricting access (see ***Plate 3.5-3***). The Study Area appears to be heavily modified.

Along Riverside Drive, the manicured grass slopes slightly down to a sinuous sidewalk (***Plate 3.5-1***). A large circular concrete pad is located north of Marentette Avenue, on the north side of the sinuous sidewalk. To the north of this sidewalk, the Study Area is slightly raised and undulating, then slopes down to the terraced sidewalks along the riverfront (***Plates 3.5-2 - 3.5-4***). Several sewer drains were identified north of Marentette Ave. near the riverfront. The riverfront area has large boulders as a breakwall (***Plate 3.5-5***)and a gravel beach-like area in the northwest corner of the Study Area. See ***Figure 3.5.6*** for images from the Property Inspection.

3.5.7 Marentette Ave. Outfall - Archaeological Potential

The potential for the Marentette Avenue Outfall is complex and probably varied considering the amount of construction that has occurred over the last couple of centuries. In terms of archaeological resources that may still be present these include: 19th century structures; rail structures and associated features; and Indigenous burials, artifacts and features from the Ottawa Village and earlier Indigenous habitations.

On the terrace, CARF noted "...that a number of early nineteenth century structures were located in … [the freight shed] area. In addition, this area is a continuation of the raised terrace on which the Ottawa settlement was located" (1992:147). CARF reiterated that their 1990 Recommendation #15 concerning the lower rail lands being assessed was still valid and should be followed (1992:148). They cited that the formation processes of these lands appeared to have been additive rather than destructive. "This could quite likely be serving to insulate and protect any earlier period remains existing prior to the rail yard development" (CARF 1992:148). Therefore, the lower lands may still retain potential. It should be noted that CARF did have some undefined "hits" with their sonar work along the in-water section of their study in the vicinity of the Marentette Ave. Outfall Study Area (***Supplementary Figure 3.5.2a***).

Therefore, despite various disturbances to both the upper and lower sections of the Marentette Ave. Outfall Study Area, the potential for both Indigenous and Euro-Canadian materials that have Cultural Heritage Value or Interest is high (***Figure 3.5.6***), and a tailored Stage 2: Assessment strategy should be developed.

3.6 Proposed New Stormwater Surcharge (Underground) Storage, Optimist Memorial Park - 1075 Ypres Avenue (STM-C6)

The proposed new Stormwater Surcharge Storage solution at 1075 Ypres Avenue consists of an underground storage facility to be constructed beneath the Optimist Memorial Park parking lot opposite Woodlawn Avenue. The archaeological Study Area is rectangular in shape, 215 metres long by 45 metres wide (approximately 0.97 hectares), and encompasses the majority of the park entrance and parking lot as well as a strip of lawn either side of the parking lot (***Figure 3.6.1***). The Study Area includes space for the storage facility and a construction zone. A combined sewer line is extant along the west edge of the parking lot from the CP Railway south of the Study Area to Ypres Boulevard (City of Windsor n.d.-b). Its historical lot designation is Part Lot 91, Concession 2, Former Township of Sandwich East, County of Essex.

The proposed new Stormwater Surcharge Storage at the Optimist Memorial Park Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.6**.

3.6.1 Surcharge Storage, Optimist Park - Known Archaeological Sites

There is one registered archaeological site in the OASD within one kilometre of the Surcharge Storage, Optimist Park Study Area, AbHs-6. The site is more than 300 metres from the current Study Area.

AbHs-6, the Morton Terminal 2 site, is located to the southeast of the Study Area. The site is the remains of a root cellar from a Euro-Canadian homestead, infilled with mid 19th century material.

3.6.2 Surcharge Storage, Optimist Park - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the Surcharge Storage, Optimist Park Study Area.

The south end of the Study Area approaches the buffer for the historic Canadian Pacific Railway, but is otherwise not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

3.6.3 Surcharge Storage, Optimist Park - Environmental Factors

The proposed Surcharge Storage, Optimist Park Study Area is located approximately four kilometres south of the Detroit River and over one kilometre north of the Grand Marais Drain. The topography of the area is relatively level and the soil within the Study Area is Brookston Clay Loam (ERCA 2016). This soil type is described in detail in **Section 1.3.2**.

The Optimist Memorial Park contains some of the oldest trees in the City of Windsor containing "...a magnificent stand of mature oak trees, as well as soft maple, white ash, walnut, red cedar, spruce, pine, basswood, wild cherry, witch hazel, thorn apple, elm, hickory, silver maple, and wild crab apple" (City of Windsor n.d.-a). This woodlot is on the eastern edge of the Study Area.

3.6.4 Surcharge Storage, Optimist Park - Historical Research Summary

The proposed Surcharge Storage, Optimist Park Study Area is within part of Lot 91 Concession Two, formerly the Township of Sandwich East (Teranet and ServiceOntario 2020b). Early European settlement was primarily focussed along the Detroit River, although the creation of Tecumseh Road in 1838 made the properties within Concession Two more accessible as it forms the northern boundary for this concession (for more details see **Section 1.4.2**).

Antoine Langlois was listed as proprietor of Lot 91 Concession One in 1792 and by 1793, he had petitioned for land in Lot 91 Concession Two, citing the need for wood resources (Lajeunesse 2010:177,359). In 1809, Antoine Langlois was granted the Patent for Lot 91 Concession Two (McNiffs Survey) measuring four acres in width (Teranet and ServiceOntario 2020a). By 1810, Antoine Langlois had divided the lot into east and west, with the Langlois family retaining partitions until 1894 (Teranet and ServiceOntario n.d.).

In 1889, the Ontario and Quebec Railway Co. (now Canadian Pacific Railway) purchased property south of the Study Area (Teranet and ServiceOntario n.d.). This Rail line is approximately 50 to 65 metres south of the southern boundary of the Study Area (***Figure 3.6.1***).

East half of Lot 91 Concession Two, formerly Sandwich East Township

The east side of Lot 91 owned by the Langlois family, was divided by Plan 423 in 1894 (Teranet and ServiceOntario n.d.). The Study Area falls within the Plan 423 Block D and Block E. In 1919, Charles Miller

was granted Plan 423 Block D and Block E, each for $1 (Teranet and ServiceOntario n.d.). In 1925, the eastern strip along Woodlawn Avenue, part of Block D and E of Plan 423, was granted to the City of Windsor, increasing the area of Memorial Park, established that same year (Teranet and ServiceOntario n.d.). Charles Miller, through the Essex Real Estate Company, registered Plan 1250 in 1927, comprising part of Plan 423, part of Block D and all of Block E, south of Ypres Boulevard.

Land Registry Plan 1250

Plan 1250 was registered in 1927, although none of the lots within the Study Area were ever sold (Teranet and ServiceOntario n.d.). The impacts of the Great Depression resulted in the demise of subdivision Plan 1250. Listed on each Registered Plan 1250 lot, within the Study Area, are Tax Certificates, vesting in the City of Windsor, dated 1935 (Teranet and ServiceOntario n.d.). In 1935, the Study Area was amalgamated into the newly formed City of Windsor, with the city boundary to the south along the CP Railway line (City of Windsor 2020a).

Study Area

The *1937 Fire Insurance Plan* Index sheet illustrates Woodlawn Avenue, extending south of Ypres Avenue to the rail lines, with Memorial Park to the east of the Study Area, and no structures within the Study Area (**Table 3.6.1**). The lots of Plan 1250, south of Ypres, were acquired by the City of Windsor in 1935 and the Optimist Park was developed as an extension of Memorial Park by 1949, including the roadway extending south from Woodlawn (City of Windsor n.d.-a). On the 1952 *Fire Insurance Plan*, the planned extension of Woodlawn appears undeveloped and undistinguishable on the 1954 aerial photograph (**Table 3.6.1**). The 1961 topographical map depicts the Woodlawn extension as a roadway with trails leading off it, suggesting its use as a parking area (***Figure 3.6.2c***).

The Windsor Optimist Club building, visible on the 1952 Fire Insurance Map, was located on Ypres west of the Study Area, at the end of Forest Avenue (**Table 3.6.1**). In 1974, the larger Optimist Community Centre, immediately west of the Study Area, was officially opened (City of Windsor n.d.-a). Baseball diamonds were installed in the southern portion of the park, with one just southwest of the Study Area. However, with the installation of new baseball diamonds in the western corner of the park *ca.* 2000, the former diamonds became disused and a Cricket Pitch had been installed by 2000 (City of Windsor n.d-a). A raised trail was constructed on the closed Memorial road, along the southern boundary of the Park, by 2000 (**Table 3.6.1**), which crosses south of the Study Area. The *City of Windsor Sewer Map* does note sewer lines extending south along the originally planned extension of Woodlawn Avenue, from Ypres to the rail line (City of Windsor n.d.-b).

Table 3.6.1
Surcharge Storage, Optimist Park, Summary of Historical Records

Document	Date	Comments
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 3.2***	1881	-No roads or structures within SA -Tecumseh Rd and Marais Rd present
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Canadian Pacific Railway present -SA within Block D and E (E side) -No structures, proprietor, or roads labelled within SA

Document	Date	Comments
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 3.6.2a***	1913	-SA not developed, shown as forested -No roads S of Tecumseh or E of Howard Ave -Canadian Pacific Railway shown
Windsor, Ontario 40J06 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1923	No change from previous NTS map
Page 1A, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd 800 Feet : 1 Inch	rev. 1937 (orig. 1920)	-Memorial Park, Ypres noted -Roads extend S from Ypres to the road along the rail line (North Pacific Ave) -No FIP available for the SA -Boundary of City of Windsor extends S along the CPR line
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360 ***Figure 3.6.2b***	1939	-Road depicted within SA -No structures within SA
Intersection of Memorial Dr., Ypres and Marentette Ave. looking Northeast [photo] [author unknown] SWODA	1951	-Looking from Marentette and Ypres intersection towards Memorial Park -Level field, with utility poles extending N, Woodlawn extension not clearly visible -No structures, a few trees in SA
Page 54B, *Insurance Plan of Windsor (Vol. 1)* Underwriters' Survey Bureau Ltd 200 Feet : 1 Inch	1952	-Unfinished roads Woodlawn (in SA) & Wellesley Avenue -No structures in SA -Windsor Optimist Club building W of SA -Memorial Park includes W side of SA -SA within City of Windsor boundaries
Photo 423831 *Southern Ontario, 1954* [publisher unknown]	1954	-No structures, a few trees in SA -SA appears to be manicured grass -Woodlawn Ave not paved
Windsor, Ontario 40J06A (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 3.2.6c***	1961	-Roadway in SA, S of Woodlawn Ave. -No trees, no structures in SA
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	-Memorial Park extends W to intersection of Ypres/Marentette -One building W of SA -Roadway present in SA, noted as loose surface
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-Driveway/parking area present in SA -Trees along roadway -No buildings in SA

Document	Date	Comments
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-SA is roadway and parking: N half paved, S half gravel -Baseball diamonds S of SA, rail trail on S boundary of park -Trees line parking lot in NW part of SA
MyWindsorAerial *MappMyCity* City of Windsor	2010	-SA composed of asphalt and gravel roadway/parking area -Driveway paved in the N half -Trees line W side of parking area in N half
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-Sewer line extends down from Ypres Boulevard along SA

The historical documents confirm the proposed Surcharge Storage, Optimist Park Study Area was outside of the original settlement of Windsor and remained predominantly undeveloped. Sewers were installed in anticipation of the residential subdivision which failed to be constructed. The Study Area became City of Windsor property in 1935 and the creation of the Optimist Memorial Park resulted. The Woodlawn Avenue former road alignment, south of Ypres Avenue, remains, and is used as a parking area, comprising about half of the Study Area.

3.6.5 Surcharge Storage, Optimist Park - Historical Plaques

There are no historical plaques in the vicinity of the proposed Surcharge Storage, Optimist Park Study Area.

Two structures in the vicinity of the Study Area are registered on the *Windsor Municipal Heritage Register*: The Memorial Park Gates dated 1927 and the Memorial Park Washrooms dated 1926 (City of Windsor 2019). The washrooms are less than 70 metres to the east of the Study Area and the Gates are located south of Hall Avenue, approximately 140 metres east of the Study Area. These structures are directly related to the development of Memorial Park.

3.6.6 Surcharge Storage, Optimist Park - Property Inspection Results

The proposed Surcharge Storage, Optimist Park Property Inspection was conducted on 20 February 2020, under clear skies and a temperature of -5 °C. There was no snow to impede the ground surface of the Study Area.

The parking area consists of asphalt in the northern half and gravel in the south half. The parking lot is level with deep potholes within the gravel portion. The field to the west of the parking area is level consisting of manicured grass, while to the east is a level to gently undulating, treed playground and picnic area. Large trees line the northwest side of the parking area and the west boundary of the Study Area. South of the Study Area and parking lot is a linear berm with a paved trail, parallel to the south edge of the park. Trees as well as hydro poles extend to the north of the berm, at the base of the slope. See ***Figure 3.6.3*** for images from the Property Inspection.

3.6.7 Surcharge Storage, Optimist Park - Archaeological Potential

The proposed Surcharge Storage, Optimist Park Study Area has been utilized as a park and parking area since the mid-20th century and prior to that was undeveloped farmland. The WAMP (CRM Group *et al.* 2005) indicated that the Study Area was not within a high archaeological potential zone. This is corroborated by this report. The Study Area is over a kilometre from the nearest surface water (Grand Marais Drain), and

within a level area of heavy clay soils. There are also no archaeological sites registered within 300 metres of the Study Area. The Study Area therefore, has low potential for Indigenous archaeological resources. Regarding historic Euro-Canadian settlement factors, the Study Area is situated in the middle of a farm lot more than 800 metres from Tecumseh Road and approximately 50 metres from the late 19th century Ontario & Quebec (CP) Railway. Having been initially purchased to extend a farm holding, the original dwelling was on another lot and there is no expectation of historic Euro-Canadian material related to the first generation of settlers within the Study Area. Therefore, based on both the environmental and historic Euro-Canadian settlement factors, there is also low potential for historic Euro-Canadian archaeological resources within the Study Area. As a result, no further archaeological work is recommended for the proposed new Stormwater Surcharge Storage in the Optimist Memorial Park Study Area as depicted on ***Figure 3.6.3***.

3.7 Proposed New Albert Road Storm Sewer Outfall (STM-C7)

A new storm sewer and outfall is proposed at Albert Road and Riverside Drive East. The Study Area for this Outfall consists of an irregular rectangle 2.9 hectares in size (approximately 275 metres maximum length by 123 metres width) on the north side of Riverside Drive East across from Albert Road (see ***Figure 3.7.1***). There is an extant storm sewer that crosses the Study Area from Albert Road to an existing outfall at the Detroit River, and an abandoned sewer in the same alignment just off the western edge of the Study Area (City of Windsor n.d.-b). The eastern edge of the Study Area is opposite Drouillard Road. The Study Area encompasses a construction zone for the outfall itself. The construction zone takes the entire width from the road footprint to the Detroit River and includes a narrow strip, approximately 0.2 hectares, of the water's edge (note that archaeological potential has not been assigned to the riverbed portion in this report). The property is currently vacant land with no address but was formerly part of the Ford Motor Plant. It is part of Lot 98, Concession One, former Township of Sandwich East.

The proposed new Albert Road Storm Sewer Outfall Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.7**.

3.7.1 Albert Rd Outfall - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the Albert Rd Outfall Study Area. The Walker Wharf was historically situated approximately 300 metres west of the Study Area at the foot of Walker Road (CRM Group *et al.* 2005: Figure 2). The Albert Road Outfall Study Area has been covered by a previous report (MHCI 2006), however as this was conducted prior to the introduction of the 2011 *Standards and Guidelines* (MHSTCI), a review of the background information and property conditions was performed as due diligence to ensure all archaeological recommendations are up to the current standards.

3.7.2 Albert Rd Outfall - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the Albert Rd Outfall Study Area and which included all but the Detroit River of the current Study Area.

1) Mayer Heritage Consultants Inc. (2006). *Archaeological Assessment (Stage 1), Ford Motor Plant Vacant Lands, North of Riverside Drive, City of Windsor, County of Essex, Ontario*. CIF P040-182-2006.

Mayer Heritage Consultants Inc. (MHCI) conducted a background study for the redevelopment of the former Ford Engine Plant No. 1 which encompassed the entirety of the current Albert Rd Outfall Study Area (MHCI 2006). While the background study identified potential for Indigenous and Euro-Canadian archaeological resources, a visual assessment of the property determined that the entire parcel was substantially disturbed by the former Ford plant and related infrastructure. MHCI did not recommend any further archaeological work (2006:12) and their report was accepted into the MHSTCI Register of Reports. ***Figure 3.7.2*** presents the current Study Area overlaid on the 2006 results Figure.

The Study Area is located within an area of pre-1800 Euro-Canadian settlement, within the 1881 Early Industrial area, within 100 metres of an historic road, and within 50 metres of an early historic railway, as identified by the WAMP (CRM Group *et al.* 2005: Figure 2).

3.7.3 Albert Rd Outfall - Environmental Factors

The proposed Albert Road Outfall Study Area is situated along the Detroit River, within the Flemming Channel, just west of the western tip of the American Island Belle Isle. The original topography of the Study Area was almost level, slightly higher than the Detroit River water table, with undulating shoreline. The Study Area has been significantly modified, now composed of a berm (utility corridor) parallel to Riverside Drive, with infill and concrete platforms along the Detroit River.

The soil in the vicinity of the proposed Albert Road Outfall Study Area is Brookston Clay Loam (ERCA 2016). The majority of the Study Area is composed of infill, the original shoreline being only approximately 60 metres north of Riverside Drive East at this point (Teranet and ServiceOntario 2020b).

3.7.4 Albert Rd Outfall - Historical Research Summary

What follows is a brief summary of the history of the Study Area, to confirm the recommendations of the previous work. The development of the area really started at the turn of the 1900s with the establishment of the Walker Wagon Works Company that turned into the Ford Motor Company of Canada in 1908. The construction of a large manufacturing Plant is illustrated in the *1924 Fire Insurance Plan of Walkerville* (**Appendix B**). With the construction of the Plant, the shoreline was extended outwards into the Detroit River. A number of smaller buildings are located on the southwest half of the Study Area, and the entire north and eastern part consists of several large buildings. A rail line extends into the eastern building from Maisonville Avenue.

By 1937, the smaller buildings in the southwest part of the Study Area were demolished (***Figure 3.7.3***). The large building was noted as "Press Stamping, Spray Painting of Parts, Body Stock, and Warehouse Storage" and a smaller building is set apart from main building to the south, noted as "Tinsmith, Pipefitter, Blacksmith etc, Maintenance building" (***Figure 3.7.3***). Viewed on the 1931 aerial photograph, the southwest side of the Study Area is devoid of buildings and unutilized (**Appendix B**). A smaller building labelled "Laundry" is

situated in the northwest part of the Study Area.

The 1967 aerial photograph identifies the southwest and west area as a parking lot, with the smaller central building demolished and the large buildings to the north and east remain (**Appendix B**). The NTS mapping of 1975 shows the Study Area devoid of buildings, and by 1981, the entire Study Area was used as a storage facility and dock area with shipping containers and a berm visible north of Riverside Drive (**Appendix B**).

The historical documents reflect the modification and disturbance within the Study Area beginning in the early 1900s. The majority of the Study Area is made-land, and the whole has been subjected to extensive development for early 20th century industry, to mid to late 20th century demolition activities.

3.7.5 Albert Rd Outfall - Historical Plaques

There are no historical plaques in the immediate vicinity of the Study Area that have relevance to the determination of potential for the Study Area.

One historic building is located within seventy metres of the Study Area, Our Lady of the Rosary Church, at 2879 Riverside Dr E., was constructed between 1907 and 1913 and is designated on the *Windsor Municipal Heritage Register* (City of Windsor 2019).

Five other historic buildings of significance to the history of the area, are located west, within six hundred metres of the Study Area. Three of the Hiram Walker buildings along Riverside Dr are designated and two others are registered on the *Windsor Municipal Heritage Register* (City of Windsor 2019). Designated are the Hiram Walker Office building, built in 1892, and the addition built in 1904. The Wiser's Reception Centre is also designated and was built in 1964.

The historic buildings identify the surrounding area of the proposed Albert Road Outfall as a historic commercial centre.

3.7.6 Albert Rd Outfall - Property Inspection Results

The Property Inspection for the proposed Albert Road Outfall was conducted on 7 December 2019, under partly cloudy skies and a temperature of 1 °C. There was no snow cover.

The topography of the Study Area is relatively flat, with a slightly lower elevation along the western side, where a tributary was historically located. The Study Area is situated along the Detroit River, north of Riverside Drive (***Figure 3.7.1***). The Study Area is enclosed in a tall wire fence and was not accessible, however it could be clearly viewed from outside the fence. A wide, approximately one metre high artificial berm runs parallel to Riverside Drive about five metres north of the fence line (***Figure 3.7.4***; ***Plate 3.7-1***). The berm area is manicured grass but further to the north the property consists of long grass, bush and mounding. The area along the river's edge consists of a cement platform and a straight breakwall. The Study Area appears to be heavily disturbed. See ***Figure 3.7.4*** for images from the Property Inspection.

3.7.7 Albert Rd Outfall - Archaeological Potential

The background research and Property Inspection show that the proposed new Albert Road Outfall Study Area is completely within the bounds of a previous Stage 1 Background Study report (MHCI 2006), with the exception of the water section of the Detroit River. That report concluded that there was low potential for archaeological resources due to extensive disturbance (MHCI 2006:12). FAC has reviewed the background

information for this location and concurs with the previous report. No further work is recommended for the proposed Albert Road Outfall Study Area (***Figure 3.7.4***).

3.8 Proposed New Drouillard Underpass Pump Station (STM-C8)

The proposed new Drouillard Underpass Pump Station is to be located north of the current pump station (PS), partially within 290 Drouillard Road and the Cadillac Street Park. The current PS is at 290 Drouillard Road, in the southwest corner of the Study Area. There is an extant storm sewer that runs from the pump station along the western side of the Study Area, angling into the sidewalk on Drouillard Road just north of the Study Area (City of Windsor n.d.-b). The archaeological Study Area for the proposed new pump station includes scope for a construction zone, and is an irregular rectangle 0.7 hectares in size, approximately 140 by 55 metres (see ***Figure 3.8.1***). It is bounded on the south by Wyandotte Street East, on the west by Drouillard Road, on the east by Cadillac Street, and on the north by a vacant lot. The majority of the Study Area is a park setting, with a parking lot in its northern end that is utilized by a retirement home across Drouillard Road. The historical property designation is Part of Lot 99, Concession One, Sandwich East Township.

The proposed new Drouillard Underpass PS Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.1**) in conjunction with **Section 3.8**.

3.8.1 Drouillard New PS - Known Archaeological Sites

There are no registered sites in the OASD within one kilometre of the proposed Drouillard Underpass New Pump Station Study Area.

3.8.2 Drouillard New PS - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the proposed Drouillard Underpass New Pump Station Study Area.

1) Cultural Resource Management Group Ltd (2007). *Archaeological Assessment, East Windsor Cogeneration Centre, Windsor, Stages 1 & 2: Archaeological Assessment Report*. CIF P109-014-2007. Report on file at CRM Group.

In 2007, CRM Group conducted a background study and shovel test assessment of part of the Ford Windsor Powerhouse grounds immediately to the east of the Drouillard New PS Study Area (CRM Group 2007). The shovel test assessment identified substantial disturbance to subsoil across much of the property related to the construction of the Powerhouse; nothing of cultural heritage value or interest was identified in undisturbed areas. The property was not recommended for further archaeological work.

The south end of the Drouillard New PS Study Area is within the 50-metre buffer for the Great Western Railway, and the north half is within an 1881 Early Industrial area, and all of the Study Area was identified by the WAMP as having high potential (CRM Group *et al.* 2005:Figure 2).

3.8.3 Drouillard New PS - Environmental Factors

The proposed Drouillard Underpass New Pump Station Study Area is now located within 220 metres south of the Flemming Channel of the Detroit River. Historically, the shoreline was closer, approximately 180 metres from the Study Area (Teranet and ServiceOntario 2020b).

The topography of the surrounding area is gently undulating with the Study Area slightly higher than Riverside Drive. Within the Study Area, infill has resulted in a slightly higher elevation on the east half and steep drop to sidewalk level on the east side. The west side walkway slopes down then up to the north along the sewer line which runs from the extant pump station northwards along the western edge of the Park.

The soil in the Study Area is composed of Brookston Clay Loam (ERCA 2016). (see **Section 1.3.2** for a detailed description).

3.8.4 Drouillard PS - Historical Research Summary

The proposed Drouillard Underpass New Pump Station Study Area is approximately three kilometres to the east of the 18th century Town of Windsor. Early French maps identify the vicinity of the Study Area as wooded and on the 1754 map the Indigenous Village of the 'Ottawas' was labelled to the east (Lajeunesse 2010:lviii).

The 1794 list of Proprietors for the Settlement of L'Assumption note the proprietor as Baptiste Pillette for Lot 99, although the Patent for Lot 99, Concession One (McNiff's Survey) Sandwich East Township, granted in 1829, listed François Drouillard (Lajeunesse 2010; Teranet and ServiceOntario n.d.). The Will of Francois Drouillard is listed in 1851, and the subdivision of the Lot results (Teranet and ServiceOntario n.d.). Part of Lot 99, south of the Study Area, was granted to the Great Western Railway in 1854 and between 1862 to 1863, the Sandwich East Township constructed roads within the lot (Teranet and ServiceOntario n.d.).

The 1881 *Historical Atlas* of Sandwich East Township (***Figure 3.2***) identified the residence of François Xavier Drouillard (born 1822) within Lot 99, Concession One, between Riverside Drive and the Great Western Railway, just east of the Study Area (H. Belden & Co. 1881). In 1883, north of the Study Area, the Roman Catholic E. Corporation purchased part of Lot 99 and again in 1892, purchased 18 acres (Teranet and ServiceOntario n.d.). In 1896, Martin Joyal, carpenter, purchased part of Lot 99, Concession One, along Cadillac Street within the Study Area and constructed The St. Joseph Convent and Notre Dame School (Teranet and ServiceOntario n.d.; Vernon 1924:49). Lucy Drouillard, in 1903, registered Plan 487, subdividing the property along the east side of Drouillard Road (Teranet and ServiceOntario n.d.).

The surrounding commercial area was expanding rapidly in the late 19th century and with the creation of the Ford Motor Company of Canada in 1904, Ford City, was created. Ford City, established as a village in 1913, encompassed the area from Walker Road to Pillette Avenue and the Detroit River to Grand Marais Boulevard, including the Study Area within its bounds. See **Section 1.4.1, Ford City** for the history of the settlement.

In the early 1920s, the block from Sandwich Street, now Riverside Drive, south to the rail line, along Drouillard Road supported a Post Office, Town Hall, Fire Hall, lawyer and dentist office, Canadian Bank of Commerce and Bakery, as well as residential homes (Underwriters Survey 1924:12; Vernon 1925:69). The residential homes are within the Study Area (***Figure 3.8.2a***). Situated along Cadillac Street were the large Our Lady of the Lake Roman Catholic Church (now Our Lady of the Rosary), a School, Convent and residential homes; the Convent, School and three residential homes are within the Study Area (***Figure 3.8.2a***).

With a Bylaw to widen Drouillard Road in 1929, and expropriation of lands in 1930, the homes along Drouillard Rd., within the Study Area, were demolished as viewed on the 1931 Aerial Photo (Teranet and ServiceOntario n.d.) (***Figure 3.8.3b***). This was to enable the construction of the Drouillard Underpass beneath the railway. Wyandotte Street East was also constructed across the southern edge of the Study Area, banking down into the railway underpass. Within the Study Area along Cadillac St., two residences and the Convent remain and a concrete retaining wall along the southern boundary with Wyandotte Street East (***Figure 3.8.2b***).

By 1953, Ford City had amalgamated with the City of Windsor and the Study Area's importance diminished. The Study Area along Drouillard remained green space from 1931 to the present, with modifications such as a drainage ditch, Pumping Station and parking lot in the north part. The Convent on Cadillac remained until 1967, at which time it was demolished (**Table 3.8.1**). In 2008, the southern house was demolished on Cadillac Street, and by 2010, the other two were demolished (**Table 3.8.1**).

Table 3.8.1
Drouillard PS, Summary of Historical Records

Document	Date	Comments
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 3.2***	1881	-Francois Xavier Drouillard residence on Lot 99, S of the front road, on E half of the lot outside the SA -Lot located E of Town of Walkerville
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-No divisions near SA -Lot 99 owned by F Drouillard -Drouillard Rd depicted
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 3.8.3a***	1913	-Numerous buildings on SA -Large church N of SA -School identified, noted in centre along Cadillac St -Wyandotte St has not yet present, Cadillac St ends N of RR
Page 13, *Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh* Underwriters' Survey Bureau Ltd. ***Figure 3.8.2a***	1924	-9 houses along Drouillard (102 to 122) and bakery in SA -3 houses, Convent (111), School Class Rooms (123), School (321) on Cadillac St
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 3.8.3b***	1931	-Drouillard has been widened and road extends as an underpass beneath the railway -Wyandotte St E now present -Houses along Drouillard demolished within SA -Pump Station round structure visible -Three houses and Convent in SA along Cadillac
Page 213, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 1)* Underwriters' Survey Bureau Ltd 50 Feet : 1 Inch ***Figure 3.8.2b***	rev. 1937 (orig. 1920)	-Concrete retaining wall along W and S boundary of SA -No structures along Drouillard, front yards of previous houses within Drouillard expansion -Three houses, Convent along Cadillac in N half

Document	Date	Comments
HA-3-142, *City of Detroit Aerials* [publisher unknown]	1949	-Pathway runs SE along W side of SA, w/ trees along E side -Large structure and 3 houses on NE half
Page 213, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd.	1953	-Within SA only brick Convent and 3 frame houses along Cadillac remain -Small concrete block 'Auto' structure on SE corner
GA-1-55, , *City of Detroit Aerials* [publisher unknown]	1956	-3 structures along Cadillac with trees -Structure at SE corner -Ditch runs N from SW corner to centre
FM-28-51, *City of Detroit Aerials* [publisher unknown]	1961	-Straight pathway along W part, parking lot in NW corner -Ditch from SW corner to centre -Large Convent and 3 houses along Cadillac -Line (pathway) separates the E and W sides
4583-2072, *City of Detroit Aerials* [publisher unknown]	1967	-Convent appears demolished, houses on Cadillac remain -Pathway along W edge -Separation of E and W side visible
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000	1988	-2 houses in NE corner of SA -Pumping Station present -SA primarily manicured grass, trees and bush
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Parking lot in NW part of SA, 3 houses in NE part -Pumping Station in SW part -Remaining area parkland
MyWindsorAerial *MappMyCity* City of Windsor	2010	-All 3 houses on Cadillac Street demolished -Parkland covers S half of SA -Parking lot in NW part

The historical documents reflect the changes in the Study Area and its vicinity, from an early French Farm, to Town Centre of Ford City, then Park land. Construction and later demolition of various residential and institutional structures, and Public Works construction including road work and sewer work has deeply impacted the Study Area. The backyards of original houses appear to have minimal disturbance.

3.8.5 Drouillard PS - Historical Plaques

Located within the vicinity of the proposed Drouillard Underpass New Pump Station Study Area are three historical plaques. One commemorates the early military history (War of 1812) of the Windsor area, and two relate to the commercial growth of the vicinity -- a strike in 1945 at the Ford Motor Company, and one about the founder of the distillery, Hiram Walker who established both Walkerville and developed the railway through the area.

On the Windsor Municipal Heritage Register, one building is designated and another registered in the vicinity of the Study Area (City of Windsor 2019). The Our Lady of the Rosary Church, at 2879 Riverside Dr E., built between 1907 and 1913 has been Designated. The Ford Powerhouse, built in 1922, is Registered. Both structures highlight the historic cultural and commercial significance of the vicinity, formerly Ford City.

3.8.6 Drouillard PS - Property Inspection Results

The proposed Drouillard Underpass New Pump Station was conducted on 30 January 2020, under partly cloudy skies and a temperature of -1 °C.

The Study Area is composed of an extant pump station, parking lot, vacant lot and Cadillac Street Park. The park is identified on a sign, as Maisonville Park, although the City identifies it as Cadillac Street Park. A round structure, the pump station, is located in the south west part of the Study Area, with a gravel driveway running east/west along the front of it (see ***Plates 3.8-1*** and ***3.8-4***). A gravel sidewalk extends from Cadillac Street, at the south boundary of the Study Area, around the south and west side of the Study Area. There is a series of hydro poles running down the centre of the Study Area, north/south, as well as poles along the southern boundary. The parking lot, in the northwest part, is reserved for The Shoreview at Riverside, Retirement Home (see ***Plate 3.8-3***). Planted trees line the north boundary and run along the centre, with scattered bushes and trees in the Park area. Park benches with cement pads are located around the park.

The topography of the Study Area is varied, reflecting the extensive construction and demolition that has taken place in the past century (***Plates 3.8-4 - 3.8-6***). The highest elevation of the Study Area is located within the park, with the parking lot at a lower elevation. The vacant lot area, in the north east, is relatively flat with random depressions visible. The parking lot, at the north end, is sloped down to the centre of the parking area, with a drain located in the centre of the lowest part. The undulating park is at a higher elevation and slopes down to the sidewalk along Cadillac Street. The pathway along the west side slopes down northward with the lowest part including a drain grate. The southern and southwestern edges of the Study Area are bounded by retaining walls for the sloped Drouillard Road and Wyandotte Street East access to the railway underpass (***Plates 3.8-1 - 3.8-2***). See ***Figure 3.8.4*** for images from the Property Inspection.

3.8.7 Drouillard PS - Archaeological Potential

The proposed Drouillard Underpass New Pump Station Study Area is located in a high potential zone for both Indigenous and historic Euro-Canadian archaeological material based on its proximity to the Detroit River. The Great Western Railroad is also within 50 metres of the southern section of the Study Area, raising the potential for mid-late 19th century sites associated with the railroad construction and early use. The high potential rating has been reduced across much of the Study Area however, due to extensive 20th century construction activities. These include the early 20th century houses and convent/school that were constructed during the boom of Ford City. Those structures on the west and south sides of the Study Area were then demolished to make room for the Drouillard Underpass and Wyandotte Street East construction *ca.* 1930, and the remainder fronting Cadillac Street in the east of the Study Area were also demolished later in the 20th century. In addition to the disturbances caused by the Underpass construction with its massive retaining walls on the south and west sides of the Study Area, and the construction and subsequent demolition of the houses and institutional structures, there are extant utilities (pump station, storm sewers, hydro etc) and a graded and sloped parking lot currently within the Study Area.

Therefore, the majority of the Study Area is considered to have low potential due to extensive modern disturbance, as indicated on ***Figure 3.8.4***. This includes the *ca.* 1930 Drouillard Road expansion area (now backing the retaining wall), the southern edge by the Wyandotte Street East retaining wall, the path/access road for the extant pump station and the extant pump station's construction area, the parking lot, and the footprints of the houses and institutional structures as indicated on the 1924 Fire Insurance Plan. The remainder of the Study Area, including the footprints of the small garden sheds or backyard structures, is considered to retain high archaeological potential as the degree of disturbance to these areas cannot be

confirmed at this level of study, therefore, a Stage 2 Assessment is recommended (***Figure 3.8.4***).

3.9 Central Area - Summary of Potential

The following table summarizes the research, potential and general recommendations for the Central Windsor Solutions. Complete final recommendations can be found in Section 8.1.

Table 3.9.1
Central Windsor Area Solutions - Archaeological Potential Summary Chart

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
3.1	Central	Detroit River	New Prince Road Sewer Storm Sewer Outfall	STM-C1	On Detroit River shoreline, partially in former lagoon by a canal, near to McKee Creek	Waterfront of Historic Sandwich Town	19th C Mineral Springs Hotel at the SW corner of Chappell & Sandwich	Industrial yard, gravel road, Rail line, berm, hydro tower, fences and asphalt roads and a bermed edge of the canal.	High (at top of slope) & Low (slope, infilled marsh, disturbed)	Stage 2 Assessment for part of the Study Area
3.2	Central	Detroit River	Detroit Street Storm Sewer Outfall Upgrades	STM-C2	On Detroit River shoreline; infilled shoreline	Within Huron Reserve lands & 19th C Sandwich Town & waterfront	AbHs-10, AbHs-16, AbHs-30, AbHs-31, AbHs-32, AbHs-33, AbHs-34, AbHs-60, AbHs-64, AbHs-69; in close proximity to unregistered burial sites, probable Baby Mill	Industrial dockyard, gravel piles, silos/elevators, trucking. Ground surface completely disturbed.	High (deeply buried deposits) & Low (made-land, disturbed)	Stage 2 Assessment for part of the Study Area [plus river section needs marine assessment]
3.3	Central	Detroit River	New Cameron Avenue Storm Sewer Outfall	STM-C3	On Detroit River shoreline; partially sloped	Former railway lands with station & ferry crossing; site of the Michigan Central Railway Tunnel; adjacent to historic Riverside Dr W	No	Landscaped park setting with some utilities noted. Part of Study Area is steeply sloped.	High (undisturbed areas or historic train station) & Low (rail tunnel & other disturbances)	Stage 2 Assessment for part of the Study Area [plus river section needs marine assessment]
3.4	Central	Detroit River	New Bruce Avenue Storm Sewer Outfall	STM-C4	On Detroit River shoreline, historically steep bluff	Adjacent to historic Riverside Dr W; on 18th C French farm lots; Holiday Inn with parking & movie theatre in Study Area 1967 to 1999	Fort Gowie (unregistered); AbHs-14, Francois Baby House	Terraced landscaping in a park setting	Low (disturbed)	No further work
3.5	Central	Detroit River	New Marentette Avenue Storm Sewer Outfall	STM-C5	On Detroit River shoreline	18th C Odawa Village & Burying Ground; 19th C residential; Verhoeff Wharf on waterfront; 19th C railway industrial with sheds, turntable & roundhouse; adjacent to historic Riverside Dr. E.	AbHs-11 - Odawa village site; AbHs-65 - Euro-Canadian homestead; 1700s era burial just over 300m	Landscaped park setting, variable topography. with terraced slope, paved paths, stone breakwall	High (undisturbed or deeply buried)	Stage 2 Assessment; Note: mercury-contaminated soils (CARF 1992); [plus river section needs marine assessment]
3.6	Central	Detroit River	New Stormwater Surcharge (Underground) Storage, Optimist Memorial Park	STM-C6	> 1km to water; heavy clay soils; level terrain	Farm/woods til mid-20th century then a park with road/parking lot; >50 m from CP Rail; >800 m to historic Tecumseh Rd	No	Level park setting, with asphalt and gravel parking and driveway area through the Study Area.	Low (no high potential triggers)	No further work
3.7	Central	Detroit River	New Albert Road Storm Sewer Outfall	STM-C7	On Detroit River shoreline & (historically) tributary outlet; substantial infilling of waterfront	Within 19th C Walkerville boundaries; adjacent to historic Riverside Dr E; 20th C - Ford Motor Plant lands & structures (now demolished); pre-1800 E-C	Walker Wharf approx. 300M to the west	No access. Berm along Riverside. Rest is grass through gravel/concrete, mounded with concrete at River's edge. Disturbed.	Low (disturbed - large structures & infill)	No further work on the land section; river section needs marine assessment
3.8	Central	Detroit River	New Drouillard Underpass Pump Station	STM-C8	<300M Detroit River shoreline	Early French farm lot; 50M from Great Western Rail line; within early 20th C Ford City & multiple houses & institution present on 1924 FIP	No	Currently mix of park, vacant land, pump station & parking lot. Depressions, probably from former structure demolitions, visible.	Low (disturbed) to High (between disturbances)	Stage 2 Assessment for part of the Study Area

4.0 EAST WINDSOR SEWERSHED

There are 11 proposed solutions in the East Windsor Sewershed that are included in this archaeological background study. They are situated across a series of drainage areas within the City of Windsor. The Study Areas are as follows:

1) Proposed New St. Rose Pump Station (PS-E-ROSE), Detroit River/Riverside drainage area (Windsor Area subwatershed) - involves the construction of a new pump station on the north side of Riverside Drive East opposite St. Rose Avenue, with accompanying storm sewer and new outfall;

2) Proposed Upgrades, Regional Area 3, Ford Pump Station (PS-E-FORD), Detroit River/Riverside drainage area (Windsor Area subwatershed) - involves replacement of the existing pump at the extant Ford PS lift station in Reaume Park, on the north side of Riverside Drive East opposite Ford Boulevard, on the Detroit River;

3) Proposed Expansion, Regional Areas 1 & 2, St. Paul Pump Station (PS-E-STPAUL), Detroit River/Riverside drainage area (Windsor Area subwatershed) - includes the expansion of the extant St. Paul PS northeast of the current building, along with new outfalls into the Detroit River. St. Paul PS is situated on the north side of Riverside Drive East, west of Lauzon Road;

4) Proposed Upgrades, Regional Area 5, Blue Heron/Lakeview Pump Station (STM-E5), Blue Heron/Lakeview Pump Station drainage area (Tecumseh Area subwatershed) - the upgrades include improvements to the pump station in South Rendezvous Park, on the south side of Riverside Drive East, and the storm sewer and outfall to Lake St. Clair, on the north side of the road. The Study Area straddles the border between the City of Windsor and Town of Tecumseh;

5) Proposed Upgrades, Regional Area 6, Pontiac Pump Station (STM-E6), Pontiac Pump Station drainage area (Little River subwatershed) - the Pontiac PS is situated within the Little River Treatment Plant. The upgrades include an expansion to the pump station and a new sewer line and outfall from the expansion to Little River;

6) Proposed New Stormwater Management Facility (Underground Storage), Regional Area 6, Brumpton Park (STM-E6), Pontiac Pump Station drainage area (Little River subwatershed) - provides options for underground stormwater surcharge storage within the park space. Brumpton Park is located south of RIVERSIDE Drive East on the Ganatchio Trail west of Little River;

7) Proposed New LID Swales, Lauzon Parkway, between Hawthorne Drive and Cantelon Drive (ROAD-E4), Little River drainage area (and subwatershed) - involves road regrading and the construction of Low Impact Development (LID) infiltration swales on the west side of Lauzon Parkway;

8) Proposed New Stormwater Management Facility (Underground Storage), Lauzon Parkway, Meadowbrook Park (ROAD-E4), Little River drainage area (and subwatershed) - includes construction of an underground stormwater surcharge facility within Meadowbrook Park on the east side of Lauzon Parkway (opposite solution #7, ROAD-E4);

9) Proposed New Stormwater Management Pond, Lauzon Parkway, Little River Golf Course (ROAD-E4), Little River drainage area (and subwatershed) - involves the construction of stormwater management pond(s) on the Little River Golf Course which straddles Little River. It is situated on Lauzon Road, close to solution #8 (ROAD-E4);

10) Proposed New Stormwater Management Facility (Underground Storage), Commercial Lands, Wyandotte at Watson (ROAD-E9), Pontiac Pump Station drainage area (Windsor Area subwatershed) - situated on vacant land and in a commercial plaza on the north side of Wyandotte Street East between Watson Avenue and Isack Drive, this solution area provides scope for underground stormwater storage facilities;

11) Proposed New Stormwater Management Facility (Underground Storage), Roseville Public School & Roseville Garden Park (ROAD-E11), Little River drainage area (and subwatershed) - includes the park and part of the schoolyard and involves the construction of underground stormwater storage in the greenspace.

Figure 4.1 presents the locations of the East Windsor solution Study Areas on a current National Topographic System (NTS) map. ***Figure 4.2*** depicts the Study Areas on the 1880 East and West Sandwich Township map from the *Historical Atlas of Essex and Kent Counties, 1880-1881* (H. Belden & Co. 1881).

For guidance with any solutions confined to the municipal ROWs (ie pipe replacements, culverts, LIDs) within the East Windsor Sewershed ROWs, please refer to **Section 1.1**.

4.1 Proposed New St. Rose Pump Station (PS-E-ROSE)

The proposed new St. Rose Pump Station (PS) is to be situated on the same property as an earlier and previously removed pump station. Located on the Detroit River, the Study Area for the new St. Rose PS is on the north side of Riverside Drive East opposite St. Rose Avenue, in St. Rose Beach Park. There is an extant storm sewer and outfall along the west edge of the Study Area, and the proposed work includes twinning both the sewer and outfall, as well as the construction of a new pump station with access lanes off Riverside Dr. E. to the control building. There is another storm sewer running along the southern boundary of the Study Area within the Riverside Drive East ROW (City of Windsor n.d.-b). The Study Area is almost square in shape and approximately 0.7 hectares in size, almost half of which (0.3 hectares) is within the Detroit River (***Figure 4.1.1***). (Note that archaeological potential has not been assigned to the riverbed portion in this report.) The maximum dimensions of the Study Area are 84 by 86 metres. St. Rose Beach Park, and the Study Area, is at 6902 Riverside Drive East, with the historical lot designation being Part of Lots 122 and 123, Concession One, Former Township of Sandwich East.

The proposed new St. Rose PS Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.1**.

4.1.1 St. Rose PS - Known Archaeological Sites

There are no registered archaeological sites within one kilometre of the St. Rose PS Study Area.

4.1.2 St. Rose PS - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the St. Rose PS Study Area.

1) Mayer Heritage Consultants Inc. (2005). *Archaeological Assessment (Stage 1), Proposed Vista Improvement, Riverside Drive East and West, City of Windsor, County of Essex, Ontario*.

In 2005, MHCI conducted a Stage 1 background study and visual inspection for 15 kilometres of Riverside Drive, between Rosedale Avenue and the eastern boundary of the City of Windsor. The report determined that large sections of the corridor had likely been impacted by road construction and servicing, removing any potential archaeological resources. "Park areas" were recommended for additional assessment through test pitting. The descriptions of the project area covered by the report were vague, and the size of the buffer either side of Riverside Drive is unclear. This report does not provide much useful information since it was ill-defined.

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The Study Area is located within an area of pre-1800 Euro-Canadian settlement, within 100 metres of an historic road, and within the 50 metre buffer for the Windsor & Amherstburg Railway, as identified by the WAMP (CRM Group *et al.* 2005:Figure 2).

4.1.3 St. Rose PS - Environmental Factors

The proposed St. Rose PS Study Area is located on the shoreline of the Detroit River, specifically in the Flemming Channel, south of Belle Isle. The shoreline along this part of the Detroit River indents southward and is at a low elevation, just above the waterline of the Detroit River. Historically, the shoreline within the Study Area was narrow, as noted on the 1931 (ERCA) aerial, therefore, it should be emphasized that the Study Area is predominantly infill (**Table 4.1.1**). Seasonal flooding is documented in this area.

Abutting directly west of the Study Area, St. Rose Beach is identified as "one of the few remaining embayments along the upper Detroit River shoreline" and underwent restoration and rehabilitation, with native vegetation, such as willows, dogwoods and other hardwood species, and submerged fish habitat (DRCC 2020).

The soil in this area is Brookston Clay (ERCA 2016). (see **Section 1.3.2** for a detailed description).

4.1.4 St. Rose PS - Historical Research Summary

The proposed St. Rose PS Study Area is located within Lot 123, Concession One, and the east edge of Lot 122, former Sandwich East Township, McNiff's survey (Teranet and ServiceOntario 2020b). The 1792 list of Proprietors in the settlement of L' Assumption (Sandwich), identified Baptiste Langlois as owner of Lot 123 (Lajeunesse 2010). The Crown Patent for Lot 123, Concession One was registered in 1825 to Charles Gouin, a French merchant of Detroit, and consisted of 106 acres (Teranet and ServiceOntario 2020a).

In 1844, Charles Gouin granted all of the Lot 123 to Francois Villairs alias St. Louis (Teranet and ServiceOntario n.d.). The Villairs dit St. Louis family originally settled on the south side of the Detroit River around 1780, on Farm Lot 115 and later dropped the 'Villairs dit' part of their last name (Fullarton 2008:19).

In 1882, Alexander St. Louis was granted the Deed for Lot 123, and a Patent listed in 1897 confirmed his ownership of the 11 65/100 acres of the water lot, within Lot 123 along the Detroit River (Teranet and ServiceOntario n.d.). The northwest corner and water lot remained in the St. Louis family into the 20th Century (Teranet and ServiceOntario n.d.).

In 1861, an Indenture was listed granting the Municipal Corporation of Sandwich East a road allowance in Lot 123 (Teranet and ServiceOntario n.d.: #585). In 1899, a Bylaw by the Township of Sandwich East was listed to widen the Front or River Road and included 52/100 acres of Lot 123, Concession One (Teranet and ServiceOntario n.d.: Instr.#392).

The 1881 *Historical Atlas* identifies a roadway along the west boundary of Lot 123 and labelled Alex St. Louis' house on Lot 123, near the Detroit River (H. Belden & Co. 1881). The Front Road is not illustrated on the Map of East and West Sandwich in front of Lot 123, Concession One (H. Belden & Co. 1881).

Table 4.1.1
St Rose PS, Summary of Historical Records

Document	Date	Comments
Assessment Roll Sandwich East	1880	-Lot 123, Conc. 1: Leandre St. Louis (56) 100 acres, 100 acres cleared, 1 person in family
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-House near Detroit R. labelled "Alex St. Louis" -Front Road turns S along the W boundary of Lot 123, just W of the SA
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Alex St Louis proprietor of Lot 123; no structures on SA -SA composed of narrow strip of land along N side of Front Road (Riverside Dr) and water
Our Town: A History of Riverside, Ontario, 1921-1966 (Vol 1) [photos] R. Fullarton	*ca.* 1906	-Narrow strip of land on N side of Front Rd (Riverside Dr) with few trees, grass, low vegetation -Surface of Front Rd slightly higher than Detroit R. surface -Land gently slopes to water's edge, utility pole visible near water
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.1.3a***	1912	-No structures within SA -Narrow area of land on the N side of Front Rd within SA -Tributary located to the W of SA -Structure on SE corner of St Rose and Front outside SA
Page 43, *Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh* Underwriters' Survey Bureau Ltd. ***Figure 4.1.2***	1924	-SA is composed of narrow strip of land N of Riverside Dr and water -St. Rose Ave is labelled as Intersection Road
Page 12, *Essex Border Maps 1929-1959* H.W. Patterson	1929 - 1959	-SA narrow strip of land between Detroit R, Riverside Dr -Plan of lots along the river N of SA extend into the harbour line within the Detroit R

Document	Date	Comments
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000	1931	-SA composed of narrow, irregular shoreline and water -Dock present in the SE corner of the SA -Tributary located to the W of SA
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1 : 63,360 ***Figure 4.1.3b***	1931	-No structures N of the Front Rd within SA -Thin area of land N of Front Rd within SA -Structures near but outside SA -Tributary noted to the W of SA
Page 243, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 2)* Underwriters' Survey Bureau Ltd.	rev. 1937 (orig 1917)	-No structures in the SA -SA a narrow strip of shore along Riverside Dr and water -Dwelling (2405 Riverside) outside SA on S side of street
HA-3-43, *City of Detroit Aerials* [publisher unknown] ***Figure 4.1.4a***	1949	-SA a narrow strip of land N of Riverside Dr and waterfront -No structures or vegetation visible in the SA -Property E of SA extends out into riverfront, composed of straight breakwalls and fill
Page 300A & 306, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd.	1953	-P 300A: SA undeveloped, shoreline not extended as surrounding properties are -P 306: missing SA details
GA-1-28, *City of Detroit Aerials* [publisher unknown]	1956	-SA composed of narrow shoreline and water; no structures -Properties E of SA extend out into riverfront, composed of straight breakwalls and fill with houses
FM-25-24, *City of Detroit Aerials* [publisher unknown] ***Figure 4.1.4b***	1961	-Construction and fill of SA
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-Benchmark 580 on SE corner of Riverside and St Rose -SA triangular in shape, extends out into Detroit River -No structures
Reconstruction of Riverside Drive Dept of Public Works, City of Windsor & Dillon Consulting Ltd	1974	-18"ST overflow pipe located at W edge of SA -St. Rose Pumping Station structure located in SE part of SA
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.1.3c***	1975	-SA extends out into Detroit River -Noted as park -No visible structures
17562-20-504, *City of Detroit Aerials* [publisher unknown]	1981	-No structure visible in SA -SA composed of man-made breakwalls and fill, extending out into Detroit R, W side at a right angle to Riverside Dr -Original shoreline visible directly to the W of SA
MyWindsorAerial *MappMyCity* City of Windsor	2000	-1 small rectangular structure on SE corner of the SA -No physical changes visible within SA

Document	Date	Comments
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.1.3d***	2000	-SA within urban area, shaded grey for park -No structures depicted -Shoreline appears the same as at present
MyWindsorAerial *MappMyCity* City of Windsor	2010	-No visible structures in SA -Manicured grass, planted trees and breakwalls
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-SA has storm sewer line extending from Riverside Dr to Detroit R along the W boundary -SA composed of straight breakwalls, manicured grass and planted trees

As the above table indicates, the Study Area has undergone extensive changes throughout the 20th century. In the early part of the 20th century, the Study Area is a thin strip of land along the Detroit River. The road extending along the western boundary of Lot 123, Concession One is drawn and from 1908 to 1924, was known as Intersection Road, then later St. Rose Street (Fullarton 2008), and is now St. Rose Avenue. It is still depicted as being narrow from 1912 to 1953, with various topographic maps and insurance plans confirming this, and no structures were present. By 1961, the Study Area, viewed on the aerial photo, was composed of fill and extended further out into the Detroit River (***Figure 4.1.4b***). On the 1975 topographical map, the Study Area reflects the present configuration (***Figure 4.1.3c***).

In addition to the visual records, the City of Windsor's document about the history of city parks, indicates an interesting history of this particular park. The park lands were gathered piecemeal from 1967 to 1975, and today still contains one private water lot in the middle of the park's shoreline (City of Windsor n.d.-a:89). While it was officially opened as a park in Canada's Centennial year of 1967, it was quietly being slated in 1975 to be converted to a municipal landfill site by a "determined group of City power brokers" (City of Windsor n.d.-a:89). This covert action was thwarted, but in that summer the City sent mixed signals about the vision of the park as it allowed the park to be used as a storage yard for a local construction project. "The prolonged and heavy construction traffic at the site totally destroyed the park's turf" (City of Windsor n.d.-a:89). In 1976, the park suffered from a massive flood that prompted the installation of a breakwall and the land was re-turfed. In 1979, a reinforced steel seawall was installed in the eastern part of the park (City of Windsor n.d.-a:89).

The background study confirms that the Study Area remained a narrow riverfront and shallow water area until approximately 1961, when extensive infilling had been started and then continued over a number of years. The Study Area had been extensively disturbed by being utilized as a storage area for construction, and then later suffered flooding. Other construction activities included the installation of breakwalls, sewer lines and the previous pumping station. Therefore, most the Study Area consists of made-land, and has been extensively disturbed in the latter part of the 20th century.

4.1.5 St. Rose PS - Historical Plaques and Heritage Buildings

There are no known historical plaques within the vicinity of the Study Area.

Listed on the *Windsor Municipal Heritage Register* but not designated, is the Leandre St. Louis French

Farmhouse, built in 1850, and located at 7075 Riverside Dr E., less than 55 metres from the Study Area (City of Windsor 2019). The St. Louis family were proprietors of the Study Area in the 1850s.

4.1.6 St. Rose PS - Property Inspection Results

The proposed St. Rose PS Property Inspection was conducted on 31 October 2019; weather was overcast with a light mist, and 9 °C. Visibility and lighting were fine for the Property Inspection.

The Study Area is currently cut lawn with a paved walk along its southwest edge overtop the existing trunk sewer and in line with St. Rose Avenue, and along the Detroit River bank (see ***Plates 4.1-1 - 4.1-4***). The lawn is relatively level with the extant high-water berm visible roughly parallel to Riverside Dr. E. at the edge of the ROW and extending northwards as a raised section in the lawn (***Plate 4.1-4***). There is little evidence of the former pump station visible in the current topography. See ***Figure 4.1.5*** for images from the Property Inspection.

West of the Study Area, and its extreme southwest corner, there is only a thin strip of land between the ROW and the River (***Plate 4.1.5***), while to the east of the Study Area is a modern mansion.

4.1.7 St. Rose PS - Archaeological Potential

The St. Rose PS Study Area originally consisted of a small strip of land along the Detroit River. This strip of land has been enlarged over the latter part of the 20th century, creating land in what once had been water. This taken together with the construction activities (stockpiling and heavy machinery traffic, former pump station) and a flood have greatly reduced the Study Area's potential. Therefore, most of the Study Area's potential is low, and no further archaeological work is recommended for that area, however, a small strip of land abutting Riverside Drive East may still retain archaeological potential. This section was shown to be slightly lower than Riverside Dr. E. and had a gentle slope down to the water (ca 1906 historic photo). This section has been raised, and probably capped and there may be a buried A-horizon still intact underneath. Therefore, further archaeological work is recommended for this small portion of the Study Area retaining high potential and the area indicated as having low archaeological potential will not require further archaeological work (see ***Figure 4.1.5***).

4.2 Proposed Upgrades, Regional Area 3, Ford Pump Station (PS-E-FORD)

The proposed upgrades to the extant Ford lift station and storm sewer involve the replacement of the existing pump with higher capacity pumps within the existing structure (Dillon and Aquafor 2020b:32). The current Ford Pump Station facility includes a lift station and a storm sewer, the sewer running from Ford Boulevard to the lift station at the River (City of Windsor n.d.-b). The archaeological Study Area covers the extant access to the lift station and includes a construction zone and scope for minor alterations to the plans. The Study Area is almost rectangular, approximately 43 by 29 metres, and 0.1 hectares in size. ***Figure 4.2.1*** provides an aerial view of the Ford PS Upgrades Study Area. It is situated in the east end of Resume-Coventry Park, at 5270 Riverside Drive East, and is bounded on the east by a residential lot, on the north by the Detroit River, on the south by Riverside Drive E. and on the west by the rest of the park. It is opposite Ford Boulevard. There is a paved path through the Study Area, which otherwise consists of lawn, trees, utilities and the breakwall. The historical lot designation is Part of Lot 113, Concession One, Former Township of Sandwich East.

The proposed Ford PS Upgrades Stage 1 Study Area is deliberately broad in scope in order to allow for a

wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.2**.

4.2.1 Ford PS - Known Archaeological Sites

There are no registered sites in the OASD within one kilometre of the Ford PS Study Area.

4.2.2 Ford PS - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the Ford PS Study Area. This Stage 1 report (MHCI 2005) is summarised in **Section 4.1.2**. Please refer to this section for the summary.

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The Study Area is located within an area of pre-1800 Euro-Canadian settlement and within 100 metres of an historic road, as identified by the WAMP (CRM Group *et al.* 2005:Figure 2).

4.2.3 Ford PS - Environmental Factors

The proposed Ford PS Study Area is located along the southern shoreline of the Detroit River, specifically the Flemming Channel, approximately four kilometres west of Lake St. Clair. Modern fill, breakwalls and levelling of the area for the Park land has modified the shoreline, which historically, gently sloped down to the river's edge (***Figure 4.2.2c***).

The soil in the area of the proposed Ford PS Study Area is Brookston Clay Loam (ERCA 2016). (see **Section 1.3.2** for a detailed description).

4.2.4 Ford PS - Historical Research Summary

The proposed Ford PS Study Area is located on the shoreline of the Detroit River, an historic and important transportation route. It is located across the River from Belle Isle, named *Kouishkouishki* by some Indigenous people and *Île aux Cochons* (Hog Island) by the French (Lajeunesse 2010: lxiv). Early French maps of the River note the Indigenous Ottawa Village west of the Study Area (***Figure 1.5***).

The Study Area falls within Lot 113, Concession One, formerly the Township of Sandwich East, McNiff's Survey (Teranet and ServiceOntario 2020b). In 1794, Pierre Letourneau was listed as proprietor of Lot 113, Concession One (Lajeunesse 2010:359). The Land Registry Abstract lists a Patent in 1824 to Francois Letourneau for all of Lot 113 (Teranet and ServiceOntario 2020a). Patents are listed for the water lots, to Joseph Janisse in 1883, and Clinique Janisse in 1895 (Teranet and ServiceOntario 2020a). The *1905 Plan of the Townships* lists Clinique Janisse as proprietor of the east half of Lot 113, Concession One including the proposed Ford PS Study Area.

The Janisse family retained the area including the Study Area until 1907, when, under Power of Sale, J. H. Smith was granted the water lot on the east half of Lot 113 (Teranet and ServiceOntario n.d.). The Study Area is sold again as part of the east half, although in 1916, *Land Registry Plan 823* is registered with the Study Area situated within Block A and part of a 'Private Park', on the north side of Front Road (now Riverside Drive)(Teranet and ServiceOntario 2020b). The Study Area is within the west 27 metres of Block A and the easterly 15 metres of the 'Private Park' (Teranet and ServiceOntario 2020b).

On the *1924 Insurance Plan of Riverside*, there are no structures or divisions within the Study Area, and the shoreline remains unmodified, although a boat house is located west of the Study Area (***Figure 4.2.3a***). The area south of Riverside Drive and east of the Study Area, became more residential, with the Study Area remaining undeveloped. In the *1949 Aerial Photo*, the shoreline of the Study Area appears to remain unmodified, although a beach area is directly west of the Study Area, and shade trees are present within the Study Area (**Table 4.2.1**). The Study Area appears the same through to 1975 (***Figure 4.2.2c***).

In 1971, the *Land Registry Abstract* lists the City of Windsor as proprietor of the westerly 85 feet of Block A (Teranet and ServiceOntario n.d.). Reaume Park, including the west edge of the Study Area, opened in 1931 near the intersection of Pilette Road and Riverside Dr. East, and was expanded in 1975 to include the Study Area, creating the Reaume-Coventry Gardens, the site of the Charlie Brooks Memorial Peace Fountain (City of Windsor n.d.-a:78-79). At this time, the shoreline was extended with steel breakwalls and fill to increase the area for the Park. A storm sewer was installed at some point, flowing from Ford Blvd to the Detroit River in the centre of the Study Area (City of Windsor n.d.-b).

Table 4.2.1
Ford PS, Summary of Historical Records

Document	Date	Comments
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-Front Rd depicted back a short distance from Detroit R, road takes a slight turn from NNE to NE in Lot 113, Con 1 -No structure on either side of Front within Lot 113, Con 1
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Clinique Janisse proprietor of E half Lot 113
Town of Walkerville, Township of Sandwich East, *Plan showing location of the Windsor and Tecumseh Electric Railways Company's line through portions of the City of Windsor* Owen McKay, O.L.S.	1905	-Victor Janisse proprietor of Lot 113 -Land between Front Rd and Detroit River narrow at W end, increases in width to the W -Electric Railway line not in SA
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.2.2a***	1912	-No structures on N side of Riverside Dr along curve -One structure on the S side -Pillette St, at the W end of Reaume Park, is next street off Riverside W of Ford Blvd, and well beyond the SA
Plan RP#823 Land Registry Plan	1916	-Block A depicted to the E of the Private Park and located at the end of Ford Blvd
Page 40, *Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh* Underwriters' Survey Bureau Ltd. ***Figure 4.2.3a***	1924	-No structures within the SA -No streets directly W of Ford Blvd -One residence SW of SA (67 Riverside)

Document	Date	Comments
Page 16, *Essex Border Maps 1929-1959* H.W. Patterson	1929- 1959	-Block A identified
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1 : 63,360	1931	-No structures on SA -Ford Blvd illustrated on S side of Riverside Dr -Shoreline appears to remain the same
Page 240, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 2)* Underwriters' Survey Bureau Ltd.	rev. 1937 (orig. 1917)	-No divisions or structures within SA -One residence S of Riverside Dr (729 Riverside)
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360 ***Figure 4.2.2b***	1940	-No structures in SA -Houses on E side of SA
HA-24-131, *City of Detroit Aerials* [publisher unknown] ***Figure 4.2.4a***	1949	-Shoreline remains the same -Beach area along the shoreline outside of SA to the W -Shade trees in SA and along Riverside Dr
Page 302, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd. ***Figure 4.2.3b***	1953	-No structures in SA -Land within SA narrow on W side and wider on E side -Dwelling on NE corner of Riverside Dr and Ford Blvd (810 Riverside) outside of SA
GA-1-28, *City of Detroit Aerials* [publisher unknown] ***Figure 4.2.4b***	1956	-Beachlike area W of the SA along shoreline -Trees in SA -No structures in the SA
FM-28-53, *City of Detroit Aerials* [publisher unknown] ***Figure 4.2.4c***	1961	No change from previous aerial image
4583-2074, *City of Detroit Aerials* [publisher unknown] ***Figure 4.2.4d***	1967	No change from previous aerial image
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.2.2c***	1975	-Elevation line along centre of SA noted as 580m ASL -Wharf located to the W outside the SA -No modification of SA
17562-18-473, *City of Detroit Aerials* [publisher unknown]	1981	-SA consists of a made shoreline that has been extended N -SA located in E part of Coventry Park
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 *Figure 4.2.2d*	2000	-SA is easternmost part of Coventry Park N of Riverside Dr -No structures on property

Document	Date	Comments
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Structure is located in NE corner -Straight sidewalk extends from Ford Blvd NW to river edge -Modification of shoreline
MyWindsorAerial *MappMyCity* City of Windsor	2010	-Straight sidewalk has been replaced in SA, within Park, by sinuous sidewalk -Disturbance evident within the SA
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-Storm sewer crosses the SA
MyWindsorAerial *MappMyCity* City of Windsor	2019	-Subterranean structure in N part of SA with sidewalks surrounding it -Sidewalk weaves from Ford Blvd NW to river edge

The background research indicates that the proposed Ford PS Study Area remained uninhabited in the 19th and 20th centuries, with minimal disturbance until the 1970s. The section immediately along the Detroit River is of late 20th century construction, with breakwalls and infill. A stormwater sewer line is located within the Study Area, extending from Riverside Dr. to the Detroit River.

4.2.5 Ford PS - Historical Plaques

Located within the vicinity of the proposed Ford PS Study Area are two historical plaques, The *Siege of Detroit 1763* and a plaque dedicated to *Joseph L. Reaume, 1863-1930* (City of Windsor 2020c). The former refers to the general history of this part of Windsor, while the latter notes the 20th century designation of Reaume Park, part of Coventry Gardens Park in which the Study Area is located.

1) The Archaeological and Historic Sites Board of Ontario, erected a Plaque in the riverfront Park, at the north end of Pilette Road. The Plaque is titled "The Siege of Detroit 1763" and concerns the Indigenous attack of that city (City of Windsor 2020e). Ultimately, the attempt failed. The plaque does cite that the Indigenous Ottawa village was in the general vicinity of the plaque, although the village is thought to have been further west.

2) A city plaque located in the southwest corner of Coventry Gardens Park, is dedicated to Joseph L. Reaume, 1863-1930, who owned a number of small businesses "on the north side of Riverside Drive at Pillette Road" (City of Windsor 2020d). The Plaque commemorates the donation of the land for a Park in 1931.

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Two buildings are listed on the *Windsor Municipal Heritage Register* in close proximity to the Study Area. The Janisse-Schade House, a Colonial/Georgian Revival structure built in 1928, is designated as a Heritage building, located at 5325 Riverside Dr E, less than fifty metres southeast of the Study Area (City of Windsor 2019). Also registered, directly south of the Study Area, is the George Janisse House, a Classical/Georgian Revival structure built in 1890, located at 5265 Riverside Dr E (City of Windsor 2019). The Janisse family was the second family to own the original farm lot in which the Study Area is located, from 1890 to 1907.

4.2.6 Ford PS - Property Inspection Results

The Property Inspection for the proposed Ford Pump Station was conducted on 30 October 2019 under overcast skies and light rain at 6 °C. The Study Area is situated in the east end of Reaume-Coventry Gardens Park, a maintained lawn with shade trees bordering the Detroit River (***Plate 4.2-3***). The topography is level. A paved walking path crosses the Study Area, from Riverside Dr. E. at Ford Blvd (***Plate 4.2-1***), and connects to the paved walk along a retaining wall at the river's edge. Underground utilities, such as electrical, were noted within the Study Area.

The extant outfall and lift station, at the river's edge in alignment with Ford Blvd and at the northeast corner of the Study Area (***Figure 4.2.5***, ***Plate 4.2-2***), consists of a raised concrete platform. Apart from this, there is no visible evidence of the pump station within the Study Area. See ***Figure 4.2.5*** for images from the Property Inspection.

4.2.7 Ford PS - Archaeological Potential

Ford PS is located along the Detroit River, across from Ford Boulevard. The Study Area is in the Reaume-Coventry Gardens Park which had been acquired in the 20th century (1931 and 1975). Some landscaping has been conducted as the shore sloped gently to the River. The historic mapping and photographs indicate that the shore has been infilled to a small extent, while there does not appear to have been much other disturbance in the remainder of the Study Area. Previous utility construction will have impacted the Study Area but the extent of this disturbance is unknown. Therefore, the majority of the Study Area retains high archaeological potential and will require further archaeological work, and the area indicated as having low archaeological potential will not require further archaeological work (***Figure 4.2.5***).

4.3 Proposed Expansion, Regional Areas 1 & 2, St. Paul Pump Station (PS-E-STPAUL)

The extant St. Paul Pump Station is located at 7730 Riverside Drive East, in the St. Paul Pumping Station Park on the Detroit River shoreline. The current PS is a large facility with an above grade footprint of approximately 0.18 hectares. It is accessed from a laneway off Riverside Drive E. The proposed Expansion Study Area includes the current structure, the lawn to its south and east, and a portion of the River (see ***Figure 4.3.1***). The Study Area is trapezoidal in shape, approximately 0.84 hectares in size, with maximum dimensions of approximately 75 by 150 metres. A total of 0.13 hectares of this is in water (note that archaeological potential has not been assigned to the riverbed portion in this report). The remaining 0.53 hectares, not including the water or the extant PS, is composed of a treed lawn, paved driveway and path and the breakwall at the River. The extant storm sewer main runs into the PS from Riverside Drive East on a slightly northwest alignment crossing the driveway (City of Windsor n.d.-b). The historical lot designation for the Study Area is Parts of Lots 126 and 127, Concession One, Former Township of Sandwich East.

The proposed St. Paul PS Expansion Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.3**.

4.3.1 St. Paul PS - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the St. Paul PS Study Area.

4.3.2 St. Paul PS - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the St. Paul PS Study Area. This Stage 1 report (MHCI 2005) is summarised in **Section 4.1.2**. Please refer to this section for the summary.

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The Study Area is located within an area of pre-1800 Euro-Canadian settlement, as identified by the WAMP (CRM Group *et al.* 2005:Figure 2).

4.3.3 St. Paul PS - Environmental Factors

The proposed St. Paul Pump Station Study Area is predominantly situated in what was once the shallow waters of the Detroit River shoreline. On C.B. Comstock's 1876 *Chart of the Detroit River*, in the vicinity of the Study Area, the Detroit River is shallow, as sediment, particularly sand, has been deposited due to the point of land east of the Study Area and west flow of the River (see **Appendix B**). The south boundary of the Study Area was low in elevation, almost level beach shoreline which appears to vary in width, possibly due to the Detroit River water level fluctuations.

The soil in the vicinity of the Study Area is composed of two different soils, Colwood Fine Sandy Loam, in the north part, and Clyde Clay, in the southern part. See **Section 1.3.2** for more details about soils. These are the underlying soils, although 20th century infill has modified the entire Study Area.

4.3.4 St. Paul PS Upgrades - Historical Research Summary

The proposed St. Paul Pumping Station Upgrades Study Area is designated as part of Lot 126 and Lot 127, Concession One, Former Sandwich East Township, although it is within the Detroit River (Teranet and ServiceOntario 2020b).

On the 1792 list of proprietors for the settlement on the south shore (L'Assomption), Benjamin Marsac is identified as owner of Lot 126 (Lajeunesse 2010). Although not until 1843, was the Crown Patent for Lot 126, Concession One granted to Eli L'Esperance and Oliver L'Esperance (later spelt Lespérance) (Teranet and ServiceOntario n.d.). In 1792, Jacques Lauzon was listed as proprietor of Lot 127 (Lajeunesse 2010). In 1847, the Crown Patent was granted to Jean Baptiste Lauzon to include 275 acres of Lot 127 (Teranet and ServiceOntario n.d.).

The 1876 *Chart of the Detroit River* illustrates the Study Area as a shallow, sandy part of the Detroit River shore (**Table 4.3.1**). Due to the low elevation of the surrounding area, the road was not constructed along the waterfront until the 1900s. The closest road south of the Study Area is St. Rose Avenue. The proprietors of Lot 126 and Lot 127, Concession One, changed frequently, and no structures are noted close to the shore within these lots until the early 1900s (**Table 4.3.1**). Water Lot Patents within Lot 127 were granted in 1911, to Albert Hebert (one acre) and Arthur Ellas (four 84/100acres) although they appear to be outside the Study Area (Teranet and ServiceOntario n.d.).

The following are a list of late 19th to 21st century viewed documents outlining the land use and development of the proposed St. Paul Pumping Station Upgrades Study Area.

Table 4.3.1
St Paul PS, Summary of Historical Records

Document	Date	Comments
Chart of the Detroit River C.B. Comstock 1 : 40,000	1876	-W flow of river and point of land E of SA cause accumulation of sediment and formation of wide, shallow area along the SA shore -No road along Detroit R S of SA
Map of Essex County H.F. Walling 180 Rods : 1 Inch	1877	-Road along river bends S, then E again to Lauzon Rd -Jos. Brown noted on Lot 126 S of SA -No name on Lot 127 S of SA
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-No road along the shoreline S of SA; shoreline undulates -Front Rd (Riverside Dr) stops at boundary of Lot 123, then E again along what is now St. Rose Ave -No structures noted in SA
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-J.B. Brady proprietor of Lot 126 S of SA -H & P Mailloux proprietor of Lot 127 S of SA -Road along river with narrow strip N of Riverside Drive
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.3.3a***	1912	-Tributary visible SW of SA -Area between Riverside Dr and edge of Detroit R is narrow -Riverside Dr appears to be raised -Hotel noted NE of SA
Page 43, *Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh* Underwriters' Survey Bureau Ltd. ***Figure 4.3.2a***	1924	-SA composed of narrow shore N of Riverside Dr, and water of the Detroit R -No structures in SA -Houses are along the S side of Riverside Dr
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 4.3.4a***	1931	-Shoreline N of Riverside Dr very narrow, beachlike -Few houses on S side of Riverside Dr
Page 243, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 2)* Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch	rev. 1937 (orig 1917)	-Property between Riverside Dr and Detroit R approx. 8m wide -Undulating shoreline -No structures
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000	1947	-SA composed of narrow shoreline and water of Detroit R -Infill of properties N of Riverside Dr SW of SA
HA-3-43, *City of Detroit Aerials* [publisher unknown] ***Figure 4.3.4b***	1949	-SA consists of water and narrow shoreline, although there is some infill of SE part of SA -Property to E infilled out into Detroit R

Document	Date	Comments
Page 308, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch ***Figure 4.3.2b***	1953	-No change to SA from previous aerial image -Infill of properties to the E and W of the SA
GA-1-28, *City of Detroit Aerials* [publisher unknown]	1956	-SA shoreline contains a narrow strip of infill -A dock extends out into river
FM-25-24, *City of Detroit Aerials* [publisher unknown] ***Figure 4.3.4c***	1961	-SA has been infilled further into the river, with two docks extending out -Trees along the N edge of Riverside Dr
St. Paul Storm Water Pumping Station, City of Windsor H. Payne, James F. MacLaren Ltd.	1973	-Elevations within SA in 1973 -Boreholes within infilled part of SA, no borehole info along Riverside Dr -Construction plan of present Pump Station
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.3.3b***	1975	-SA has undergone some infill of the S boundary along the shoreline
17562-20-504, *City of Detroit Aerials* [publisher unknown]	1981	-Present configuration of SA -Concrete breakwall at river's edge
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.3.3c***	2000	-Present configuration of SA shoreline; PS extant -SA is within a park
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Present configuration -Planted trees within SA
MyWindsorSewerSystem *MappMyCity* City of Windsor	2019	-One sewer line N from Riverside Dr to Pumping Station

Initially, the Study Area was a narrow strip of land as indicated by the 1912 Topographical Map situated between Riverside Drive and the River to the north (***Figure 4.3.3a***). The Study Area predominantly was water at that time.

Infill of the water lots to the southwest of the Study Area began in the 1940s, and to the northeast in the early 1950s (***Figures 4.3.2b***, ***4.3.4b-c***). The *1956 Aerial Photo* revealed some infilling along the south shoreline within the Study Area and a dock extended out into the River (**Table 4.3.1**). Further infilling events are evident by the 1961 aerial photos (***Figure 4.3.4c***). Infilling of the area has been extensive and completed by the time that the St Paul Storm Water Pumping Station Plan (dated 1973) was completed in 1978 (**Table 4.3.1**).

Review of the historical documents, therefore, confirms that the Study Area is composed of modern infill (made land), and extant Pumping Station, within what had predominantly been part of the Detroit River in the early 20th century.

4.3.5 St Paul PS - Historical Plaques

There are no historical plaques in the vicinity of the St. Paul Pumping Station Study Area.

4.3.6 St. Paul PS - Property Inspection Results

The St. Paul PS Property Inspection was conducted on 30 October 2019, under overcast skies and light rain with a temperature of 6 °C. The extant pump station is a large concrete structure within a park-like setting. The pump station's driveway curves off Riverside Dr. E. and slopes down into a lower grade parking area by the pump station (***Plate 4.3-4***). The pump station backs onto the Detroit River and a brick walkway sits atop a retaining wall at the river's edge from just southwest of the parking area to the northeastern property limit (***Plate 4.3-1***).

The grounds are maintained lawns with planted trees, and are level to gently undulating (***Plates 4.3-2*** and ***4.3-3***). On the northeast side of the driveway the extant high-water berm is visible parallel to Riverside Dr. E., however it is set further back from the ROW on the southwest side of the driveway. The proposed expansion is in the lawn to the northeast of the current facility. See ***Figure 4.3.5*** for images of the Property Inspection.

4.3.7 St. Paul PS - Archaeological Potential

The aerial and historic mapping of the St. Paul PS Study Area demonstrates that most of this section of the Detroit River shoreline has been altered and infilled. The construction of the pump station will have also modified the landscape as well. Therefore, most of this Study Area has no archaeological potential. Based on the shoreline configurations, and the history of land use in the Study Area, there is only a small section of the Study Area that could retain archaeological potential as the original shoreline, and this located in the extreme eastern section adjacent to Riverside Drive East (***Figure 4.3.5***), and is recommended for Stage 2 Assessment. The remainder of the Study Area has low potential and no further work is recommended (see ***Figure 4.3.5***).

4.4 Proposed Upgrades, Regional Area 5, Blue Heron/Lakeview Pump Station (STM-E5)

The Blue Heron/Lakeview Pump Station is located on the southwest corner of Lake St. Clair, on the border between the City of Windsor and Town of Tecumseh. The Proposed Upgrades Study Area straddles that boundary, as it includes scope for construction manoeuvring and laydown, (see ***Figure 4.4.1***). The Study Area is an irregular shape like a backwards, shortened 'L', with the foot in South Rendezvous Park on the south side of Riverside Drive East, from where it crosses the road to an outfall at the shore of Lake St. Clair. The Study Area's maximum length and width is 195 by 50 metres, respectively, and it is approximately 0.5 hectares in size. The Ganatchio Trail, a paved multi-use trail, starts at the border with Tecumseh and extends west along the southern edge of Riverside Drive East, crossing the Study Area.

The Study Area includes public and private lands, with an existing storm sewer running north/south through the Study Area. The street address of South Rendezvous Park is 11997 Riverside Drive East. The extant sewer line is parallel to the rear fence line of residential lots 330, 340 and 350 Shoreview Circle north of Riverside Drive E., along the City border (City of Windsor n.d.-b). On the east side of the border, there is an approximately six metre wide access or easement from Riverside Drive E. to the water; east of this strip is

12042 Riverside Drive E. (Tecumseh) which contains the eastern edge of the Study Area and is currently undeveloped and in lawn. The proposed pump station upgrades include a storm sewer line of increased diameter leading to a larger outfall, located within the six metre access/easement lot in the Town of Tecumseh, and pump station improvements within South Rendezvous Park. The historical lot designation for the Study Area is Part of Lots 149 and 150, Concession One, Township of Sandwich East.

The proposed Blue Heron/Lakeview PS Upgrades Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.4**.

4.4.1 Blue Heron/Lakeview PS - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the Blue Heron/Lakeview PS Study Area.

4.4.2 Blue Heron/Lakeview PS - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the Blue Heron/Lakeview PS Study Area. This Stage 1 report (MHCI 2005) is summarised in **Section 4.1.2**. Please refer to this section for the summary.

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The Study Area is within an area of pre-1800 Euro-Canadian settlement, and within the buffer for the Windsor & Amherstburg Railway, as identified by the WAMP (CRM Group *et al.* 2005: Figure 2). The Study Area is also within the buffer zone for the Detroit River (CRM Group *et al.* 2005:Figure 1).

4.4.3 Blue Heron/Lakeview PS - Environmental Factors

The Blue Heron/Lakeview PS Study Area is located in the northeast section of the city, adjacent to Riverside Drive and the southeastern section of Lake St. Clair. The Study Area is within a fairly level park (South Rendezvous Park), crosses Riverside Drive and then traverses a small grassed section of flat land leading to the lake. The topography as indicated is flat and the park may have been landscaped. The Study Area is close to the beginning of the Ganatchio Trail. The soils are within a wide band of Clyde Clay (Cc) that is parallel to the lake's shoreline.

4.4.4 Blue Heron/Lakeview PS - Historical Research Summary

The Blue Heron/Lakeview PS Study Area is located historically on the west side of Lot 150, and the east side of Lot 149, Concession One, Former Township of Sandwich East. Both Lots 149 and 150, Concession One all 203 acres, were patented on the same day (17 May) in 1802. Lot 149 was granted to Jean Baptiste Peter, and Lot 150 to Antoine Lespérance. In 1849, one Joseph Petre (alias Peter) and his wife sold 56 arpents (~47 acres) of Lot 149 to Etienne Bruyette and his wife Cecila, and a small amount of land was deeded to the Great Western Railway Co. in 1853. There were a number of small transactions throughout the late 1800s, all within the French community by the names in the Land Registry records, and the names Petre, Louis, Campeau, and Bruyette (Brouillette) are mentioned well into the 20th century. There is a reference to the Windsor & Tecumseh Electric Railway Co. in May of 1905, with a deed of an unspecified amount of land (aol - and other lands).

The history for Lot 150 is more active than for Lot 149, but followed a similar pattern, though transactions started fairly early after the patent had been granted. Only three years after Antoine Lespérance acquired the lot, he sold it to another Lespérance (Pierre), and Pierre held onto the lot until selling 60 acres in 1840 to Jacques Hebert, and another 60 acres a year later to Samuel Lespérance. Various sales, deeds and mortgages were conducted in the 1850s into the 20th century with Lespérance being the dominant name. In 1905 the Windsor & Tecumseh Electric Railway was again deeded an unspecified amount of land.

For the 20th century land use history and determining the potential of the Study Area, there were a number of visual sources that were examined. These are summarized in the following table.

Table 4.4.1
Blue Heron/Lakeview PS, Summary of Historical Records

Document	Date	Comments
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.4.3a***	1912	-Single track RR on S side of Riverside Dr runs to E, turns S on W side of Lesperance heading to Tecumseh; crosses SA -Small creek shown in vicinity of SA -One wooden structure W of SA on N side of Riverside Dr -Shoreline close to Riverside Dr, with no infilling
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360 ***Figure 4.4.3b***	1920	-Same as previous NTS with exception that the railway is labelled Amherstburg Electric Railway
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360 ***Figure 4.4.3c***	1940	-No structures in immediate vicinity of SA -No land infilling W of SA along the shoreline -Small creek in vicinity of SA -No electric railway along S side of Riverside Dr
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000 ***Figure 4.4.2***	1947	-N side Riverside Dr: -Shoreline narrow, irregular, small cove just W of SA -SA treed, with cleared strip/path on current City boundary -Residences and related structures present to E, W of SA -S side Riverside Dr: -House set far back from Riverside within SA just W of City boundary, with associated outbuildings -House just W of SA; driveway on E limit of property from Riverside (within SA), curves W to meet back of house -Lane parallel to Riverside on S side, RR no longer present -SA between two houses is ploughed field -East Marsh Drain present within and W of SA
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.4.3d***	1975	-3 structures (one large) on N side of Riverside Dr -Shoreline irregular, looks like a small cove -Land to the W infilled into lake w marina on its W side -No structures in SA S of Riverside, one street to the W w/ development of houses along both sides of that road -Long, skinny depression along E side of SA on lot line

Document	Date	Comments
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 4.4.1a***	1988	-Ganatchio Trail or forerunner present on S side Riverside -S part of SA is open field with no construction -N part of SA appears vegetated -Two structures present to W along Riverside Dr, one to the E (treed lot)
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.4.1b***	2000	-N of Riverside Dr: -Shoreview Cres subdivision starting, no break wall present -SA grass, borders on house and driveway on E edge -S side Riverside Dr: -SA mostly grass, large parking pad to the NW -Structure and two driveways in SA close to Trail
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	-Break wall added on lake side -Shoreview Cres. subdivision almost complete -Houses on N and S sides of Riverside demolished -Parking pad reduced, part of path leading to Ganatchio Trail on S side
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.4.1c***	2006	-Landscaping on N side of SA -- both thin strip in W and property to E (shrubs planted); bare earth visible -No major change to S section of SA
2008 Aerial *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.4.1d***	2008	-No changes to N or S side, apart from grass has regrown on N side
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA *Supplementary Figure 4.4.1e*	2015	-Thin strip of grass remains in W thin section of SA N of Riverside, but property to the E stripped of sod and soils -No changes to the S section of SA
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	-Grass regrown on NE section -No other change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

The visual records show that this area has been within a rural setting for most of the 20th century, with gradual housing and other structures infilling along the shore, spreading inland. The shoreline to the west has been dramatically infilled, and by 1975 was well underway with a marina on the newly formed ground. The general vicinity of the Study Area has seen more infilling of land and the construction of Shoreview Crescent subdivision which was under way in 2000, was completed by 2004. There has been some infilling of the shoreline on the eastern side of the Shoreview Crescent subdivision and into the Study Area, and instead of a small, bowl shaped curve to the shoreline, it has been infilled, straightened and had a break wall installed.

The older houses/outbuildings that had been present in the 1940s onwards to the west of the Study Area had been demolished for the subdivision. There had been one structure present to the east, on the north side of Riverside Drive East that was extant up until the year 2000, and after that it too had been demolished by 2004. By 2006 there was some heavy landscaping being conducted on the east side in the vicinity of the Study Area,

and both the long strip of ground that contains the water conduit and the property to the east were bare earth. This portion of the area appears to have been vacant with a grassed covering and some planted trees until 2015 when once again the property to the east has been stripped of all sod and trees. The thin strip of land to its west retained its grass cover. Both sections (thin strip and the property to the east) north of Riverside Drive E. continue to be vacant and grassed.

The section of the Study Area to the south of Riverside Drive E., and what is currently South Rendezvous Park has seen the East Marsh Drain, at least two houses, and an electric railway being constructed near or through this section. The electric railway was constructed sometime around the turn of the 20th century, and was present on two NTS maps (1912 and 1920), but by 1940 it had been discontinued. The railbed appears to have been used either as a pathway, or extra lane to access houses on the south side of Riverside Drive E. after it had been discontinued. This would eventually be turned into the Ganatchio Trail. The East Marsh Drain was active in the mid-20th century, and its dredging and subsequent infilling will have caused extensive disturbance to its vicinity. The other development in the area of the Study Area has been the construction of successive houses. The first house was noted on the 1947 aerial, fairly close to Riverside Drive E., and had driveway access along the eastern lot line to the back of the house. The house appears to be just outside of the Study Area. By 1975, the NTS mapping showed no structure in this location, and the 1988 aerial displayed the area as an empty field. A second house, to the southwest of the first one's location was noted on the 2000 aerial. This house suffered the same fate as the first, and was demolished by 2004. The City of Windsor (2020e) had acquired the land to make it into a park by 1999. Once the house had been removed, the land was transformed into a park, and a concrete pad constructed in the approximate location of the second house.

4.4.5 Blue Heron/Lakeview PS - Historical Plaques

There are no historical plaques in the vicinity of the Lakeview PS Study Area.

4.4.6 Blue Heron/Lakeview PS - Property Inspection Results

The Property Inspection of the proposed Lakeview PS Study Area was carried out on 20 February 2020, with clear skies and a temperature of -5 °C. There was little to no snow cover in the general area and snow did not impede the Property Inspection. The Study Area extends north/south across Riverside Drive East, the south portion ending in South Rendezvous Park.

The northern part of the Study Area, north of Riverside Drive E. includes a long narrow, fence enclosed area stretching from Riverside Dr. to Lake St. Clair with gravel and cement debris visible at its south end (***Plate 4.4-1***). There is an open lawn to its east and a fenced backyard to its west. The topography is relatively level across this northern section of the Study Area (***Plate 4.4-6***).

The southern part of the Study Area is within the park, south of Riverside Drive East. The park is composed of manicured grass, trees and berms, with the extant pump station on the edge of the Study Area (***Plates 4.4-3 - 4.4-5***). Berms are located along the south side of the park and south of the Riverside Dr. sidewalk. Numerous utilities and manholes are visible within the Study Area. The Study Area also crosses the Ganatchio Trail just south of Riverside Drive E. (***Plate 4.4-2***). Images from the Property Inspection are provided on ***Figure 4.4.4***.

4.4.7 Blue Heron/Lakeview PS - Archaeological Potential

The Blue Heron/Lakeview PS Study Area straddles Riverside Drive East. The northern section -- the land north of the road and Riverside Drive East itself -- consists mostly of an extant stormwater line and part of a grassed vacant lot that abuts the southwestern shore of Lake St. Clair, plus the road way. The southern section, south of the road, consists of an open space of parkland. Historically, there has been a short watercourse in this area that drained into Lake St. Clair. The northern section has been infilled, and extensively disturbed where the current stormwater line is located. The vacant lot to the east of the stormwater service contained a house and has been stripped twice in the last 20 years (2006 and 2015). The southern section also has been impacted by 20th century construction activities, including the East Marsh Drain, an electric railway line, and with a later 20th century house and its subsequent demolition within the southwestern portion of the Study Area, and possible outbuildings of the mid-20th century house in the southern section of the Study Area. The level of landscaping in the southern section is unknown. Therefore, based on the background information and aerials, the northern section, including the footprint of Riverside Drive E. and to the south edge of the Ganatchio Trail within the City of Windsor, does not retain any archaeological potential, and no further work is required, while the southern section retains high archaeological potential in those areas that have not been extensively disturbed and will require further archaeological work (see ***Figure 4.4.4***).

4.5 Proposed Upgrades, Regional Area 6, Pontiac Pump Station (STM-E6)

The extant Pontiac Pump Station is located on the east bank of the channelized Little River (sometimes referred to as the 'Canal' to distinguish it from the channelized 'Old' Little River to its east) within the grounds of the Little River Pollution Control Plant, and consists of an approximately 390 square metre building footprint, with a paved yard and a dredged channel to Little River (water portion approximately 0.07 hectares; note that this is not a riverbed). The proposed upgrades to the Study Area include this current facility plus lawn on the north and south sides of the structure (see ***Figure 4.5.1***). The Study Area is trapezoidal in shape, 0.75 hectares is size, and with maximum dimensions of 110 metres east/west by 90 metres north/south. This area consists of water (0.1 hectare), extant pump station and paved/gravelled surroundings (approximately 0.2 hectares), and lawn or bare earth (0.45 hectares). There are extant storm sewers running into the PS from the north and east, and sanitary sewers crossing the Study Area on the west, south and east sides of the PS (City of Windsor n.d.-b). The proposed upgrades involve the construction of an expansion to the pump station and a new sewer line and outfall to Little River on the south side of the current facility (Dillon and Aquafor 2020b:28). The extant pump station's address is 9410 Little River Road. The historic lot designation of the Study Area is Part of Lot 134 Concession One, Former Township of Sandwich East.

The proposed Pontiac PS Upgrades Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.5**.

4.5.1 Pontiac PS - Known Archaeological Sites

There is one registered archaeological site within one kilometre of the Pontiac PS Study Area.

AbHr-19, the Nicodemo-Dupuis site, is an Early Middle Period to Terminal Woodland period campsite with

a Mid Middle component, located just over half a kilometre east of the Study Area. The site was identified during a Stage 2: Assessment in 2014 and recommended for Stage 3: Testing (CRM Lab 2016:21). The site record and the report note that AbHr-19 was initially identified and collected by a local resident in the late 20th century, and documentation of this collection is included in the Stage 2 report (CRM Lab 2016:18). The site was located within 300 metres of a historical water source and on lighter, sandier soils then are typical for this region (CRM Lab 2016:11-12).

4.5.2 Pontiac PS - Previous Archaeological Work

There are no previous archaeological reports for work within 50m of the Pontiac PS Study Area.

The Study Area is either within or bordering an area of low integrity as identified by the WAMP, presumably the footprint of the Little River Pollution Control Plant (CRM Group *et al.* 2005:Figure 2). It is not associated with any high-potential historic period settlement areas identified by the WAMP, but is within the buffer zone for a water course (CRM Group *et al.* 2005: Figure 1).

4.5.3 Pontiac PS - Environmental Factors

The proposed Pontiac Pump Station Study Area is located approximately 900 metres from the Detroit River and within 50 metres of the original Little River waterway (Old Little River). It is located on the modified Little River Canal.

The Study Area is located within the almost level Clay Plain and the soil within the Study Area is composed of Clyde Clay, a deep black clay over mottled blue grey clay (ERCA 2016; Richards *et al.* 1949). See **Section 1.3.2** for more details about soil.

4.5.4 Pontiac PS - Historical Research Summary

The proposed Pontiac Pumping Station Upgrades Study Area is located within the 18th century Farm Lot 134, Concession One, former Township of Sandwich East (Teranet and ServiceOntario 2020b). Documents confirm the land grant by the Indigenous Ottawa people to Louis Peltier in approximately 1774 and a "certificate of survey" by surveyor Porlier Benac (under Major De Peyster) in 1780, for Lot 134, Concession One, consisting of a three arpent wide and eighty arpents deep lot (Lajeunesse 2010:68). In 1791, but registered in 1824, Louis Peltier granted Lot 134 Concession One to Jean Baptiste Soulier and a Crown Patent listed in 1824, confirmed Jean Baptiste Soulier's proprietorship (Teranet and ServiceOntario n.d.). Francois Soulier purchased 120 acres of Lot 134, Concession One in 1825, and retained the property until his death in 1879 (Teranet and ServiceOntario n.d.). By 1905, Lot 134, Concession One was divided into a one arpent wide strip, consisting of agricultural fields owned by the Soulier family, with Joseph Soulier proprietor of the western most lot (***Figure 1.9***).

With the incorporation of the Town of Riverside in 1921, various sewer and drainage improvements were undertaken (Fullarton 2008). By 1931, Little River's course had been straightened and dredged along the western part of Lot 134, from the Detroit River to the vicinity of the Study Area. Soon after, houses along the west side of Little River were constructed. The Little River Pollution Control Plant was commissioned in 1966 and expanded in 1974 (City of Windsor 2020b). The Study Area is within the property of the Little River Pollution Control Plant.
The following is a list of viewed documents outlining the development of the proposed Pontiac Pumping Station Study Area.

Table 4.5.1
Pontiac PS, Summary of Historical Records

Document	Date	Comments
Plan 27 Sandwich Township [author unknown]	n.d.	-J.B. Soulier proprietor of Lot 134 and SA
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-No roads/structures in the vicinity of the SA -Little River weaves through the Lot
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Lot 134 divided into one arpent-wide lots stretching back from the river, Joseph Soulier proprietor of westernmost lot -Little River straightened
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.5.3a***	1912	-Little River straightened -No roads S of Riverside Dr -No structures in vicinity of SA
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh Underwriters' Survey Bureau Ltd. 800 Feet : 1 Inch	1924	-No sheet for SA -Proposed streets depicted with dashed lines -Riverside Town limits S of SA -Little River straight extending past Riverside Town limits -Little R tributary extends E, S of proposed Ottawa St
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	-Little River straight until just north of SA -No roads or structures in SA
Page 200A, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 2)* Underwriters' Survey Bureau Ltd. 800 Feet : 1 Inch	rev. 1937 (orig 1917)	-No sheet for SA -Development along W side of Little River -No structures in SA -Proposed roadway, Jerome St, S of SA
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360 ***Figure 4.5.3b***	1940	-Road present along W side of Little R, houses along it -Straightened Little R with tributary extending off to the E -Structure S of tributary outside of SA
Essex Border Maps 1929-1959 H.W. Patterson	1944- 1954	-Plan 1501 north of Little River tributary -Proposed McKinley Ave extends from proposed extension of Wyandotte (previously Ottawa Ave), no divisions in wedge S of Little R tributary and E of main Little R channel
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000 ***Figure 4.5.2***	1947	-Structure S of SA is a farmhouse along Little River -Old Little River tributary runs from the E -SA is agricultural land with dirt access road

Document	Date	Comments
Page 300, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd. 1200 Feet : 1 Inch	1953	-No sheet for SA, one for Riverdale Ave -Proposed Jerome St runs S of SA
1954 Air Photos of Southern Ontario [publisher unknown]	1954	-Agricultural land with dirt access road -Wyandotte does not extend E past Riverdale Ave -No roads N of SA until Riverside Dr
GA-1-27, *City of Detroit Aerials* [publisher unknown]	1956	-Farm structures in SA vicinity, smaller divisions of fields in SA vicinity due to wedge of land S of Little R tributary -Bridge at E boundary of Lot 134 and Little R tributary, roadway extends from bridge W to vicinity of SA
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-E-W roadway in vicinity of SA -Two structures on N side of roadway -Development along W side of Little R
Riverside, Ontario 40J07D Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.5.3c***	1975	-Sewage Plant and structures in vicinity of SA -No Pumping Station in SA -E-W roadway present -Two structures on N side of roadway
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 4.5.1a***	1988	-Pontiac PS present -Channel cut to PS, banks clearly sloped and graded -Roadway stops at SA -Work yard in N part of SA
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.5.1b***	2000	-Work yard in N part of SA -No vegetation, except grass, on channel banks
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.5.3d***	2000	-Sewage treatment plant has expanded since 1975 NTS -Pumping station and channel to Little R present
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	-Regrowth of grass over work yard in N part SA -Increase in vegetation on channel banks
2013 Aerial *Public Interactive Mapping*, ERCA	2013	No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA *Supplementary Figure 4.5.1c*	2015	No change from previous aerial image
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

Review of the historical documents indicate the Study Area was within a mid 18th century farm lot which remained primarily farm land until the 1960s. The 1905 farm lot was further divided into smaller farm plots, especially after the modification of the Little River Channel, resulting in the position of the Study Area within the wedge shaped area of land. A farmhouse and other structures, as well as a roadway, were depicted within the vicinity of the Study Area in the 1956 aerial photo (**Table 4.5.1**). Development of subdivisions to the north and west of the Study Area ensued in the 1960s, resulting in the construction of the Sewer Plant in the vicinity of the Study Area. The construction of the Pontiac Pumping Station resulted in a wide channel excavated to the west side of the Station, berms along the channel, access and parking area, landscaping and a large pumping Station building (**Table 4.5.1**).

4.5.5 Pontiac PS - Historical Plaques

There are no historical plaques in the vicinity of the Pontiac PS.

4.5.6 Pontiac PS - Property Inspection Results

A complete Property Inspection could not be conducted for the Pontiac Pump Station Study Area due to restricted access. The northeast portion of the Study Area was visible from across the Old Little River (on the east side of the Pollution Control Plant), on the Ganatchio Trail section through the Little River Corridor park. The visible Study Area was level lawn with paved sections and standing structures (***Plate 4.5-3***).This location was viewed by FAC staff on 29 November 2019, under overcast skies with a temperature of -2 °C. Additional photographs of the current conditions were provided by the proponent, and these are also included on ***Figure 4.5.4***. Between the field photographs and 2019 aerial imagery, the Study Area has been identified as composed of level lawns, paved areas, extant pump station structures, and an offshoot to the Little River.

4.5.7 Pontiac PS - Archaeological Potential

The Pontiac Pump Station Study Area is in between the Little River, and the 'Old' Little River -- both have been channelized. The historic NTS map from 1912 shows the original course and some channelization of the 'Old' Little River (***Figure 4.5.3***), with the PS Study Area to the west of this watercourse. The archaeological potential for both Indigenous and Euro-Canadian sites is high based on the proximity to this watercourse. There have been obvious impacts to parts of the Study Area with the presence of two sanitary sewer lines to the south of the PS building, the access route into the fenced yard north of the PS building, the PS itself, and landscaping associated with the channel and intake channel. Therefore, while integrity of the Study Area is uncertain, since no photographic evidence could be found for extensive and overall disturbance to the whole of the Study Area, certain sections may still retain archaeological potential (see ***Figure 4.5.4)*** and will require further archaeological work.

4.6 Proposed New Stormwater Management Facility (Underground Storage), Regional Area 6, Brumpton Park (STM-E6)

The proposed Brumpton Park Stormwater Management Facility (SMF) Study Area consists of the whole of Brumpton Park, located at 8890 Riverside Drive East, and a section of the Ganatchio Trail at the north end of the Park. The proposed SMF entails underground storage within the Park. The Park is bounded on the north by the Ganatchio Trail corridor and an apartment complex and on the south by Cedarview Street. A residential subdivision is to its west and another apartment complex to its east (***Figure 4.6.1***). A branch of the Ganatchio Trail also extends south through the east side of the Park. There is an extant sanitary sewer crossing the northeast corner of the Park parallel to Riverside Drive E. (City of Windsor n.d.-b). The Study Area is an irregular rectangle, with maximum dimensions of approximately 255 by 120 metres, and covers

just over two hectares. Its historical lot designation is Part of Lots 131 and 132 Former Township of Sandwich East.

The proposed new Brumpton Park SMF Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.6**.

4.6.1 SMF, Brumpton Park - Known Archaeological Sites

There is one registered archaeological site in the OASD just over one kilometre of the SMF Brumpton Park Study Area. This is AbHr-19, the Nicodemo-Dupuis site, an Early Archaic to Terminal Woodland period campsite discussed above in **Section 4.5.1**.

4.6.2 SMF, Brumpton Park - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the Brumpton Park Study Area. This Stage 1 report (MHCI 2005) is summarised in **Section 4.1.2**. Please refer to this section for the summary.

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The north edge of the Study Area overlaps an area of pre-1800 Euro-Canadian settlement, as identified by the WAMP, while the southern end is in an area of low potential (CRM Group *et al.* 2005:Figures 2 and 4).

4.6.3 SMF, Brumpton Park - Environmental Factors

The proposed SMF, Brumpton Park Study Area is located approximately 40 metres south of the Detroit River, on the east side of the point of land situated between Belle Isle (American) and Peche Isle (Canadian) near the mouth of Lake St. Clair. Historic maps note the Little River either to the southeast or within the Study Area, however the 1931 Aerial (ERCA Interactive Mapping) shows the natural channel of Little River swinging northwest and broadening into a wide embouchure within the Study Area - this appears as a darker shadow on the cultivated landscape - while the current canal of Little River to its east is draining the former channel (see ***Figure 4.6.3a***).

The Study Area is slightly higher in elevation than areas to the south. The soils within the Study Area are composed of Colwood Fine Sandy Loam in the north half and Clyde Clay in the southern half. See **Section 1.3.2** for more details about the soils.

4.6.4 SMF, Brumpton Park - Historical Research Summary

The proposed SMF, Brumpton Park Study Area is located within parts of Lot 131 and Lot 132 Concession One, former Township of Sandwich East (Teranet and ServiceOntario 2020b). The 1792-4 list of proprietors of the settlement of L' Assumption (then Sandwich East Township) noted on Lot 131 as Bazinett and on Lot 132 Antoine Labadie (Lajeunesse 2010:359).

Lot 131 Concession One

Due to the shape of the point of land in this area, Lot 131 is wedge shaped, and sometimes referred to as Gore. The Crown Patent for Lot 131 Concession One, former Sandwich East Township, was granted to Nicholas Langlois in 1826 and comprised 112 acres (Teranet and ServiceOntario 2020a). Lot 131 proprietors changed

several times. In 1905, Wolfgang Feller owned the property and granted land, along the north edge of the Study Area, to the Windsor and Tecumseh Electric Railway Company (**Table 4.6.1**). By 1921, Lot 131 Concession One became part of the Town of Riverside. The Isack family registered Plan #1564 in 1956, as a Plan of Subdivision of Farm Lots 130 and 131, with Block 'O' being the western part of the Study Area within Lot 131 Concession One (Teranet and ServiceOntario n.d.). Bell Canada was granted two parts within Block 'O' in 1956 (Teranet and ServiceOntario n.d.). In 1991, the City of Windsor was granted all of Block 'O'(Teranet and ServiceOntario n.d.).

Lot 132 Concession One

Lot 132 is a narrow band of land stretching back from the Detroit River. The Crown Patent was issued to Antoine Labadie in 1806, for all of Lot 132 Concession One, Township of Sandwich East and consisted of 200 acres, although he did not retain the property (Teranet and ServiceOntario n.d.). In 1905, Louis Tino was proprietor of part of Lot 132 through which the Windsor and Tecumseh Electric Railway was constructed (**Table 4.6.1**). The property became part of the Town of Riverside in 1921. In 1939, an instrument was listed Vesting in the Town of Riverside for the property of the "Old Windsor and Tecumseh Electric Railway ROW" (Teranet and ServiceOntario n.d.). Plan 1566, registered in 1956, was a Plan of Subdivision of Farm Lots 132 and 133, Concession One, Town of Riverside with the Study Area (Teranet and ServiceOntario n.d.). It is noted that Harry Zekelman had owned the west half of Farm Lot 132 Concession One which he sold to Westchester Development Ltd. (Teranet and ServiceOntario n.d.). Block 'A' is not listed within the Plan 1566 Land Registry Abstract. In 1959, a Bylaw was listed, in Plan 1566, to close Clairview Avenue within Lot 131 and Lot 132 (Teranet and ServiceOntario n.d.).

The City of Windsor acquired the part 'A' within the Study Area in 1979 and it was known as Westchester Park and Westchester Garden Plots, as the park was used as community garden plots (City of Windsor n.d.-a:12). Block 'O' was acquired in 1991 as it was undeveloped at that time. The Park was later named after Harry Brumpton, former Parks and Recreation Commissioner (1959-1981) (City of Windsor n.d.-a).
The following is a list of viewed documents outlining the development of the proposed Surcharge Storage Brumpton Park Study Area.

Table 4.6.1
SMF, Brumpton Park, Summary of Historical Records

Document	Date	Comments
Plan du Topographique du Détroit G-J Chaussegros de Léry	1754	-No European settlement in the vicinity of SA -Indigenous Village of Ottawas W of SA -Little River (unlabelled) visible to the E of SA
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Lot 131 unknown -Lot 132 Antoine Labadie
Plan 27 Sandwich Township [author unknown]	n.d.	-Lot 131 Nicholas Langlois, wedge shaped -Lot 132 Antoine Langlois
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-Lot 131 a wide wedge w S tip just S of St Rose Rd to the W -Little R passes through Lot 131 in N part with outlet partially within SA -Lot 132 ribbon lot w/ straight sides, starts at Tecumseh Rd -No structures or names within lots

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Lot 131 Archibald Bennett -Lot 132 west side Charles Tino
Town of Walkerville, Township of Sandwich East, *Plan showing location of the Windsor and Tecumseh Electric Railways Company's line through portions of the City of Windsor* Owen McKay, O.L.S.	1905	-Electric Railway in vicinity of N boundary of SA (future Clairview Ave/Ganatchio Trail) -Lot 131 Wolfgang Feller -Lot 132 Louis Tino
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.6.2a***	1912	-Electric Railway shown same as McKay 1905 map
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	-Electric Railway same -No roads or structures within SA
Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh Underwriters' Survey Bureau Ltd.	1924	-No structures in SA -Clairview Ave and Cedarview are hash lined -Focus of development to the W
Essex Border Maps 1929-1959 H.W. Patterson	1929- 1959	-SA within Plan 1564 Block O, part of Plan 1566 Block A -Block O wedge-shaped, Block A extends to point in the E -Chappell St changed to Cedarview (S of SA)
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	-Electric Railway along N part of SA -No roads or structures in SA, but other roads in the vicinity
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figure 4.6.3a***	1931	-Fence line along Lot 132 in SA, and around N part of Lot 131 in SA -Shadow of former Little R mouth visible on W half of SA -Rail line visible along N boundary -SA is agricultural field
Pages 200A & 249, *Insurance Plan of Windsor, Ont & Vicinity (Vol. 2)* Underwriters' Survey Bureau Ltd.	rev. 1937 (orig. 1917)	-No insurance plan for SA -Proposed Chappell and Clairview depicted -No structures in SA
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360 ***Figure 4.6.2b***	1940	-No development in vicinity of SA -No roads S of Riverside Dr
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000	1947	-W side of SA within Lot 131 has part bounded by fence line, one tree in N part, S area is agricultural field -E side agricultural field, watercourse flowing S from centre -Fence line down boundary of Lots

Document	Date	Comments
Area 2747, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch	1953	-No sheet for SA -No buildings depicted on S side of Riverside Dr -Clairview Street present
1954 Air Photos of Southern Ontario [publisher unknown]	1954	-Wedge-shaped parcel of land visible, part of SA -Agricultural fields, one tree in N part -No roads S of Riverside Dr in the vicinity of the SA
GA-1-27, *City of Detroit Aerials* [publisher unknown] ***Figure 4.6.3b***	1956	-Fence remains around N part of Lot 131 and between Lots -Gravel line along Chappell St -Square structure along boundary S of rail line -SA is agricultural field; one farm W of SA
Page 25 [photo], *Our Town: A History of Riverside, Ontario, 1921-1966 (Vol 1)* R. Fullarton	1960	-View of SA -Agricultural fields with garden plots along boundary of Lots
FM-25-23, *City of Detroit Aerials* [publisher unknown]	1961	-SA is agricultural field, fence around N part of Lot 131 -Tree or structure along lot boundary, N part, S of former rail line area
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.6.2c***	1975	-Elevation line down W side of SA N-S labelled 580ft -No structures in SA -No structures E of SA
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 4.6.1a***	1988	-Apartment structures to the E of SA, Carling Cres to the W -Park area defined -Garden plots down centre of W half
MyWindsorAerial *MappMyCity* City of Windsor	2000	-Park with winding sidewalk, playground, planted trees and garden area along raised top of W side
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.6.2d***	2000	-Park is a blank, undeveloped space with dense urban development on all sides -No details within SA
MyWindsorAerial *MappMyCity* City of Windsor ***Supplementary Figure 4.6.1b***	2010	-Planted trees along garden area in western centre of SA -SA is parkland with playgrounds in NE area
MyWindsorAerial *MappMyCity* City of Windsor	2019	-SA completely parkland with bigger playground in NE part

The historical documents for the proposed SMF, Brumpton Park Study Area confirm the use of the Study

Area first as agricultural fields, with slow development of the area into the late 20th century. It appears from the historic maps and the 1931 Aerial that the mouth of Little River did at one time exist within the Study Area, but was filled in after the digging of the extant Little River canal. The construction of the Electric Railway line in the early 20th century, through the northern part of the Study Area, and use as a community garden site appear to be the only confirmed significant disturbances. As the development of the vicinity progressed, the Study Area remained park land and undeveloped.

4.6.5 SMF, Brumpton Park - Historical Plaques

There are no historical plaques in the vicinity of the SMF, Brumpton Park Study Area.

4.6.6 SMF, Brumpton Park - Property Inspection Results

The Property Inspection of the proposed SMF, Brumpton Park Study Area was conducted over two days, 27 November 2019 and 30 January 2020. The former was an overcast day with a temperature of 9 °C and the latter was partly cloudy and -1 °C. Visibility and visual inspection conditions were fine for both days, with no snow cover to impede the views.

The Study Area is presently a public park, consisting of manicured lawn, playground and planted trees. Many of the trees, along the public walkway, have plaques dedicating individual trees. The Ganatchio Trail forms the northern boundary of the Study Area but also splits and an offshoot crosses the eastern portion of the Study Area in a north/south fashion (***Figure 4.6.4***).

The Study Area consists partially of a raised area, higher than the subdivision to the south, and a shallow ditch running along the western property line. The centre raised portion of the Park, running north to south, is relatively flat with random depressions (***Plates 4.6-1*** and ***4.6-4***). This portion of the Study Area looks disturbed. A sewer is located at the northeast corner of the Study Area along with a large concrete utility box (***Plate 4.6-2***) and a playground is east of the Trail (***Plate 4.6-3***).The level of modern disturbance to this park is unclear but the topography indicates landscaping has occurred particularly infilling to raise the grade. See ***Figure 4.6.4*** for images from the Property Inspection.

4.6.7 SMF, Brumpton Park - Archaeological Potential

SMF, Brumpton Park Study Area background research confirms its use first as agricultural fields, including infilling the former River mouth, with slow development in the vicinity of the area into the late 20th century. Significant impacts to the Study Area would be the infilling of the River, which covered much of the western half of the Study Area, the construction of the Electric Railway line through the northern part of the Study Area, its use as a community garden site, and the development of a central pathway with a couple of play structure areas. As the development occurred around the Study Area, the actual Study Area remained park land and the remainder of it appears to have kept its integrity. That being stated, there were a number of irregularities in topography that may indicate a fill event or events. However, given the distance to the Detroit River and the former mouth of Little River, a large portion of the Study Area is considered to have high Indigenous and Historic potential. Areas of obvious modern disturbance, such as the footprint of the Little River embouchure, the raised north end by the Ganatchio Trail and around the playground, are considered to have low potential (see ***Figure 4.6.5***). The remainder will require further archaeological work.

4.7 Proposed New LID Swales, Lauzon Parkway, between Hawthorne Drive and Cantelon Drive (ROAD-E4)

The Study Area for the proposed new Low Impact Development (LID) Swales on the west side of Lauzon Parkway, between Hawthorne Drive and Cantelon Drive, includes both the public road ROW and adjacent private lands (***Figure 4.7.1***). The proposed work would entail re-grading of the road and grading or infilling to construct the swales beyond the road footprint. Extant within the Study Area are storm and sanitary sewers within the Lauzon Parkway ROW and another storm sewer crossing the northern end of the Study Area parallel to Hawthorne Drive (City of Windsor n.d.-b). The Study Area is roughly rectangular with a maximum length of 510 metres and a maximum width of 100 metres, and covers an area of approximately four hectares. It does not impact structures but does include the front lawn of 2755 Lauzon Parkway (the Ventra Assembly Company) and the front lawn and parking for the strip plazas at 2825 and 2885 Lauzon Parkway. Its historical lot designation is Part of Lots 124 and 125, Concession Two, Former Township of Sandwich East.

The proposed new LID Swales is one of the three proposed solutions for the Lauzon Parkway corridor. The others are a Stormwater Management Facility (SMF) in Meadowbrook Park (**Section 4.8**), which abuts the southeast corner of the Lauzon Swales Study Area, and a Stormwater Management Pond (SMP) on the Little River Golf Course (**Section 4.9**) further east of the Study Area.

The proposed new LID Swales, Lauzon Parkway Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.7**.

4.7.1 Lauzon Pkwy Swales - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the Lauzon Pkwy Swales Study Area.

4.7.2 Lauzon Pkwy Swales - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the Lauzon Pkwy Swales Study Area.

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The Study Area is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

4.7.3 Lauzon Pkwy Swales - Environmental Factors

The topography of the Lauzon Pkwy Swales Study Area is fairly level, with some slight ditching on the east side of Lauzon Parkway, and a slight artificial rise at some of the buildings on the west side of the road. Construction of the parkway and the adjacent residential and commercial neighbourhoods has likely significantly altered the natural topography of the area.

The Study Area is located over Brookston Clay soils (see **Section 1.3.2** for a detailed description). The presence of these soils indicate that the area has poor natural drainage.

The closest water course to the Lauzon Pkwy Swales is the Little River, which flows roughly south-north through the Little River Golf Course on the east side of Lauzon Parkway. At its closest point, the Little River is just over 300 metres from the Lauzon Pkwy Swales Study Area. However, the 1954 aerial photograph (***Figure 4.7.3***) and the 1961 NTS map (***Figure 4.8.2b***) showed a tributary of Little River to the east within 300 metres of the southern half of the Study Area.

4.7.4 Lauzon Pkwy Swales - Historical Research Summary

The Lauzon Pkwy Swales Study Area encompasses part Lots 124 and 125, Concession Two, Sandwich East Township. The entirety of Lot 124 was patented in 1842 by Jacques Belleperche, who had purchased them from Pierre Belleperche in 1824 (Teranet and ServiceOntario n.d.). The lot remained in the Belleperche family until it was deeded to Honoré Langlois in 1891; subdivision and sale for residential development and other uses did not appear to have begun until the 1950s. Lot 125 was patented by Julien Langlois in 1817. The entirety of the lot remained in the Langlois family at least into the 1930s (Teranet and ServiceOntario n.d.). Expropriation of sections of Lot 125 for road construction occurred in the 1950s; subdivision and development of the lot for residential and other purposes also began around this time. The following table provides an overview of the historic research.

Table 4.7.1
Lauzon Pkwy Swales, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-Interior away from the river shown as undeveloped forest or swamp
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Julien Langlois proprietor of Lot 124 Con 2 (and Con 3) -Benjamin Massac proprietor of Lot 125 Con 2 (and Con 1)
Map of Essex County H.F. Walling 180 Rods : 1 Inch	1877	-Alexie St Louis proprietor N 75ac of Lot 124, Con 2 (and N 75ac of Lot 123, Con 2, and 100ac of Lot 122, Con 2) -No name marked in Lot 125 Con 2
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-No owner/occupier for either Lot 124 or Lot 125 -School present at N end of Lot 125 on S side of Tecumseh Road -No road present between Lots 124 and 125
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Henry Langlois owner of all of Lots 124 and 125 except for extreme NW corner of Lot 124 along Tecumseh Road (school) -No road present between Lots 124 and 125
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.7.2a***	1912	-Little R present to the E of the SA -No development in the vicinity of the SA

Document	Date	Comments
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360	1940	No change from previous NTS map
1954 Air Photos of Southern Ontario [publisher unknown] ***Figure 4.7.3***	1954	-W-E ditch present midway through SA, flows into Little R -SA and surrounding land all agricultural, with settlement focussed along Tecumseh Rd -Tributary of Little R present E of S half of SA
Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 4.7.2b***	1961	-W-E ditch present midway through SA, flows into Little R -Tributary of Little R to the E of S half of SA -No other changes from previous NTS map
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-Golf course present along Little R to the E of SA -No other changes from previous NTS map
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.7.2c***	1975	-Hawthorne Dr present, Lauzon Pkwy present from Tecumseh Rd to just N of ditch through SA -Residential subdivision construction underway on E side Lauzon Pkwy, Spark Plug Factory present on W side -Pool and associated structure in approx location of Meadowbrook Park (accessed from Meadowbrook Lane)
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.7.2d***	2000	-Lauzon Pkwy 2-lane road from Tecumseh, S past E.C. Row -E side of Lauzon residential, w/ Meadowbrook Park marked adjacent to SE edge of SA -Cantelon Dr now present on S edge of S.A. -Spark plug factory and 2 long buildings on W side Lauzon
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-Lauzon Pkwy present: parking lots, industrial/commercial buildings on W side, residential neighbourhoods, Meadowbrook Park on E side -Sidewalk or trail running along W side of Lauzon
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	No change from previous aerial image
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	No change from previous aerial image
2008 Aerial *Public Interactive Mapping*, ERCA	2008	No change from previous aerial image

Document	Date	Comments
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	No change from previous aerial image
2013 Aerial *Public Interactive Mapping*, ERCA	2013	No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2015	No change from previous aerial image
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

A review of the available historic documentation indicates that the Lauzon Pkwy Swales Study Area was a small part of a larger agricultural parcel from the time of settlement into the late 20th century. A ditch connecting to the Little River was constructed just north of the Study Area in the late 19th or early 20th century, presumably to drain the surrounding low-lying agricultural fields. Subdivision and development of the agricultural land surrounding the Study Area began in the 1960s or 1970s: Hawthorne Dr and the northern end of Lauzon Pkwy were constructed between 1962 and 1975, along with a spark plug factory immediately west of the Study Area, and a residential subdivision to the east. Lauzon Parkway was completed through the Study Area by the year 2000, and additional commercial or industrial buildings were added to the west side of Lauzon Pkwy south of the spark plug factory. The Study Area has essentially been built up and landscaped into the early part of the 2000s.

4.7.5 Lauzon Pkwy Swales - Historical Plaques

There are no historical plaques in the vicinity of the proposed Lauzon Parkway Swales Study Area.

4.7.6 Lauzon Pkwy Swales - Property Inspection Results

The Lauzon Parkway Swales Study Area Property Inspection was conducted on 19 December 2019, under clear skies and a temperature of -2 °C. There was no snow cover, with good visibility and lighting.

The topography of the Study Area west of the Lauzon Parkway footprint is naturally level, however, there are man-made berms along the front of the Ventra Assembly Company building and parking lot in the northwest part of the Study Area (***Plate 4.7-1***). There are also berms within the southwest parts of the Study Area beside the plaza parking lots (see ***Plates 4.7-3 - 4.7-6***). In general, the Study Area beyond the road footprint consists of a sidewalk and manicured grass with planted trees, and the whole area has most likely been heavily graded. Paved driveways are also present. Underground utilities were noted along both sides of the sidewalk. At the southeast corner of the Ventra Assembly Company property, a number of utilities are visible including gas, water and sewer. On this level area of the Study Area, a red gas valve and Fire hydrant are located just west of the row of large planted trees(see ***Plate 4.7-2***). The parking lots and driveways are paved. Lauzon Parkway itself is a six-lane road. See ***Figure 4.7.5*** for images from the Property Inspection.

4.7.7 Lauzon Pkwy Swales - Archaeological Potential

The background research for the Lauzon Parkway Swales indicates that this Study Area has variable archaeological potential. The Study Area itself is just over 300 metres from Little River, and was identified

as an area of low potential by the WAMP (CRM Group *et al.* 2005: Figures 1 & 2) (***Figure 10***), however the detailed background research conducted for this study has identified an historic tributary of Little River within 300 metres of the southern half of the Study Area. The northern half of the Study Area does not meet any of the high potential triggers and has been extensively disturbed from previous construction and landscaping (Lauzon Parkway, utilities, berm, grading etc), and therefore has low archaeological potential. The southern half of the Study Area has both high and low potential zones, the latter where extensive modern disturbance will have reduced or removed potential (*i.e.* Lauzon Parkway footprint and ROW, paved parking lots and driveways). The Property Inspection noted lawns with occasional low berms and utilities in this area, but the overall level of disturbance to these lawns could not be confirmed, therefore the lawn sections, as indicated on ***Figure 4.7.4*** are deemed to retain high potential and Stage 2 Assessment is recommended. No further work is recommended for the low potential sections as indicated on ***Figure 4.7.4***.

4.8 Proposed New Stormwater Management Facility (Underground Storage), Lauzon Parkway, Meadowbrook Park (ROAD-E4)

The proposed new Stormwater Management Facility, in Meadowbrook Optimist Park is the second of the three Study Areas within the Lauzon Parkway solutions (the others being the LID Swales on Lauzon Parkway itself, **Section 4.7**, and an SMP on Little River Golf Course, **Section 4.9**. The proposed solution at Meadowbrook Park is an underground storage facility. Meadowbrook Park abuts Lauzon Parkway on its western edge, Meadowbrook Lane on its eastern edge, and has residential subdivisions on its northern and southern boundaries. The Study Area does not cover the whole of the park, excluding a small strip across both its northern and southern edges (***Figure 4.8.1***). The Study Area is rectangular in shape, 105 by 112 metres, and just over a hectare in area. It contains a soccer pitch, basketball court and parking. Extant storm sewers are present along the south edge of the park, beyond the Study Area, and the east edge, partially within the Study Area (City of Windsor n.d.-b). The address for Meadowbrook Park is 2851 Meadowbrook Lane, and its historic lot designation is Part of Lot 125 Concession Two, Former Township of Sandwich East.

The proposed new SMF, Meadowbrook Park Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.8**.

4.8.1 SMF, Meadowbrook Park - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMF, Meadowbrook Park Study Area.

4.8.2 SMF, Meadowbrook Park - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the SMF, Meadowbrook Park Study Area.

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The Study Area is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

4.8.3 SMF, Meadowbrook Park - Environmental Factors

The topography of the SMF, Meadowbrook Park is level, and appears slightly raised above the surrounding landscape. Grading and filling for the construction of the park and its amenities has significantly altered the natural topography of the northern part of the Study Area, which on historic aerials appeared to slope down in the northeast corner to a tributary of Little River which crossed through the southeast quadrant of the Study Area. The remainder of the Study Area has also seen alterations, including the infilling of the tributary, but the level of disturbance is not as noticeable in the background research.

The Study Area is located over Brookston Clay soils (see **Section 1.3.2** for a detailed description). The presence of these soils indicate that the area has poor natural drainage.

The closest water course to the SMF, Meadowbrook Park is the Little River, which flows roughly south-north through the Little River Golf Course. At its closest point, the Little River is just over 200 metres from the east edge of Meadowbrook Park, but a tributary of Little River historically crossed the southeast corner of the Study Area (see ***Figures 4.8.2b*** and ***4.8.3***). The Little River is a tributary of the Detroit River, and would once have provided important habitat for a variety of wildlife including migratory birds and spawning fish. The waterway has been heavily modified and channelized in modern times.

4.8.4 SMF, Meadowbrook Park - Historical Research Summary

The SMF, Meadowbrook Park Study Area encompasses part of Lot 125, Concession Two, Sandwich East Township. Lot 125 was patented by Julien Langlois in 1817. The entirety of the Lot remained in the Langlois family at least into the 1930s. Expropriation of sections of Lot 125 for road construction occurred in the 1950s; subdivision and development of the lot for residential and other purposes also began around this time.

Table 4.8.1
SMF, Meadowbrook Park, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-Interior away from the river shown as undeveloped forest or swamp
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Benjamin Massac proprietor of all of Lot 125 Con 2 (and Con 1)
Map of Essex County H.F. Walling 180 Rods : 1 Inch	1877	-No name marked in Lot 125 Con 2
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-No owner/occupier for Lot 125 -School present at N end of Lot 125 on S side Tecumseh Rd -No road present between Lots 124 and 125

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Henry Langlois owner of all of Lot 125 -No road present between Lots 124 and 125
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.8.2a***	1912	-Little River present to the E of the SA -No development in the vicinity of the SA
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360	1940	No change from previous NTS map
423.824, *1954 Air Photos of Southern Ontario* [publisher unknown] ***Figure 4.8.3***	1954	-W-E ditch just N of SA, flows into Little R -SA and surrounding agricultural, w settlement along Tecumseh Rd -Tributary of Little R crosses SA, connects to drain to its SE; appears to have steep banks
Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 4.8.2b***	1961	-Unnamed tributary starts close to SE corner of SA, flows NE in an arc into Little R -W-E ditch present just N of SA, flows into Little R -Golf course present E of SA along Little R -No other changes from previous NTS map
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-No change from previous NTS map
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.8.2c***	1975	-Lauzon Pkwy runs from Tecumseh to N of ditch N of SA -Meadowbrook Lane present, ends at NE corner of SA -Pool and associated structure in N end Meadowbrook Park (accessed from Meadowbrook Lane) - pool is within SA -Subdivision construction underway along Meadowbrook Ln
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.8.2d***	2000	-Lauzon Pkwy: 2-lane road from Tecumseh S past E.C. Row -Meadowbrook Lane continues S past SA -Meadowbrook Park marked by a grey rectangle, no detail shown, completely surrounded by development
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.8.1a***	2000	-N end SA and edge of park, W-E: 2 tennis courts, 2 rectangular play areas, circular play area, parking lot -Remainder of park encircled by walkway, with softball diamond in the centre; surrounded by residential area -Lauzon Parkway is present on W side of SA

Document	Date	Comments
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	No change from previous aerial image
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.8.1b***	2006	-Rectangular play area feature on N-central edge of Park removed and parking lot on its E edge both replaced by grass
2008 Aerial *Public Interactive Mapping*, ERCA	2008	No change from previous aerial image
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	-Pitcher's mound in softball diamond no longer visible -Tennis court in state of disrepair
2013 Aerial *Public Interactive Mapping*, ERCA	2013	-No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Figure 4.8.1c***	2015	-Tennis court and circular play area removed -Rectangular play area resurfaced and expanded N -N part of walkway removed, walkway extended to arc around play area, basketball court added S of play area
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

A review of the available historic documentation indicates that the SMF, Meadowbrook Park Study Area was a small part of a larger agricultural parcel from the time of settlement into the late 20th century. A ditch connecting to the Little River was constructed just north of the Study Area in the late 19th or early 20th century, presumably to drain the surrounding low-lying agricultural fields. Subdivision and development of the agricultural land surrounding the Study Area began in the 1960s or 1970s, and in 1970 Patrick Maguire & Associates developed the precursor to Meadowbrook Park as a private area for their adjacent residential developments (City of Windsor n.d.-a). The private park included a pool and associated bathhouse; the pool was filled in and the bathhouse removed when the City acquired the property in 1985. By 2000 both Meadowbrook Lane and Lauzon Parkway had been extended past the park, which now contained tennis courts, walking paths, a softball diamond, and several play areas. The softball diamond was removed by 2010; the north end of the Park underwent redevelopment between 2013 and 2015, replacing the tennis courts and some of the play areas with extended walking trails and a new basketball court.

4.8.5 SMF, Meadowbrook Park - Historical Plaques

There are no historical plaques in the vicinity of the SMF, Meadowbrook Park Study Area.

4.8.6 SMF, Meadowbrook Park - Property Inspection Results

The Property Inspection for the SMF, Meadowbrook Park Study Area was conducted on 29 November 2019, under overcast skies with a high of 0 °C. Ground conditions and visibility were excellent, and there was no snow cover. The park was accessed from Meadowbrook Lane, and it was noted that the park is at a higher elevation than the road and surrounding housing complexes (see ***Plates 4.8-1 - 4.8-4***). A paved path circles the playing field which is currently graded for soccer. There is a basketball court in the northeast corner of the field, and parking and a playground in the north end. Sewer lines were noted on the southern and eastern

sides of the park, and a low berm across the south end of the park (***Plate 4.8-2***). The park appears to have been extensively landscaped through a combination of infill and grading. ***Figure 4.8-4*** provides images from the Property Inspection.

4.8.7 SMF, Meadowbrook Park - Archaeological Potential

The Study Area is rectangular in shape and just over a hectare in area. It is a public park containing a looped walking path, a soccer pitch, basketball court and parking. The northern end of the park has been extensively disturbed in the past and contained or still contains a number of facilities. These include a former pool and tennis court, a play area, parking lots and basketball court. The southern end contained a baseball diamond and appears to have been landscaped to some degree however its level of disturbance is unknown. A watercourse connected to the Little River also appears to have been present in the southeast corner of the Study Area, but was not shown after 1975. Therefore, based on the background research, the SMF, Meadowbrook Park has low archaeological potential in the northern section, and while there may have been disturbance to the remainder, it is being designated as having high archaeological potential due to the watercourse and unknown level of disturbance (see ***Figure 4.8.4***). The area of low potential is recommended for no further archaeological work, while the area of high potential is recommended for further assessment.

4.9 Proposed New Stormwater Management Pond, Lauzon Parkway, Little River Golf Course (ROAD-E4)

The third of the proposed solutions under the Lauzon Parkway corridor is the construction of a new Stormwater Management Pond (SMP) on the Little River Golf Course. The other two solutions are the Lauzon Parkway LID Swales (**Section 4.7**) and the Meadowbrook Park SMF (**Section 4.8**). The Study Area for the proposed Little River Golf Course SMP is almost the entire golf course (***Figure 4.9.1***), providing flexibility for the final design of the SMP. The golf course is bounded on the north and west by residential housing, on the east by Lauzon Road, and on the south by a combination of green space and residential housing. Little River flows roughly south to north through the centre of the Study Area. The northern limit of the Study Area is approximately 540 metres south of Tecumseh Road. Three extant storm sewers are present within the northern half of the Study Area and a sanitary sewer that runs along the west edge of Lauzon Road crosses into the northeast corner of the Study Area (City of Windsor n.d.-b). The golf course is located at 2861 Lauzon Road and its entrance is off Lauzon Road near Vince Drive. Its historical lot designation being Part of Lots 126 and 127, Concession Two, Former Township of Sandwich East.

The proposed new SMP, Little River Golf Course Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.9**.

4.9.1 SMP, Little River Golf Course - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMP, Little River Golf Course Study Area.

4.9.2 SMP, Little River Golf Course - Previous Archaeological Work

There are three previous archaeological reports for work within 50 metres of the SMP, Little River Golf

Course Study Area.

1) Cultural Resource Management Group Limited (2019). *Stage 1: Archaeological Assessment Report, 3129 Lauzon Road, Part of Lot 127, Concession 2, Geographic Township of Sandwich, City of Windsor, Essex County, Ontario*. PIF P109-0065-2017. Report on file at MHSTCI.

In 2017, CRM Group conducted a Stage 1 background study for a property abutting the east edge of the Little River Golf Course. The report determined that the property had high potential for Indigenous archaeological resources based on environmental factors and the presence of historically-documented Indigenous trails in the vicinity of modern-day Tecumseh Road (CRM Group 2019a:12). The report also determined that the property had moderate potential for historic Euro-Canadian archaeological resources, and that the entire property should be subjected to Stage 2: Assessment, except within the footprints of the extant driveway and residential structures (CRM Group 2019a:14).

2) Cultural Resource Management Group Limited (2019). *Stage 2: Archaeological Assessment Report, 3129 Lauzon Road, Part of Lot 127, Concession 2, Geographic Township of Sandwich, City of Windsor, Essex County, Ontario*. PIF P109-0069-2017. Report on file at MHSTCI.

Following through on recommendations from the Stage 1 background study for 3129 Lauzon Road (see above), CRM Group conducted a Stage 2: Assessment shovel test pit and pedestrian survey in 2017. Nothing of cultural heritage value or interest was identified during the assessment, and no further archaeological work was recommended for the property (CRM Group 2019b).

3) Cultural Resource Management Group Limited (2019). *Stage 1 & 2: Archaeological Assessment Report, 3100 Meadowbrook Lane, Part 1 of 12R-10427, Parts 3 and 8 of 12R-838, Part of Lots 125 and 126 Concession 2, Geographic Township of Sandwich East, City of Windsor, Essex County, Ontario*. PIF P109-0087-2018. Report on file at MHSTCI.

In 2018, CRM Group conducted a Stage 1 & 2 background study and assessment for a property abutting the west edge of the Little River Golf Course. The background study determined that the property had high potential for Indigenous archaeological resources, and moderate potential for Euro-Canadian archaeological resources (CRM Group *et al.* 2019c:12-13). The property was subsequently subjected to Stage 2 assessment via pedestrian survey and shovel test pitting, but nothing of cultural heritage value or interest was encountered; no further archaeological work was recommended for the property (CRM Group *et al.* 2019c:19).

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The Study Area is not associated with any high-potential historic period settlement areas identified by the WAMP, but is within the buffer zone for a water course (CRM Group *et al.* 2005: Figure 1).

4.9.3 SMP, Little River Golf Course - Environmental Factors

The topography of the SMP, Little River Golf Course Study Area was originally almost level with a slight, gradual slope down from the west. A steeper embankment has formed along much of the Little River where it cuts through the Study Area.

The Study Area is located over Brookston Clay soils (see **Section 1.3.2** for a detailed description). The

presence of these soils indicate that the area has poor natural drainage.

The Little River flows roughly south to north through the entire length of the golf course, turning eastwards in the north end to cross Lauzon Road. Historically a tributary would have connected to Little River across the western half of the Study Area. The Little River is a tributary of the Detroit River, and would once have provided important habitat for a variety of wildlife including migratory birds and spawning fish. The waterway has been heavily modified and channelized in modern times.

4.9.4 SMP, Little River Golf Course - Historical Research Summary

The proposed New Stormwater Management Pond, Little River Golf Course Study Area is situated within part of the 18th century Lot 126 and Lot 127, Concession Two L' Assumption (later Sandwich East Township). The 1793 list of Inhabitants of the L' Assumption Settlement with claims for land in the Second Concession, listed Benjamin Marsac for Lot 126 and Jacques Louisant (later spelt Lauzon) for Lot 127, both lots being three arpents (~175.4 metres) in width (Lajeunesse 2010:177).

Lot 126 Concession Two

The Crown Patent for Lot 126, Concession Two was granted in 1843 to Eli and Oliver L'Esperance (Lesperance) (Teranet and ServiceOntario n.d.). The Land Registry Patent stated Eli L'Esperance was granted two thirds and Oliver was granted one third of Lot 126 Concession, One and Two, McNiffs survey, including a total of 250 acres (Teranet and ServiceOntario n.d.: #500). Although later in 1843, Oliver Lesperance claimed the undivided two thirds of Lot 126 and from 1845 to 1867, he subdivided the lot, with Henry Langlois granted 46 ½ arpents (~18.79 hectares) of Lot 126 Concession Two (Teranet and ServiceOntario n.d.).

From 1894 to 1896, Albert Drouillard, purchased parts of the rear east half of Lot 126, Concession Two consisting of 39 arpents (~15.8 hectares), including the majority of the south west part of the Study Area (Teranet and ServiceOntario n.d.). Henry Langlois retained the north part of the Study Area within Lot 126, Concession Two. Through a Power of Sale in 1902, Francis Comartin attained part of the east side of Lot 126 (Teranet and ServiceOntario n.d.). The east part of Lot 126, Concession Two was exchanged between Francis Comartin and John Scott various times, until 1913, when the southeast side of the Study Area was sold to James W. Roiser, Real Estate Agent (Teranet and ServiceOntario n.d.). At this time, James W. Roiser also owned the east part of Lot 127.

Lot 127 Concession Two

In 1838, Francis Charles Lauzon granted Antoine Morand 112 acres of part of Lot 127 Concession Two (Teranet and ServiceOntario n.d.). Although it was not until 1847, that the Crown Patent was granted to Jean Baptiste Lauzon for part of Lot 127, Concession Two as well as Concession One, comprised of 275 acres in total (Teranet and ServiceOntario n.d.).

After 1840, smaller parcels were granted along Tecumseh Road, along Lauzon Road and in the rear. Interesting to note, in 1852 Henry Bibb, through a Detroit merchant John Park, purchased eight acres north, adjacent to the Study Area along Lauzon Road (Teranet and ServiceOntario n.d.). Henry Bibb founded the abolitionist newspaper, *The Voice of the Fugitive*, printed in Sandwich (WPL 2016). He died in 1854 and his wife, Mary sold the property in 1871 (Teranet and ServiceOntario n.d.).

In 1858, a Release granted part of Lot 127 to Francis Drouillard, a Carpenter, and in 1877, he granted the

Corporation of Sandwich East a strip of land to construct a road, Lauzon Rd, on the east boundary of Lot 127, Concession Two (Teranet and ServiceOntario n.d.). In 1888, he granted his son, Albert Drouillard part of Lot 127 Concession Two, Township of Sandwich East (Teranet and ServiceOntario n.d.).

From 1888 to 1896, Albert Drouillard was proprietor of 72 ¾ acres of Lot 127, in which the Study Area is situated (Teranet and ServiceOntario n.d.). Albert Drouillard, a customs officer, sold the land in 1896, but in 1902, under Power of Sale, the 72 ¾ acres of Lot 127 was granted to Francis Comartin.

Study Area

The 1892 Assessment Roll listed F. Drouillard as proprietor of the south east part of Lot 126 and part of Lot 127 consisting of 87 acres, including 17 acres of wood, two acres of orchard and three acres of winter wheat, with a tenant living on the property (Teranet and ServiceOntario n.d. 1892:25).

In 1913, James W Roiser, Real Estate Agent, purchased two parts of Lot 127 composed of 64 acres, and the adjacent east part of Lot 126 (Teranet and ServiceOntario n.d.). In 1925, he leased his part of Lot 126 and Lot 127, Concession Two to the Little River Golf Club Limited, and in 1926, sold the 11 acres southeast of Little River to Walter J. Hales, a Building Contractor, for house construction (LRI #18004).Instrument 18004 is a Plan sketch of the properties with the Little River drawn and a note on it's west bank "create this edge" (Teranet and ServiceOntario n.d. #18004).

The following is a list of viewed documents outlining the development of the proposed New Stormwater Management Pond, Little River Golf Course Study Area.

Table 4.9.1
SMP, Little River Golf Course, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-No settlement in the vicinity -Little R not depicted inland
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Lot 126 Benjamin Marsac -Lot 127 Jacques Lauzon
Map of Essex County H.F. Walling 180 Rods : 1 Inch ***Figure 4.9.2***	1877	-Drouillard proprietor of E side of Lot 126 -Structure in Lot 26 NW of SA -Drouillard proprietor of part of Lot 127 along Lauzon Rd
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-No proprietor listed on Lots 126 and 127

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Lot 126 Henry Langlois, R & B Drouillard -Lot 127 Albert Drouillard -Ditches run from the W to Little R
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.9.3a***	1912	-Little River flows S-N through SA -Tributary crosses Lauzon Rd at S boundary of SA (bridge) -Lauzon Rd present on E edge of SA -No structures present on W side of Lauzon Rd
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	-No structures within SA -Little R on W side of Lauzon Road, trees along river -Homes along Tecumseh Rd, one structure on E side Lauzon Rd S of the N bridge on Lauzon Rd
Instr. 18004, Plan of Parts Lots 126 & 127 Con 2, Sandwich East Historical Books, Essex (LRO12) *Onland*, Teranet and ServiceOntario	1926	-Property subdivided into relatively large parcels, fences noted -River depicted with a note on its W bank "create this edge'
Page 92 & 93, *Essex Border Maps 1929-1959* H.W. Patterson	1929	-Golf Course starts just S of point where Little R crosses Lauzon Rd in Lot 127, starts further S in E half Lot 126 -GC ends at S tributary on E side of Little R and extends S on W side of river in part Lot 126 and Lot 127
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	-No structures or roads within SA or to the W of SA -Hydro Electric Power Line runs along Lauzon Rd -Little R within SA, 600ft elevation contour line to W of SA
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360	1940	-Structure at N end of SA on N side of Little R -No other structures in SA, no roads W of SA -Poles along W side of Lauzon Rd
1954 Air Photos of Southern Ontario [publisher unknown] ***Figure 4.9.4***	1954	-SA of E half of Lot 126 a small area of agricultural field in the N, and then GC for the majority of SA -Tributary flows in from W across the N half of SA -GC within Lot 127 from where Little R crosses Lauzon Rd where Little R exits Lot 127 -Trees line Little R and vary in density
Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 4.9.3b***	1961	-GC present along Little R in S part of SA and E side of Little R along Lauzon Rd -One structure (club house) within SA centre of E half
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-GC extended in NW part of SA w/ ditch along N boundary -Club house in centre of E part of SA -Bridges crossing Little River -1 structure near centre bridge on E side of Little R -4 ditches extend from W to Little R at various places

Document	Date	Comments
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.9.3c***	1975	-GC boundaries same as present -Footbridges depicted -Treed areas along Little R -Contour lines along river and centre-west part noted as 590
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-Ditching leading to Little R -Planted trees -GC layout same as present
Google Earth Satellite Image Maxar Technologies ***Supplementary Figure 4.9.1***	17 July 2001	-GC layout same as present, though with fewer formal paths
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	No change from previous aerial image
2008 Aerial *Public Interactive Mapping*, ERCA	2008	No change from previous aerial image
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	-Path added from N side of parking lot on Lauzon Rd across from Faholo Crescent - No other changes from previous aerial image
2013 Aerial *Public Interactive Mapping*, ERCA	2013	No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2015	No change from previous aerial image
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

A review of the available historic documentation indicates that due to the Little River course winding through the Study Area, historic settlement of the Study Area had been not desirable. Ownership of the property was primarily resource based and speculative, although seasonal flooding may have been an issue. The Assessment Roll of 1892 identifies areas of woods and orchards within the Study Area (Teranet and ServiceOntario n.d.). By 1913, the area was purchased by a Real Estate Agent, James W Roiser, who was instrumental in the creation of the Little River Golf Course in 1925. The Golf Course continued to expand to include the northwest parcel by 1962. Construction of Golf Club building, pathways, bridges, golf holes and fairways have led to modifications of the Study Area.

4.9.5 SMP, Little River Golf Course - Historical Plaques

There are no historical plaques within the vicinity of the Little River Golf Course SMP Study Area.

4.9.6 SMP, Little River Golf Course - Property Inspection Results

The Little River Golf Course SMP Study Area was subjected to two Property Inspections, one on 29 November 2019 and the other on 30 January 2020. Weather for 29 November was overcast and breezy, with a high of -2 °C; 30 January was partly cloudy, with a high of -1 °C. Lighting and ground conditions were

good both days, with no snow cover. In the autumn of 2019 the focus was on the west side of the Little River, with access through the main entrance. While topography and conditions were noted on the east side of Little River, photographs were not taken at that time. Subsequently, the Study Area expanded to include the whole of the Golf Course and a second Inspection was undertaken in 2020 for the east side. While the Golf Course was closed for admittance in January, the eastern side could be viewed and photographed from the adjacent Lauzon Road.

The Little River tributary crosses Lauzon Road at the north end of the Study Area's east boundary. The River consists of a steep bluff with heavy bush and trees along most of its length within the Study Area (***Plate 4.9-1***). Within the Golf Course, the River has been channelized and storm drains flow from the adjacent residential areas underground and/or through open side-channels into the River (***Plate 4.9-3***).

The Golf Course consists of fairways, scattered shade trees, walking paths and bridges, in a manicure lawn setting. The originally flat and level topography has been altered to create hills and valleys. Some areas have been extensively modified to create a hilly terrain (see ***Plate 4.9-4***). The Golf Course parking lot is located on the east side in the northern half, and is composed of asphalt with concrete curbs. Two buildings are positioned on the west side of the parking lot and a fenced propane storage area is to the south. High nets are positioned along the eastern boundary within close proximity to Tee areas in order to prevent balls from going on Lauzon Road (***Plate 4.9-6***). A smaller structure is located at the northeast corner, south of Little River with utilities within close proximity. While there are clearly areas of extensive land alteration from the formation of the Golf Course and the sewers, in other sections the degree of landscaping is less obvious. See ***Figure 4.9.5*** for images from the Property Inspections.

4.9.7 SMP, Little River Golf Course - Archaeological Potential

The Study Area for the proposed Little River Golf Course SMP is almost the entire golf course (***Figure 4.9.1***), providing flexibility for the final design of the SMP. The golf course is bounded on the north and west by residential housing, on the east by Lauzon Road, and on the south by a combination of green space and residential housing. Little River flows roughly south to north through the centre of the Study Area. The whole of the Study Area would originally have had high archaeological potential due to the proximity of the Little River. However, based on the background study, the Golf Course has a mix of potential. There is a small area that can be confirmed as disturbed, since it is a parking lot on the central eastern portion of the Study Area. There are two areas that can be considered to possibly retain high potential, but there has been landscaping and grading for the construction of the Gold Course, and therefore, probably have sections of both extensive disturbance, and areas still retaining potential. These sections are in the northeast and western central areas of the Study Area. The remaining areas have been indicated to retain archaeological potential due to having a more natural looking topography. Further archaeological work is recommended for those areas that could still retain potential (See ***Figure 4.9.5***).

4.10 Proposed New Stormwater Management Facility (Underground Storage), Commercial Lands, Wyandotte at Watson (ROAD-E9)

The proposed new Stormwater Management Facility (SMF), Commercial Lands, Wyandotte at Watson provides for construction of two underground stormwater surcharge storage features (Dillon and Aquafor 2020b:21). The Study Area provided by Dillon Consulting Limited, at just over three hectares, provides scope for both storage facilities and a construction zone (see ***Figure 4.10.1***). It is an irregular shaped area of approximately 320 by 135 metres at its maximum dimensions. Currently the Study Area consists of a

shopping plaza (asphalt parking, structures, vacant grassed areas) and vacant lands. There is an extant storm sewer crossing the southwest edge of the Study Area while extant sanitary and other storm sewer lines are in the road ROWs just beyond the Study Area boundaries (City of Windsor n.d.-b). The Study Area is bounded on the west by Watson Avenue, on the south by Wyandotte Street East, on the north by residential backyards and the main plaza structure, and on the east by a residential neighbourhood. The plaza's address is 8380 Wyandotte Street East. The historic lot designation is Part of Lots 129 and 130, Concession One, Former Township of Sandwich East.

The proposed new SMF, Wyandotte at Watson Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.10**.

4.10.1 SMF, Wyandotte at Watson - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMF, Wyandotte at Watson Study Area.

4.10.2 SMF, Wyandotte at Watson - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the SMF, Wyandotte at Watson Study Area.

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The Study Area is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

4.10.3 SMF, Wyandotte at Watson - Environmental Factors

The proposed SMF, Wyandotte at Watson Study Area is located approximately 600 metres from the original Little River channel and approximately 700 metres from the Detroit River. A tributary crossed the southwest corner and lower lying west area of the Study Area as visible on the 1947 Aerial Photo (***Figure 4.10.3***).

The Study Area is south of the point of land jutting out into the Detroit River between Belle Isle and Peche Island and is at a lower elevation than areas to the southwest. The Study Area is within the undulating Clay Plain and soil composition is Clyde Clay, a deep black clay over mottled blue grey clay (CRM *et al.* 2005). See **Section 1.3.2** for more details about soil.

4.10.4 SMF, Wyandotte at Watson - Historical Research Summary

The proposed SMF, Wyandotte at Watson Study Area is within part of Lot 129 and Lot 130, Concession One, former Sandwich East Township (Teranet and ServiceOntario 2020b). Due to the point of the shoreline in this area and southeast curve of the shoreline on the east side, Lots 129 to 131 became wedge shaped. Lot 129 and Lot 130 extend back to intersect Lot 132 in the rear. The lot boundaries were shifted at various times and Lot 129 was divided into East and West sections, as reflected on the present Land Registry mapping.

Lot 129
In 1792, Madame Marsac and L. Desaulnier were listed as proprietors of Lot 129 in the settlement of L' Assumption (Lajeunesse 2010). Dated in 1795, but registered in 1809, Louis Desaulnier granted William Macomb the east part of Lot 129 (Teranet and ServiceOntario n.d.). A Crown grant was issued in 1808 to Jean Baptiste Mireau for all 136 acres of Lot 129 West (Teranet and ServiceOntario n.d.). The lot exchanged hands several times, although entries after 1808 focus on the west side of Lot 129, Concession One until 1890, when Remi Cecile was listed as proprietor of Lot 129 East and West, Concession One (Teranet and ServiceOntario n.d.). In 1895, Margaret Lockbeiler was granted 125 acres of Lot 129 West (Teranet and ServiceOntario n.d.). The lot remained primarily agricultural in the vicinity of the Study Area until the incorporation of the Town of Riverside in 1921.

Lot 130
In 1792, Baptiste Meloche was listed as proprietor of Lot 130 in the settlement of L' Assumption (Lajeunesse 2010). The Crown Patent for Lot 130, Concession One, granted to Morish Moran in 1804, consisted of 30 acres (Teranet and ServiceOntario n.d.). In 1827, Paul Leduc was granted all of Lot 130, Concession One (Teranet and ServiceOntario n.d.). Paul Leduc, a carpenter and wood supplier, retained the lot until 1866, at which time Joel Parent, a farmer, became proprietor (Teranet and ServiceOntario n.d.; Government of Canada 1861). By 1875, Remi Cecile *et al.* were granted Lot 130, Concession One described as the West half of the "Gore" (Teranet and ServiceOntario n.d.). The lot remained primarily agricultural in the vicinity of the Study Area until the incorporation of the Town of Riverside in 1921.

After the incorporation of the Town of Riverside in 1921, development began expanding eastward. Various subdivisions were constructed north and west of the Study Area. Subdivision Plan 1628, planned in 1955, but not registered until 1964, included Block A, which is the western part of the Study Area (Teranet and ServiceOntario n.d.). In 1963, Plan 1627 was registered to construct a Subdivision in part of Lot 129 and part of Lot 130 and included Block A which is the eastern part of the Study Area (Teranet and ServiceOntario n.d.).

The following is a list of viewed documents outlining the development of the proposed New Stormwater Management Facility, Wyandotte at Watson Study Area.

Table 4.10.1
SMF, Wyandotte at Watson, Summary of Historical Records

Document	Date	Comments
Plan 27 Sandwich Township [author unknown]	n.d.	-Lots are overlapping in the rear and 131 is a wedge -Lot 129 extends back to meet Lot 132 -Lot 129W J. B. Mireau 136 acres -Lot 129E John Macom Villiers -Lot 130 Maurice Moran
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-Lot 129 wide lot, no divisions noted on map -Lot 130 narrow lot stops at wedge of Lot 129 and Lot 132 -No structures or individuals noted

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-Lots 129E and Lot 130 Remi Cecile -Lot 129E boundary hash lined in -Lot 129W Don A Lockbeiler -Lot 129E boundary line dashed (indicating boundary discrepancies) -Lot 129 and Lot 130: dashed boundary lines
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 4.10.2a***	1912	-No roads or structures in vicinity of SA -Lauzon Rd present
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Sheet B, *Insurance Plan of Walkerville, embracing Ford City, Riverside and Tecumseh* Underwriters' Survey Bureau Ltd. 800 Feet : 1 Inch	1924	-No sheet for SA -Riverdale Ave depicted -Proposed streets include Ottawa (Wyandotte) -Development S of Detroit R and NW of SA
Page 9, *Essex Border Maps 1929-1959* H.W. Patterson	1929 - 1959	-Farm Lots 129W, 129E and 130 boundaries noted -Block A (Plan 1628) -E and centre part of SA not designated within a Plan
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360	1931	-Watson Rd extends past Ottawa St (Wyandotte) -Ottawa St stops at Watson Ave -No roads or structures N or E in vicinity of SA
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360 ***Figure 4.10.2b***	1940	-Watson Ave indicated as dashed line -Wyandotte does not extend past Watson Ave
Page 53 [photo], *Our Town: A History of Riverside, Ontario, 1921-1966 (Vol 1)* R. Fullarton	*ca.* 1940s	-View along Wyandotte St across Frank Ave
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000 ***Figure 4.10.3a***	1947	-SA is agricultural field, Wyandotte gravel road -Watson not constructed in vicinity of SA -Houses W of Laporte Ave along Wyandotte -Tributary visible across W end of SA; field by tributary looks wet
Page 307 & 300, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd. 100 Feet : 1 Inch	1953	-Only W part included in Sheet 307 -Sheet 300 notes proposed extension of Wyandotte past Watson Ave -No structures in SA
1954 Air Photos of Southern Ontario [publisher unknown]	1954	-Development of Lot 129W E of Watson Ave & NW of SA -Wyandotte Rd extends to Riverdale -Centre and E part of SA agricultural field

Document	Date	Comments
GA-1-27, *City of Detroit Aerials* [publisher unknown] ***Figure 4.10.3b***	1956	-W part of SA construction site with house construction along Watson St, John St, and Menard St N of SA -Wyandotte extends to Riverdale as gravel road -Centre and E part of SA still agricultural fields
FM-25-23, *City of Detroit Aerials* [publisher unknown]	1961	-Subdivisions to the E, N & W of SA; SA undeveloped -Menard St extends to Riverdale
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	-SA within undeveloped area -No structures in the SA -Subdivisions E and W of SA -No ditches or tributaries in vicinity
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.10.2c***	1975	-'Shopping Centre' building is centred in rear of SA and smaller than current structure -Menard St does not extend behind shopping centre building -No other structures in the SA
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figure 4.10.1a***	1988	-Shopping centre building expanded to E edge -Large drainage feature in SW corner of SA extends S across Wyandotte -One access to parking in centre of SA off Wyandotte -Possible greenhouse/construction trailer in centre of SA -Parking lot shown
MyWindsorAerial *MappMyCity* City of Windsor	2000	-W part SW corner filled in drainage area -Parking lot has 2 accesses & has been expanded -Ditch S through centre of SA, tree in centre part -footpath extends SE from corner of parking area in east part of SA
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 4.10.1b***	2000	-central ditch barely noticeable & footpath also less noticeable then on the MyWindsor photograph (above) - rest is very similar
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000 ***Figure 4.10.2d***	2000	-Shopping centre main structure is in current formation, with foot of 'L' building in the SA; no other structures in SA -Menard St does not continue behind the plaza
MyWindsorAerial *MappMyCity* City of Windsor	2010	No change from previous aerial image
MyWindsorSewerSystem *MappMyCity* City of Windsor	2020	-Sewers along all of surrounding roadway -No sewers within SA

The historical documents reflect the slow development of the proposed SMF, Wyandotte at Watson Study Area. Although potentially used for lumber resources in the early 19th century to supply Paul Leduc's lumber business, the Study Area was primarily within agricultural fields for much of the past 200 years. Development grew to the west of the Study Area after the creation of the Town of Riverside, but it was not until the early

1960s that the Study Area became surrounded by subdivisions. During the construction of Subdivision Plan 1628, in 1956, the west side of the Study Area appeared to be used as a staging area, with a construction office and storage area (see ***Figure 4.10.3***). A watercourse that had been present in the mid 20th century in the southwest corner had disappeared by 1975, and a water management feature was excavated in this corner. By the early 1970s, the construction of the Shopping Centre and parking areas had impacted most of the Study Area. Expansion in the 1980s, increased the size of the parking area in the centre part of the Study Area and extensive ditching in the southwest corner occurred (***Supplementary Figure 4.10.1a***). Fill is present in the southwest corner as well as along the later constructed access driveway, on the east side of the Study Area.

4.10.5 SMF, Wyandotte at Watson - Historical Plaques

There are no historical plaques in the vicinity of the SMF, Wyandotte at Watson Study Area.

4.10.6 SMF, Wyandotte at Watson - Property Inspection Results

The Property Inspection of the proposed SMF location at the northeast corner of the intersection with Wyandotte Street East and Watson Avenue, including part of 8380 Wyandotte Street East was conducted on 28 November 2019, and 30 January 2020. The weather was overcast and cold with a high of 2 °C in November, and -1 °C in January. Lighting and ground conditions were good on both visits, with no snow cover. The second Property Inspection was to cover an expansion to the Study Area.

The Study Area includes a vacant lot at the corner of Wyandotte and Watson, and a portion of the shopping plaza at 8380 Wyandotte St. East (***Figure 4.10.4***). The latter includes the plaza's parking lot and driveways, one modern structure within the plaza, and two lawns fronting Wyandotte St. East. The Study Area is bounded by streets on the west and south, the main plaza structure on the north along with an existing SMP, and residential backyards, and a subdivision on the east. Within the Study Area the western lawn/vacant lot has channels and low spots collecting and directing water and forming an irregular surface (***Plate 4.10-3***). Whether these were planned or a consequence of previous construction or demolition grading is unclear. The central lawn section, between the parking and eastern driveway, is primarily flat with a very shallow ditch extending from the Wyandotte sidewalk, alongside a large tree, north to the parking lot (***Plate 4.10-2***). The eastern lawn also has minimal topography, the lawn being generally flat, and there is an unofficial footpath bisecting the area on an angle from the southeast to northwest corner (***Plate 4.10-1***). See ***Figure 4.10.4*** for images from the Property Inspection.

4.10.7 SMF, Wyandotte at Watson - Archaeological Potential

The proposed new Stormwater Management Facility (SMF), Wyandotte at Watson is an irregular shape. Currently the Study Area consists of a shopping plaza (asphalt parking, structures, vacant grassed areas) and vacant lands. The west end of the Study Area, although it appears to have contained a watercourse, has been extensively disturbed from previous construction, and earth moving activities such as the excavation of a water management feature in the southwestern corner. Most of the Study Area consists of a large strip mall shopping facility with parking. These areas are considered to have low archaeological potential, while the grassed areas in the southeastern section are considered to retain high archaeological potential due to lack of evidence of extensive disturbance, and their proximity to a watercourse (see ***Figure 4.10.4***). Therefore, further archaeological work is recommended for those areas indicated as having high potential, while no further archaeological work is recommended for those areas indicated as having low potential.

4.11 Proposed New Stormwater Management Facility (Underground Storage), Roseville Public School & Roseville Garden Park (ROAD-E11)

The proposed new Stormwater Management Facility (SMF), Roseville Public School and Roseville Garden Park involves underground stormwater storage within the Park and the school's greenspace. The Study Area, situated east of the school building, is rectangular and covers almost four hectares (***Figure 4.11.1***). Its dimensions are approximately 235 by 165 metres. It is bounded on the north by Roseville Garden Drive, on the east by a residential complex, on the south by commercial/industrial/professional businesses that front Hawthorne Drive, and on the west by the remainder of the school property including the school itself. The Study Area is opposite Thornberry Crescent on its north side.

The Study Area consists of a maintained lawn with a few trees, playground, ball diamond, a jogging trail that loops out from the school around the western half of the Study Area, and part of the Windsor Trail, a multi-use trail that crosses the eastern end of the Study Area. An extant storm sewer runs along the north and east boundaries of the Study Area, with a sanitary sewer also present along the east boundary (City of Windsor n.d.-b). The Park, at 6405 Roseville Garden Drive, forms the western portion of the Study Area and contains the playground and jogging trail. It separates the School (6265 Roseville Garden Drive) from the additional school grounds containing the playing field and ball diamond which form the east part of the Study Area. The historical lot designation for the Study Area is Part of Lots 119 and 120, Concession Two, Former Township of Sandwich East.

The proposed new SMF, Roseville School and Park Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.2**) in conjunction with **Section 4.11**.

4.11.1 SMF, Roseville School & Park - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMF, Roseville School and Park Study Area.

4.11.2 SMF, Roseville School & Park - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the SMF, Roseville School and Park Study Area.

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The Study Area is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

4.11.3 SMF, Roseville School & Park - Environmental Factors

The topography of the SMF, Roseville School and Park Study Area appears mostly level. This uniform topography may be a result of artificial levelling for the creation of the park, and not reflective of natural conditions.

The Study Area is located over Brookston Clay Loam soils (see Section 1.3.2 for a detailed description). The presence of these soils indicate that the area has poor natural drainage.

4.11.4 SMF, Roseville School & Park - Historical Research Summary

The SMF, Roseville School and Park Study Area encompasses part Lots 119 and 120, Concession Two, Sandwich East Township. All 150 acres of Lot 119 were patented by Pierre Belleperche in 1842, who had purchased them from Francois Dequindre in 1823. All of Lot 120 was patented in 1842 by Pierre Demouchelle (var. Dumouchel), who had purchased them from Vital Demouchelle in 1835.

Table 4.11.1
SMF, Roseville School & Park, Summary of Historical Records

Document	Date	Comments
Carte de la Riviere du Detroit depuis le Lac Erie jus'ques au Lac Ste. Claire G-J Chaussegros de Léry ***Figure 1.5***	1749/1752	-Interior away from the river shown as undeveloped forest or swamp
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Pierre St Louis named in Lot 120, Con 2 -Name of owner for Lot 119, Con 2 illegible
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 4.2***	1881	-Francis P. Janisse owner of 70ac in Lot 120, Con 2 -No owner listed for Lot 119 -Tecumseh Rd present along N edge of both lots
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-"McKee" owner of N half of Lot 119, Con 2 -"*illegible* Mailloux" owner of all of Lot 120, Con 2 -Road allowance runs along N edge of both lots
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360	1912	-SA vicinity completely undeveloped, structures located immediately adjacent to Tecumseh Rd
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360 ***Figure 4.11.2a***	1920	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360 ***Figure 4.11.2b***	1931	-"Can. Nat. Rys." track present to the W of SA -No other development within or close to SA
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360	1940	No change from previous NTS map
423.824, *1954 Air Photos of Southern Ontario* [publisher unknown] ***Figure 4.11.3***	1954	-Ditch runs W-E close to SA in approximate location of modern Roseville Garden Dr, empties into Little R -SA consists of agricultural fields

Document	Date	Comments
Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000	1961	-Ditch visible in 1954 aerial marked on map -No other development in vicinity of SA
Riverside, Ontario 40J07D (Ed. 2) Dept of Energy, Mines and Resources Scale 1 : 25,000	1962	No change from previous NTS map
Riverside, Ontario 40J07D (Ed. 3) Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 4.11.2c***	1975	-Roseville Garden Dr present; ditch is on N side of road -No development shown on S side of Roseville Garden Dr
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000	2000	-School present on S side Roseville Garden Dr W of SA -Hawthorne Dr present S and Vine Ct present E of SA
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-SA a park, w baseball diamond over most of E half, some paths and a few trees in W half, and path across NE corner -Neighbourhoods around SA mostly residential or industrial, with commercial corridor along Hawthorne Dr -School present on W side of SA
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	No change from previous aerial image
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	No change from previous aerial image
2008 Aerial *Public Interactive Mapping*, ERCA	2008	No change from previous aerial image
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	No change from previous aerial image
2013 Aerial *Public Interactive Mapping*, ERCA	2013	No change from previous aerial image
2015 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2015	No change from previous aerial image
2017 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	No change from previous aerial image

A review of the available historic documentation indicates that the SMF, Roseville School and Park Study Area was a small part of a larger agricultural parcel from the time of settlement into the late 20th century. A ditch connecting to the Little River was constructed just north of the Study Area in the late 19th or early 20th century, presumably to drain the surrounding low-lying agricultural fields. Subdivision and development of

the agricultural land surrounding the Study Area began in the 1960s or 1970s: Roseville Garden Drive was constructed by 1975, and the neighbourhoods around the Study Area developed between 1975 and 2000. By 2000 the Study Area had been developed into a park with a baseball diamond and walking paths.

4.11.5 SMF, Roseville School & Park - Historical Plaques

There are no historical plaques in the vicinity of SMF, Roseville School and Park Study Area.

4.11.6 SMF, Roseville School & Park- Property Inspection Results

The Property Inspection for the SMF, Roseville School & Park Study Area was conducted on 29 November 2019, under overcast skies and with a high of -2 °C. Visibility and ground conditions were excellent, and there was no snow cover. The Study Area is primarily open lawn with a playground on its north side (***Plate 4.11-1***), a ball diamond at the south end (***Plate 4.11-4***). It also has scattered trees around the perimeter and in the playground section. The jogging track is a narrow asphalt path around the western half (***Plate 4.11-2***), while the Windsor Trail is a broader, paved path crossing the northeast corner and running along the east end. A berm was noted at the rear of the adjacent properties to the south and is possibly slightly within the Study Area in the southeast quadrant. While some landscaping will undoubtedly have been conducted for some of the park features, in general the terrain does not appear to have been extensively disturbed. ***Figure 4.11.4*** presents images from the Study Area.

4.11.7 SMF, Roseville School & Park - Archaeological Potential

The SMF, Roseville School & Park has mostly been agricultural in land use up to the last quarter of the 1900s. While there does not appear to have been any extensive land disturbance, and the area is currently a park, there are no criteria that would act as triggers for an archaeological assessment. The WAMP (CRM Group *et al.* 2005: Figures 1 & 2) places the Study Area within an area of low potential, and this current background study indicates that no criteria were found which would negate the WAMP's observations. Therefore, the whole of the SMF, Roseville School & Park Study Area is deemed to have low archaeological potential (***Figure 4.11.4***), and no further archaeological work is recommended.

4.12 East Windsor Sewershed - Summary of Potential

The Stage 1 Background Study results for the 11 East Windsor Sewershed solutions has determined that all but one location will require Stage 2 Assessment. Only Roseville Public School and Park SMF (ROAD-E11) has low archaeological potential for the whole of the Study Area (***Figure 4.11.4***). The remainder all have sections of both high and low potential within their individual Study Areas, and these are indicated on their individual Potential and Recommendation figures. Archaeological potential was based on detailed background research and Property Inspections. **Table 4.12.1** provides a summary of the potential and recommendations for each location, while **Section 8.2** presents the detailed recommendations.

Table 4.12.1
East Windsor Sewer Shed Solutions - Archaeological Potential Summary Chart

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Arch. Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
4.1	East	Detroit River/Riverside	New St. Rose Pump Station	PS-E-ROSE	On Detroit River shoreline, most of Study Area is infill with only a narrow strip of original land north of Riverside Dr E.	Early French farm lot, no known structures; late 20th C infill	No	Level, park setting; low berm parallel to Riverside Dr E along the edge of ROW	High (original shoreline) & Low (made-land)	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]
4.2	East	Detroit River/Riverside	Upgrades, Regional Area 3, Ford Pump Station	PS-E-FORD	On Detroit River shoreline, modified shoreline	Early French farm lot; no known structures; park land in 20th C	No	Level park lawn, paved paths, outfall & lift station at river, utilities present.	High (original shoreline) & Lot (made-land)	Stage 2 Assessment for part of the Study Area
4.3	East	Detroit River/Riverside	Expansion, Regional Areas 1&2, St Paul Pump Station	PS-E-STPAUL	Almost entirety of Study Area is infill and was still part of the Detroit River in the mid-20th C.	St Paul PS constructed in the 1970s	No	Apart from extant PS, the Study Area is lawn with a small berm roughly parallel to Riverside Dr E.	High (small section of natural beachfront) & Low (made-land)	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]
4.4	East	Blue Heron/Lakeview Pump Station	Upgrades, Regional Area 5 , Blue Heron/Lakeview Pump Station	STM-E5	On Lake St. Clair shoreline, on or beside an historic inlet & stream now infilled	Early 19th century patent; Windsor & Tecumseh Electric Railway; rural residential in mid-20th C, now mostly parkland	No	Narrow corridor of grass north of Riverside Dr.; Park with sewers, utilities buried, some landscaping & paths including Ganatchio Trail	High (level of disturbance uncertain) & Low (infill, disturbed)	Stage 2 Assessment for part of the Study Area
4.5	East	Pontiac Pump Station	Upgrades, Regional Area 6, Pontiac Pump Station	STM-E6	<50M to Little River	Farm land til mid-20th C when PS & Little River Treatment Plant constructed	No	Partial inspection. Currently lawn, paved sections, large pump station.	Low (disturbed) to High (level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.6	East	Pontiac Pump Station	New Stormwater Management Facility (Underground Storage), Regional Area 6, Brumpton Park	STM-E6	40-250M from Detroit River; former Little River outlet in or adjacent to the Study Area	Early 19th C patents; Farm land until late 20th C; Windsor to Amherstburg Electric Railway across north edge of Study Area, within 100M historic Sandwich/Riverside Dr; Park established 1979 & expanded 1991	No	Raised land and visibly disturbed sections apparent within the treed lawn of the park, particularly in the north end. Paved Ganatchio Trail, play structure & utilities present. Long, linear strip depressions in west half from previous gardening features. Most of park is in lawn.	Low (disturbed) to High (level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.7	East	Little River	New LID Swales, Lauzon Pkwy (between Hawthorne & Cantelon)	ROAD-E4	Tributary of Little River within 300M of part of the Study Area	Farm land til -late 20th C, no known historic structures	No	Extensive disturbances related to utilities, berming, building & road construction & landscaping noted; level lawns present in part of the Study Area	Low (no high potential triggers, modern extensive disturbance) & High (within 300M to tributary & level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.8	East	Little River	New Stormwater Management Facility (Underground Storage), Lauzon Parkway, Meadowbrook Park	ROAD-E4	<300M to Little River; tributary of Little River crossed the Study Area	Farm land til mid-late 20th C; no known historic structures	No	Landscaped park with soccer pitch, paved basketball courts & parking, play structure; park is raised elevation from Meadowbrook Lane	High (undisturbed) & Low (disturbed)	Stage 2 Assessment for part of the Study Area
4.9	East	Little River	New Stormwater Management Pond, Lauzon Parkway, Little River Golf Course	ROAD-E4	Straddles Little River; River has been modified; on extant golf course	Farm land til early-mid 20th C; within 100M historic Lauzon Rd, no known historic structures. Golf course created 1925 onwards	No	Landscaping for golf course and drainage evident. Likely still pockets of natural soils.	High (undisturbed or level of disturbance uncertain) to Low (extensively landscaped)	Stage 2 Assessment for part of the Study Area
4.10	East	Pontiac Pump Station	New Stormwater Management Facility (Underground Storage), Commercial Lands, Wyandotte at Watson	ROAD-E9	Tributary historically crossed west end of Study Area	Farm land 'til mid-late 20th C; west portion extensively disturbed ca 1950s; shopping plaza developed post-1956	No	Plaza parking lot, structures & vacant land; west vacant lot appears wet and disturbed; varying degree of disturbance to remainder of lawns	High (undisturbed lawns) & Low (disturbed west end, parking lot & structure footprints)	Stage 2 Assessment for part of the Study Area
4.11	East	Little River	New Stormwater Management Facility (Underground Storage), Roseville Public School & Roseville Garden Park	ROAD-E11	No water within 300M	Farm land til late 20th C then park & school playing field	No	Relatively level lawn in park-setting; berm along the south edge, east end;, playground & ball diamond	Low (no high potential triggers, some landscaping disturbance)	No further work

5.0 SOUTH WINDSOR SEWERSHED

There are four proposed solutions in the South Windsor Sewershed included in the archaeological study. All are within the Grand Marais Drain (Turkey Creek) drainage area. The solutions include Stormwater Management Ponds (SMP) and other Stormwater Management Facilities (SMF), and are as follows:

1) Proposed New Stormwater Management Pond, Dougall Underpass (ROAD-S1) - consists of a new pond construction on current agricultural land adjacent to the Dougall Avenue at the E.C. Row Expressway westbound onramp;

2) Proposed New Stormwater Management Pond, 2929 Howard Avenue (ROAD-S2) - consists of a new pond construction on a commercial lot between Grand Marais Road East, Howard Avenue and the westbound onramp from Howard Avenue to the E.C. Row Expressway;

3) Proposed New Stormwater Management Facility (Underground Storage), 2459 Chrysler Centre (ROAD-S3) - located within a privately owned parking lot, this solution entails construction of underground stormwater management facility;

4) Proposed Expansion, Central Avenue Stormwater Pond (STM-S7) - located on the southeast corner of Central Avenue and Plymouth Drive, the expansion of the current pond requires additional land that is currently commercial/industrial.

Figure 5.1 presents the locations of the South Windsor solution Study Areas on a current National Topographic System (NTS) map. ***Figure 5.2*** depicts the Study Areas on the 1880 East and West Sandwich Township map from the *Historical Atlas of Essex and Kent Counties, 1880-1881* (H. Belden & Co. 1881).

For guidance with any solutions confined to the municipal ROWs (ie pipe replacements, culverts, LIDs) within the South Windsor Sewershed ROWs, please refer to **Section 1.1**.

5.1 Proposed New Stormwater Management Pond (SMP), Dougall Underpass (ROAD-S1)

The proposed new Stormwater Management Pond at the Dougall Underpass is to be situated in a former agricultural field bounded on the north by Northwood Street and South Cameron Boulevard, on the east by Dougall Avenue, on the west by Bruce Avenue, and on the south by an unopened road ROW and the bank upwards to the Dougall Avenue to E.C. ROW west bound on ramp (***Figure 5.1.1***). An extant sanitary sewer runs along Bruce Avenue clipping the northwest corner of the Study Area, and both sanitary and storm sewers are present running from Dougall to Bruce Avenue just outside the southern boundary of the Study Area (City of Windsor n.d.-b). The Study Area is irregular in shape, approximately 2.3 hectares in size, with maximum dimensions of 170 by 190 metres, and includes space for a construction zone. It's historic property designation is Part of Lot 79, Concession Two, former Township of Sandwich West.

The proposed new Dougall Underpass SMP Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final

Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.3**) in conjunction with **Section 5.1**.

5.1.1 SMP, Dougall Underpass - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the Dougall Underpass SMP Study Area.

5.1.2 SMP, Dougall Underpass - Previous Archaeological Work

The search for previous archaeological work within 50 metres of the Dougall Underpass SMP Study Area discovered the following Stage 1 report which includes the entirety of the current Study Area. It is the only known report of work within 50 metres.

1) Stantec Consulting Ltd. (2015). *Stage 1 Archaeological Assessment: Central Box Study Area, Environmental Study Report*. PIF P256-0306-2014. Report on file at MHSTCI.

In 2015, as part of a larger Municipal Class Environmental Assessment, Stantec conducted a Stage 1 background study for lands including the current Dougall Underpass SMP Study Area. The background study determined that the property including the current Study Area had moderate to high potential for Indigenous and Euro-Canadian archaeological resources, and following a Property Inspection recommended it for Stage 2 assessment via pedestrian survey at five metre intervals (Stantec 2015:Figure 8). Only the western tree line along Bruce Avenue and the very southern edge of the current Study Area were not determined to have high potential (Stantec 2015:Figure 8; this report ***Figure 5.1.2***). Stantec's report was entered into the MHSTCI register of reports without a technical review.

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The northeast edge of the Study Area intersects the 50-metre buffer for the Michigan Central (Conrail, now CN) railway line, but otherwise is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

5.1.3 SMP, Dougall Underpass - Environmental Factors

The topography of the Dougall Underpass SMP Study Area appears level. Most of the Study Area is a grassed field, with scattered overgrown islands and borders of trees or grass lawn along the roads. The Study Area is located in Brookston Clay Loam soils (see Section 1.3.2 for a detailed description). The presence of these soils indicate that the area has poor drainage.

The Dougall Underpass is not located within 300 metres of any known water courses.

5.1.4 SMP, Dougall Underpass - Historical Research Summary

The Dougall Underpass SMP Study Area is located in part Lot 79 Concession Two, Township of Sandwich West, also part of what was known as Field Lot D (a subdivision containing parts of Lots 79 and 80). Along with other settlers of L'Assomption, in 1763, Suzanne Reaume (as Madame Baby) petitioned for recognition by the Land Board of the District of Hesse to her claim for Lot 79 Concession Two (Lajeunesse 1960:177). The earliest land registry entry for the parcel, in 1840, refers to the will of François Baby; Lot 79 was one of several Lots acquired from his mother Suzanne Reaume in 1800 (Clarke 1985). In 1854, Field Lot D was deeded to Raymond Baby (likely François's son Anthony Raymond Baby). Fifty-eight acres of Field Lot D were deeded to Charles Dumouchelle in 1869, and remained in the Dumouchelle family until 1905.

Table 5.1.1
SMP, Dougall Underpass, Summary of Historical Records

Document	Date	Comments
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Michigan Central Railway and Cameron Blvd run NW-SE through S half of Lot 79 -No legible names associated w Lot 79 but may say 'Baby' beneath the later RR additions
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch	1881	-No structures in SA -Building present on Grand Marais Rd in Lot 79 Con 3 labelled "Charles Jenette", unclear if also associated with Lot 79 Con 2
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-"George Dumouchelle" owner of Lot 79 -Canada Southern Railway cuts NW-SE through middle of Lot 79
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360	1913	-Several parallel NW-SE RR tracks for MCR on N edge SA -Dougall Ave present running N-S beside SA -Nothing present within SA
Windsor, Ontario 40J06 (Ed. 2) Dept of Militia and Defence 1:63,360	1923	No change from previous NTS map
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360	1939	-Several new streets present around SA: Cameron on N edge parallel to RR, Labelle E-W on S edge of SA -Nothing present within SA
Sheet 428, *Insurance Plan of Windsor (Vol. 4)* Underwriters' Survey Bureau Ltd.	1953	-No structures within SA; MCR parallel to Cameron Blvd -SA bounded by Bruce Ave on W, Pall Mall on N, Cameron Blvd on NE, Dougall Ave on E (SE corner), Piccadilly on S
Photo 423831 *Southern Ontario, 1954* [publisher unknown]	1954	-No structures within SA; most of SA appears disturbed -Cameron Blvd, Dougall Ave, and Piccadilly present, Bruce and Pall Mall do not appear to exist
Windsor, Ontario 40J06A (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000	1961	-A few trees shown in SA, otherwise no change from previous NTS map
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	No change from previous NTS map
4583-2069, *City of Detroit Aerials* [publisher unknown] ***Figure 5.1.3***	1967	-Lane (future Northwood St?) runs straight into Cameron (this would later be angled to the north)
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-Third Concession Road realigned to meet Dougall Ave at SE corner of SA -No structures present within SA

Document	Date	Comments
Windsor 40J06 (Ed. 5) Dept of Energy, Mines and Resources 1 : 50,000	1979	-Third Concession Road removed, E.C. Row Expy constructed S of SA, w on-ramp now forming S edge of SA -Cameron Blvd ends at Dougall Ave -No other detail present within SA
Windsor 40J06 (Ed. 6) Dept of Energy, Mines and Resources Scale 1 : 50,000	1986	-MCR now labelled "Canada Southern"
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-SA grass with some scattered trees -Large V-shaped billboard beside Dougall Ave midway between South Cameron Blvd and on-ramp
Windsor 40J06 (Ed. 8) Natural Resources Canada Scale 1 : 50,000	2001	-Northwood St present on N edge of SA -Bruce Ave present on W edge of SA -No structures present within SA
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	No change from previous aerial image
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	-Most of SA appears ploughed -No other changes evident
2008 Aerial *Public Interactive Mapping*, ERCA	2008	No change from previous aerial image
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	-Small paved trail along W side of South Cameron/Dougall -No other change from previous aerial image
Aerials *Public Interactive Mapping*, ERCA	2013 - 2019	No change from previous aerial image

There is little evidence that the land in the Dougall Underpass SMP Study Area saw much more than general agricultural usage since 1800. The Michigan Central Railway was constructed through the area in 1883; Dougall Avenue was present by 1913, and it is possible that Cameron Blvd had also been constructed by this time. None of the maps or aerial photographs viewed depict any structures within Dougall Underpass SMP Study Area, and most changes to the Study Area appear related to road realignments and the construction of the E.C. Row Expressway in the mid-1970s. One change to road alignments occurred after 1967, when a farm lane that had originally run east-west into Cameron Blvd, was shifted and angled north. The shadow of this former road way can still be seen in some of the Google aerial images as late as 2005.

5.1.5 SMP, Dougall Underpass - Historical Plaques

There are no historical plaques in the vicinity of the Dougall Underpass SMP Study Area.

5.1.6 SMP, Dougall Underpass - Property Inspection Results

The Property Inspection for the Dougall Underpass SMP Study Area was conducted on 31 October 2019. Conditions were excellent for viewing the property and overall landscape, with a high of 9 °C and occasional light rain. The Study Area is an isolated open field surrounded by development. The general topography is level with a few scrubby bushes and a tree lined western edge in the Study Area along the Bruce Avenue ditching (***Plate 5.1-1*** and ***5.1-3***). Within the last five years this area had been a cultivated field, but could now

be considered a vacant grassed lot. A Fire hydrant (***Plate 5.1-2***) and water line cap were noticed just outside of the southwestern corner of the Study Area close to the turn around circle of Bruce Avenue. A catch basin was also noted at the southwestern edge of the Study Area, and the northwestern corner at Northwood Street and South Cameron Blvd. appears to be at a higher level than the road, and probably has been impacted by road construction (***Plate 5.1-4***). Otherwise, not much obvious disturbance was noted. See ***Figure 5.1-4*** for images from the Property Inspection.

5.1.7 SMP, Dougall Underpass - Archaeological Potential

While the entirety of the current Study Area of the Dougall Underpass SMP has been included in a previous report (Stantec 2015), it was felt that an in depth study would be warranted for this current project. Stantec's report was at a fairly high level, and that their study area covered a much larger area including this particular area. It was therefore felt that re-visiting the Study Area could refine the specific level of potential to be assigned to it This has been the case, and the current background research indicates that all of the Study Area should be assigned a low level of archaeological potential. The WAMP (CRM Group *et al*. 2005:Figure 2) indicated that the Study Area was within a broad area that had low archaeological potential. Based on the current background study, FAC agrees with the WAMP recommendations, and not with Stantec's. Stantec's report indicated that their Study Area would have moderate to high Indigenous and Euro-Canadian potential (Stantec 2015:Section 3.2), and the Dougall Underpass SMP area would require Stage 2: Assessment in the form of visual survey at a five metre interval (Stantec 2015:Figure 8). The designation of the moderate to high potential in the Stantec report would appear to use criteria as *per* their entire Study Area -- *i.e.* distance to water, presence of an Indigenous Trail to the west of their Study Area, soils suitable for agriculture, and the developed road network (Stantec 2015: 3.2). These criteria were applied to the whole of the Study Area and did not appear to be applied to the separate pieces within their Study Area..

However, a detailed review of the Study Area for this current project, indicates that there are no criteria to trigger an archaeological assessment for this specific Study Area, other than the northeastern corner is within 50 metres of a railway. There are no historic roads within 100 metres, nor sources of water or registered sites within 300 metres. The property is within a French lot system survey, but the Study Area is not close to any historic road where an historic structure generally would have been located. The 1881 Atlas indicates a structure along Grand Marais Road in Charles Jenette's lot, Lot 79, Concession Three. This is well to the south of the Study Area.

There are no known Indigenous trails in proximity to the Study Area, as the trail cited by Stantec (Stantec 2015:Figure 2) is at the western edge of their much larger Study Area. Even the presence of the railway is mitigated in the northeastern corner of the Dougall Underpass Study Area, as only a small section of the Study Area would fall within the 50 metre boundary, and that is at the intersection of two modern roads where construction activities from the realignment of Northwood Street appear to have negated any remaining potential. The Property Inspection indicates that this corner has been landscaped and raised, and just to its south and within the Study Area, would have been the footprint of the original alignment. Therefore, based on these specific criteria,, the whole of the Study Area (***Figure 5.1.4***) does indeed have low archaeological potential, and no further archaeological work is required.

5.2 Proposed New Stormwater Management Pond (SMP), 2929 Howard Avenue (ROAD-S2)

The proposed new stormwater management pond at 2929 Howard Avenue would be located on a currently commercial property consisting of asphalt driveway and parking, grass boulevard and side lawn and a single large building. The Study Area includes room for the proposed pond and a construction zone, and is roughly triangular in shape, maximum dimensions of 100 by 100 metres, and is 0.5 hectares in size. An extant sanitary sewer crosses the north tip of the Study Area (City of Windsor n.d.-b). It is bounded on the northwest by Grand Marais Road East, on the northeast by Howard Avenue, and on the southeast by the raised bank for the E.C. Row on ramp (westbound). Its historic property designation is Part of Lot 85 Concession Two, Part of Lot 85, Concession 3, and part of the Road Allowance between Concessions Two and Three, Former Township of Sandwich West. ***Figure 5.2.1*** provides an aerial overview of the Study Area.

The proposed new SMP 2929 Howard Avenue Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.3**) in conjunction with **Section 5.2**.

5.2.1 SMP, 2929 Howard Ave. - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMP 2929 Howard Avenue Study Area.

5.2.2 SMP, 2929 Howard Ave. - Previous Archaeological Work

There is one previous archaeological report for work within 50 metres of the SMP 2929 Howard Avenue Study Area. This is the 2015 high level study conducted by Stantec.

1) Stantec Consulting Ltd. (2015). *Stage 1 Archaeological Assessment: Central Box Study Area, Environmental Study Report*. PIF P256-0306-2014. Report on file at MHSTCI.

In 2015, as part of a larger Municipal Class Environmental Assessment, Stantec conducted a Stage 1 background study for lands including the current SWM, 2929 Howard Avenue. The background study determined that the area including the current Study Area had no archaeological potential due to its high level of disturbance (Stantec 2015:Figure 8; this report ***Figure 5.2.2***). Stantec's report was entered into the MHSTCI register of reports without a technical review.

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The Study Area is not associated with any historic settlement areas as identified by the WAMP, but is within the buffer zones for the Grand Marais Canal, the historic Grand Marais Road, historic Howard Avenue, and the Windsor, Essex & Lakeshore (Electric) Railway (CRM Group *et al.* 2005: Figures 1&2). However, the final WAMP archaeological potential mapping (CRM Group *et al.* 2005: Figure 4) indicates low potential probably due to integrity issues from modern disturbance.

5.2.3 SMP, 2929 Howard Ave. - Environmental Factors

The topography of the SMP 2929 Howard Avenue Study Area is mostly level, sloping steeply up to meet the E.C. Row Expressway on-ramp on the south side. The Study Area is a mix of lawn, asphalt driveway and parking lot, and building.

The former course of Turkey Creek runs close to the south edge of the Study Area. The Creek was channelized as the Grand Marais Drain, and runs underground in the immediate vicinity of 2929 Howard Ave. On the patent map (*No. 26 Sandwich Township*, **Appendix B**) the creek is depicted to the north of the Study Area.

2929 Howard Ave is located over Burford Loam - Shallow Phase soils. Burford Loam soils consist of dark brown loam, over light yellow-brown loam or sandy loam, over light brown gravelly clay loam; in the Shallow Phase, the gravelly clay loam layer is less well-defined and overlies heavier textured clay till (Richards *et al.* 1949:48-49). The soils have good drainage, and are considered suitable for growing vegetables and planting orchards.

5.2.4 SMP, 2929 Howard Ave. - Historical Research Summary

2929 Howard Ave is mostly within Lot 85, Concession Two, Township of Sandwich West; the southern end of the Study Area also crosses over into Lot 85 Concession Three, as well as the historic road allowance between the two Concessions. The first available record for Lot 85, Concession Two appears in 1919 in the Land Registry records, although Julian Parent is listed as applying for a claim for Lot 85, Concession Two in February of 1793 (Lajeunesse 1960:177).

The 1913 NTS map depicts a number of features affecting the Study Area. An electric railway is present on the west side of Howard Avenue, two brick structures are present on the south side of Grand Marais Road either within or just west of the Study Area, and Turkey Creek is present just outside the southern edge of the Study Area. The brick structures could be associated with the "Parts of homestead" referred to in an entry into the land registry for a "Probate of Will" for Henry Fredericks in 1894, but the lack of specific descriptions of subdivided parcels in the land registry makes this connection uncertain. The two structures and the Electric Railway were removed by 1939, and Grand Marais Road was removed, west of Howard Avenue by 1954.

The E.C. Row Expressway was constructed in the mid-1970s, and the on ramp from Howard Avenue forms the southern boundary of the Study Area. Grand Marais Road was reconstructed west of Howard Avenue in the early 1980s, though possibly with a slightly different alignment than the original road. The current 2929 Howard Avenue office building was constructed some time between 1986 and 2000.

Table 5.2.1
SMP, 2929 Howard Avenue, Summary of Historical Records

Document	Date	Comments
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Lot 85, Conc 2 and 3 Joseph Langlois -Water (Turkey Creek) in S end of Lot 84 Con 2, N of SA -Howard Ave in between Lots 85 and 85 (thus indicating the SA on the E side of Howard) (Note: Windsor land registry has the W side of Howard as Lot 85, not E side)
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 5.2***	1881	-No names or structures associated w SA -Toll gate on N side Grand Marais Rd on Lot 85 (on E side Howard Ave) either S of SA, or just within its bounds (accuracy of *Atlas* maps are too vague to be certain)

Document	Date	Comments
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-"Henry Fredericks" owner of Lots 84 and 85 on N side Grand Marais Rd -"Grand Marais Drain" present S of Grand Marais Rd
Windsor, Ontario 40J06 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 5.2.3a***	1913	-Multiple parallel NW-SE tracks for the MCR W of SA -Grand Marais Rd runs NW-SE parallel to RR, bends 90° at SW corner of SA to head NE -2 red structures on S side of Grand Marais Rd at the bend -Water course present just S of SA -Electric RR parallel to Howard Ave on W side, within SA
Windsor, Ontario 40J06 (Ed. 2) Dept of Militia and Defence 1:63,360	1923	No change from previous NTS map
Windsor, Ontario 40J06 (Ed. 3) Dept of National Defence 1 : 63,360 ***Figure 5.2.3b***	1939	-2 red structures no longer present, black structure now present on S side of water course (but very close to SA) -Roundhouse or turntable present S of SA -Electric RR no longer present
Sheet 440, *Insurance Plan of Windsor (Vol. 4)* Underwriters' Survey Bureau Ltd. ***Figure 5.2.4***	1953	-Grand Marais Road forms NW edge of SA -Creek just outside S end of SA, with roundhouse S of creek -Howard Ave forms E edge of SA -Brick "N.Y.C. Ry Boarding Hse" just W of SA on S side Grand Marais Rd; no structures within SA
Photo 423831 *Southern Ontario, 1954* [publisher unknown]	1954	-Grand Marais Rd not present W of Howard Ave -Creek drawn onto aerial photo, passes along N end of SA -SA appears disturbed at N end, unimproved over the rest
Windsor, Ontario 40J06A (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000	1961	-One structure present in centre of SA -Grand Marais Drain/Turkey Creek present just S of SA
Windsor, Ontario 40J06A (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	-"SANDWICH WEST TP" obscures location of structures -No other changes from previous NTS map
4583-2069, *City of Detroit Aerials* [publisher unknown] ***Figure 5.2.5***	1967	-Structure(s) with pavement, and disturbed ground visible within the SA, particularly by the intersection of Grand Marais Rd and Howard Ave
Windsor, Ontario 40J06A (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000 ***Figure 5.2.3c***	1975	-Grand Marais Rd no longer present W of Howard Ave -No structures within SA

Document	Date	Comments
Windsor 40J06 (Ed. 5) Dept of Energy, Mines and Resources 1 : 50,000	1979	-No structures within SA -E.C. Row Expy constructed S of SA, with on-ramp from Howard Ave forming S boundary -Turkey Creek crosses from N to S side of Expy just S of SA
Windsor 40J06 (Ed. 6) Dept of Energy, Mines and Resources 1 : 50,000	1986	-Grand Marais Rd extends through Howard Ave again -Structure present in centre of SA between Grand Marais Rd and on-ramp to expressway -Turkey Creek now entirely on S side of expressway
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-Structure present in centre of SA between Grand Marais Rd and on-ramp to expressway; mostly surrounded by pavement, w oval of grass lawn along Grand Marais Rd and at intersection of Grand Marais Rd and Howard Ave
Windsor 40J06 (Ed. 8) Natural Resources Canada Scale 1 : 50,000	2001	No change from previous NTS map
Aerial Photographs *Public Interactive Mapping*, ERCA	2004 - 2017	No change from previous aerial image
2019 Airphoto w/ Pelee *Public Interactive Mapping*, ERCA	2019	-Parking lot expanded slightly on SW side of building -No other changes evident from previous aerial image

5.2.5 SMP, 2929 Howard Ave. - Historical Plaques

There are no historical plaques in the vicinity of the SMP 2929 Howard Ave Study Area.

5.2.6 SMP, Howard Ave. - Property Inspection Results

The Property Inspection for the 2929 Howard Avenue SMP Study Area took place on 31 October 2019, under overcast skies. Conditions were excellent for viewing the property and overall landscape, with a high of 9 °C and occasional light rain. The Property Inspection showed that the central (and most) of the Study Area is taken up with asphalt and a structure. The main parking lot is to the back of the building, between Howard Avenue and the E.C. ROW (***Plates 5.2-2*** and ***5.2-3***). There are two main areas that are lawns. The first is a wide strip of grass of approximately 10 metres between the front driveway/parking lot and Grand Marais Road East (***Plate 5.2-1***). In the southern section of the verge, a culvert has been installed under the driveway, and the grassed area has been landscaped to form a drainage ditch (***Plate 5.2-5***). Heading north along this lawn verge, the lawn flattens out, but still slopes down towards Howard Avenue. Toward the northern end of this verge, there is an infrastructure raised cover, though the City's web site indicates that neither water nor sewer are in this area. However, it is present, indicating infrastructure disturbance within the verge.

The second area that is lawn is to the north of the structure and its parking lot, measuring some 40 metres north-south by 20 metres east-west. At the very northern tip, there is a sanitary sewer grate and the line runs north-south through the northern section of this lawned area (***Plate 5.2-4***). There is also a ditch that runs from this grate, adjacent to Grand Marais Avenue East, running parallel to this street for approximately 20 metres before bending south to run parallel with the northern section of the driveway for ~25 metres, ending in the front lawn of the structure. The remainder is fairly level lawn. See ***Figure 5.2-6*** for images of the Property Inspection.

5.2.7 SMP, Howard Ave. - Archaeological Potential

FAC is in agreement with Stantec's high level report indicating that there is no archaeological potential for the 2929 Howard Avenue SMP Study Area. There may have been the 19th century toll gate within the Study Area, but there is no other mapping showing its location apart from the *Historical Atlas* (1881), and that is too vague to place this structure accurately – so it may be as likely outside the Study Area as within it.

The areas that are in lawn have been confirmed as having had extensive disturbance in the latter part of the 20th century. There has been ditching in the verge, and a sanitary sewer line runs along the northern tip of the northern lawn. As well, the 1967 aerial (***Figure 5.2.5***) shows a structure in the northern section, along with a pavement to its north at the intersection of Grand Marais Ave. East and Howard Avenue. The remainder of the area in the 1967 area looks like it has also been impacted. Given these factors, FAC agrees that there is no archaeological potential remaining, and recommends no further archaeological work for the 2929 Howard Avenue SMP Study Area, as indicated on ***Figure 5.2.6***.

5.3 Proposed New Stormwater Management Facility (Underground Storage), 2459 Chrysler Centre (ROAD-S3)

The proposed new Stormwater Management Facility (SMF) at 2459 Chrysler Centre entails the construction of an underground storage unit beneath an extant parking lot for the Chrysler plant. The Study Area includes scope for the construction zone and consists primarily of private parking lot with a narrow grass boundary on the east, the south end of the Cadillac Street (dead end) and the east edge of the Chrysler Centre ROW, and has a structure in its southern end (the factory employees' physiotherapy office) (***Figure 5.3.1***). Extant sanitary and storm sewers run along the west edge of the Study Area in the Chrysler Centre ROW, and another sanitary sewer ends at a manhole within the dead end of Cadillac Street and within the Study Area (City of Windsor n.d.-b). The Study Area is rectangular in shape, just missing its north corner, and its overall dimensions are 227 by 112 metres, with an area of 2.5 hectares. It is bounded on the west by the Chrysler Centre road footprint, on the north by additional parking and the Cadillac Street ROW, on the east by residential backyards, and on the south by more parking lots. The historic property description is Part of Lot 99 Concession 2, Former Township of Sandwich East.

The proposed new SMF, 2459 Chrysler Centre Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.3**) in conjunction with **Section 5.3**.

5.3.1 SMF, 2459 Chrysler Centre - Known Archaeological Sites

There is one registered archaeological site in the OASD within one kilometre of the proposed 2459 Chrysler Centre SMF Study Area.

AbHr-6, the Essex Transformer Station site, is an Indigenous lithic scatter located approximately one kilometre to the southwest of the Study Area. Following shovel test pit survey and Stage 3: Testing, the site was not recommended for further work (CRM Group *et al.* 2002:3-12).

5.3.2 SMF, 2459 Chrysler Centre - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the proposed 2459 Chrysler Centre SMF Study Area

The Study Area is not associated with any high-potential areas as identified by the WAMP (CRM Group *et al.* 2005: Figures 1&2).

5.3.3 SMF, 2459 Chrysler Centre - Environmental Factors

The SMF Study Area at 2459 Chrysler Centre appears completely level. Most of the Study Area is heavily modified and does not appear to retain its natural topography.

The Study Area is located over Brookston Clay Loam soils (see **Section 1.3.2** for a detailed description). The presence of these soils indicate that the area has poor drainage. The former course of Turkey Creek runs approximately 350 metres south of the 2459 Chrysler Centre Study Area. The Creek was channelized as the Grand Marais Drain, and is heavily modified in the general vicinity of the Study Area.

5.3.4 SMF, 2459 Chrysler Centre - Historical Research Summary

The proposed 2459 Chrysler Centre SMF Study Area is located within Lot 99, Concession Two, Township of Sandwich East. The first entry for the Lot in the land registry is the 1829 for François Drouillard, but this is followed by a sale from Joseph Villeneuve to Simon La Due registered in 1818. The lot appears even earlier in a 1793 petition to the Land Board of the District of Hesse for lots in the second concession of L'Assomption settlement (Lajeunesse 1960:178); Baptiste Pilette is listed as the claimant for Lot 99, and it is possible that Villeneuve obtained the lot from him prior to 1818. Pilette's claim to a lot in the second concession would have stemmed from his occupancy of the adjacent lot in Concession One, and it is likely that he only used Lot 99, Concession Two for a source of firewood.

It appears that the lot was subdivided upon François Drouillard's death and inherited by several of his children and their spouses. In 1856, Drouillard's daughter Elizabeth Walker quit claimed her portion of the lot to her brother-in-law François Xavier Maisonville; an appropriation by the Township of East Sandwich for the construction of a road (now called Chrysler Centre) in 1862 has multiple instruments, one for Maisonville and several for individuals with the last name Drouillard. The locations of the subdivisions of Lot 99 are not described in the land registry, but all appear to remain mostly with various members of the Drouillard/Maisonville family into the early 1900s.

There are no names or structures associated with Lot 99 in either the 1881 *Historical Atlas* or McPhilips's 1905 map (see **Table 5.3.1**), though it is likely that by this time Lot 99 was farmed at least in part by some of its owners. The first NTS map shows the Pere Marquette Railway to the west of the Study Area, but no Chrysler Centre - it is possible that the road allowance appropriated in 1862 was not built upon until much later. By 1931, a number of streets had been constructed surrounding 2459 Chrysler Centre, and development of the area continued into the 1940s and 50s. A 1953 Fire Insurance Plan depicts most of the Study Area as empty except for an L-shaped structure in the northwest corner; this structure is not visible in an aerial photograph from the following year, in which the Study Area appears as either grass lawn or parking lot surrounded by a dense residential development on the east and significant industrial development to the west.

The Study Area at 2459 Chrysler Centre appears to have undergone little development for most of the 20th century, and appears as grass lawn or empty space in most aerial photographs and mapping. A concrete pad

and small structure were built in the south end of the Study Area in the early 2000s and are still present.

Table 5.3.1
SMF, 2459 Chrysler Centre, Summary of Historical Records

Document	Date	Comments
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Joseph Villeneuve owner of Lot 99, Con 2 (and Con 1)
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 5.2***	1881	-No names or structures associated with SA -School on N side of Grand Marais Rd two Lots W of SA
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-No names or details shown in Lot 99 in vicinity of SA -Grand Marais Drain does not extend as far E as Lot 99
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360	1912	-Nothing present in SA; a few structures along Grand Marais Rd, Turkey Creek/Grand Marais Drain on S side -Pere Marquette RR present W of SA, area around intersection w Can Pacific labelled "Walkerville Junction"
Belle River, Ontario 40J07 (Ed. 2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Belle River, Ontario 40J07 (Ed. 3) Dept of Militia and Defence 1 : 63,360	1931	-Streets laid out around SA -Turkey Creek/Grand Marais Drain on N side of Grand Marais Rd
Belle River, Ontario 40J07 (Ed. 4) Dept of Militia and Defence 1 : 63,360	1940	-No structures within SA, but development of surrounding area is progressing
Sheet 263 , *Insurance Plan of Windsor (Vol. 2)* Underwriters' Survey Bureau Ltd.	1953	-Most of SA empty, except for L-shaped structure at NW corner of SA at terminus of "Reaume Road" (Cadillac St) -St Julien Ave ends on E side of SA
Photo 423824 *1954 Air Photos of Southern Ontario* [publisher unknown]	1954	-SA appears uniform, either field or parking lot -Buildings on 1953 FIP not visible (poor resolution?) -Neighbourhoods residential to the E, industrial to the W
Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000	1961	-Small structure present in NW corner of SA at terminus of Cadillac St -No other detail shown for SA
Riverside, Ontario 40J06D (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	No change from previous NTS map

Document	Date	Comments
Riverside, Ontario 40J06D (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	-No change from previous NTS map within SA, but surrounding streets now shown as developed
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000	2000	No change from previous NTS map
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2000	-SA consists mostly a large grassed area centred on Julien St to the E, with a strip of parking along Chrysler Centre Rd -No structure present in NW corner
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2004	-Minor change to the NW area at the end of Cadillac St
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	-S half of SA stripped down to subsoil, erosion runnels noted in S area -Structure or group of portables in SW corner of SA
2008 Aerial *Public Interactive Mapping*, ERCA	2008	-Pad present over most of S end of SA containing the structure, and this area is fenced -Other stripped out sections re-vegetated, and earth or other material stockpiled just N of pad
2010 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2010	-Parking lot present across SA except: pad area, small sections in N by Cadillac St (formerly parking), along E edge, and in SE corner
Aerials *Public Interactive Mapping*, ERCA	2013-19	No change from previous aerial image

The Study Area at 2459 Chrysler Centre appears to have been developed in the latter part of the 20th century, first along its western edge, abutting Chrysler Centre Road, as parking for the plant on the other side. This left most of the Study Area as a grassed area. By 2006, the southern section had been stripped to subsoil, and the parking lot had been expanded considerably. By 2010 most of the remainder of the Study Area had been paved for parking. An asphalt pad and small structure (linked construction portables) were built in the southwestern end of the Study Area in the early 2000s, and are still present.

5.3.5 SMF, 2459 Chrysler Centre - Historical Plaques

There are no historical plaques in the vicinity of the proposed SMF at 2459 Chrysler Centre.

5.3.6 SMF, 2459 Chrysler Centre - Property Inspection Results

The Property Inspection of the Chrysler Centre Study Area was conducted on 31 October 2019, under overcast skies. Conditions were excellent for viewing the property and overall landscape, with a high of 9 °C and light rain. The Study Area consisted of an extensive asphalt parking lot, with a group of construction portables in the southwest corner. The landscape was flat. The eastern edge of the Study Area is graded with lawn, and there is also a grassed berm in the northeast corner between the parking lot and the Cadillac Street ROW. ***Figure 5.3.5*** provides images of the Study Area.

5.3.7 SMF, 2459 Chrysler Centre - Archaeological Potential

The SMF, 2459 Chrysler Centre Study Area has no archaeological potential. The Study Area is beyond 300 metres to a source of water (Turkey Creek/Grand Marais), there is only one registered archaeological site and that is at the one kilometre limit. There is no indication of historic development, with most development having taken place post-2000. There is evidence for extensive stripping when the parking lot was constructed, and only the margins of the Study Area may have intact soils. Given all these factors, the Study Area has no potential (***Figure 5.3.5***), and is being recommended for no further archaeological work.

5.4 Proposed Expansion, Central Avenue Stormwater Pond (STM-S7)

The extant Central Avenue Stormwater Management Pond (SMP) is located off the southeast corner of the intersection of Central Avenue and Plymouth Drive. It is currently composed of a series of small interconnected ponds. The proposed expansion would include a portion of 4001 Plymouth Drive, the private industrial land to the east of the existing pond system.. The archaeological Study Area includes the existing pond system and an expansion area with construction zone, and is an elongated pentagon in shape (see ***Figure 5.4.1***). Its maximum dimensions are approximately 545 metres north/south by 215 metres east/west, and it is approximately 10.5 hectares in size. It is bounded on the north by Plymouth Drive, the west by Central Avenue, the south by the Canadian Pacific (CP) Rail ROW, and on the east by industrial land.

Currently the Study Area consists of steep banks down to the extant pond system from the surrounding roads and railway ROWs, and also from the industrial lands to the east. Extant storm sewers are present in the extreme northwest corner of the Study Area (City of Windsor n.d.-b). The proposed expansion area consists of paved parking, partially overgrown, and both active and former factory lands. Its historical property designation is Part of Lots 102 and 103 Concession Two, Former Township of Sandwich East.

The proposed SMP Central Avenue Expansion Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprint of the Study Area may later be reduced based on detailed design refining the construction zone, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.3**) in conjunction with **Section 5.4**.

5.4.1 SMP Central Avenue Expansion - Known Archaeological Sites

There are no registered archaeological sites in the OASD within one kilometre of the SMP Central Avenue Expansion Study Area.

5.4.2 SMP Central Avenue Expansion - Previous Archaeological Work

There are no previous archaeological reports for work within 50 metres of the SMP Central Avenue Expansion Study Area.

The entire Study Area is within the buffer zone for the Grand Marais Drain as identified by the WAMP (CRM Group *et al.* 2005:Figure 1). The north end is within the 100-metre buffer for the Grand Marais Road and the south end is within the 50-metre buffer for the Canadian Pacific Railway (CRM Group *et al.* 2005:Figure 2). However, the majority of the Study Area is within an area of low archaeological integrity and potential as defined by the WAMP (CRM Group *et al.* 2005: Figure 4).

5.4.3 SMP Central Avenue Expansion - Environmental Factors

The topography of the SMP Central Avenue Expansion appears slightly sloping, rising to meet the road beds on the north and west sides of the Study Area. Most of the Study Area is heavily modified and does not appear to retain its natural topography.

The Study Area is located over Brookston Clay Loam soils (see Section 1.3.2 for a detailed description). The presence of these soils indicate that the area has poor drainage.

Multiple tributaries of Turkey Creek once ran through the north part of the Study Area. The Creek was channelized as the Grand Marais Drain, and the water features which currently exist in the Study Area are artificial constructions.

5.4.4 SMP Central Avenue Expansion - Historical Research Summary

The SMP Central Avenue Expansion is located in part Lots 102 and 103 Concession Two Sandwich East Township. A 1793 list of lots claimed in Concession Two notes François Malosh as the claimant for Lot 102, and Baptiste La Badie as the claimant for Lot 103, an indication that those individuals were farming the adjacent Lots in Concession One and using the second concession (and possibly the third) for sources of firewood (Lajeunesse 1960:177-178).

All 108 acres of Lot 102, Concession Two were patented in 1820 by Archange Askin, along with other lands. Archange was the wife of John Askin, an early settler in Sandwich and a prominent merchant and land speculator (Widder 2007). Upon the death of Archange later in 1820, Lot 102 was willed to several of her children, all of whom appear to have quit claimed to Charles Askin over the next few decades. Subdivision of the Lot began in the 1880s and continued into the 20th century.

All 153 acres of Lot 103, Concession Two were patented in 1809 by Jean Baptiste Labadie. Labadie sold part of the lot to Charles Labadie in 1822, and another part to Isaac Parent in 1827. Parent retained his portion until his death ca. 1882; other parts of the lot appear to change hands between various Labadies and their in-laws over the succeeding decades. The subdivided parcels changed ownership frequently (in some cases yearly) into the early 20th century, a possible indication of land speculation - some of the names in the land registry (such as Hiram Walker) are of individuals who owned large amounts of land in Windsor and the surrounding townships[5].

Grand Marais Road first appears on the 1881 *Historical Atlas*; earlier maps depict Turkey Creek/Grand Marais, but do not give any great level of detail relevant to the Study Area. The Canadian Pacific Railway was completed to Windsor in 1890, and forms the southern boundary of the SMP Central Avenue Expansion Study Area. The 1912 NTS map depicts two structures on the south side of Grand Marais Road within the Study Area. As the land registry does not include descriptions of parcel locations, it is difficult to link these buildings with a specific landowner or activity. Infrastructure changes to the area in the late 1920s/early 1930s had a little effect on the Study Area: 1) Grand Marais Road was shifted slightly to the south; 2) a hydro-electric power line was added along the south side of Grand Marais Road; and 3) the Canadian National Railway built through the Study Area just north of the existing CPR tracks.

[5] It is also possible that the parcel formed part of Walker's large tobacco farm in Sandwich East Township.

The most likely use of the Study Area for most of the 19th and 20th century was agricultural. The earliest aerial photographs show the Central Pond Expansion Study Area and surrounding lands as under cultivation, and pre-1980s NTS maps show little evidence of development in the area south of the Grand Marais Road/Plymouth Drive. This changed some time in the late 20th century: Central Avenue was extended south of Grand Marais Road (now forming the west boundary of the Study Area), and residential and industrial development expanded into the surrounding areas. Between 2000 and 2004, a large industrial building was constructed on the south side of Plymouth Drive, partially intersecting the Study Area; the building was surrounded by parking lot, and part of the development included channelizing the Turkey Creek tributaries and constructing stormwater management ponds on the north and west edges of the property. The building and some of the parking lot was removed between 2006 and 2008, and the area has remained unaltered since that time.

Table 5.4.1
SMP Central Ave Expansion, Summary of Historical Records

Document	Date	Comments
No.26 Sandwich Township M. Burwell 40 Chains : 1 Inch	n.d.	-Julian Parent owner of Lot 103, Con 2 (and possibly Con 1) -John B. Labadie owner of Lot 102, Con 2 (and Con 1)
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch	1881	-No names or structures associated with SA -Settlement of Mero Corners NE of SA at intersection of Pilette Rd and Tecumseh
Plan of the Townships of Sandwich G. McPhillips 40 Chains : 1 Inch	1905	-H. Walker owner of Lots 102, 103 N of Grand Marais Rd -Grand Marais Drain does not extend as far east as Lot 102
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360	1912	-Two structures on S side of Grand Marais Rd within SA -Turkey Cr/Grand Marais Drain starts just W of SA -CPR forms S boundary of SA; intersection w Pere Marquette labelled “Walkerville Junction” (W of SA)
Belle River, Ontario 40J07 (Ed.2) Dept of Militia and Defence 1 : 63,360	1920	No change from previous NTS map
Belle River, Ontario 40J07 (Ed.3) Dept of Militia and Defence 1 : 63,360	1931	-New “Can. Nat. Rys” between CPR and Grand Marais Rd -Grand Marais Rd shifted slightly S in vicinity of SA -Hydro Electric Power Line on S side of Grand Marais Rd through SA
Belle River, Ontario 40J07 (Ed.4) Dept of Militia and Defence 1 : 63,360	1940	-Eastern structure removed from SA
423824, *1954 Air Photos of Southern Ontario* [publisher unknown]	1954	-Grand Marais Drain/Turkey Cr passes through SA -SA bounded by Grand Marais Rd on N side, CPR on S side -No roads laid out in SA, everything on S side Grand Marais Rd is agricultural fields

Riverside, Ontario 40J06D (Ed. 1) Dept of Energy, Mines and Resources 1 : 25,000	1961	-3 tributaries of Turkey Cr flow through N end of SA -Topography shown as sloping down along tributaries -No structures within SA
Riverside, Ontario 40J06D (Ed. 2) Dept of Energy, Mines and Resources 1 : 25,000	1962	No change from previous NTS map
Riverside, Ontario 40J06D (Ed. 3) Dept of Energy, Mines and Resources 1 : 25,000	1975	No change from previous NTS map
Belle River 40J07 (Ed.7) Natural Resources Canada Scale 1 : 50,000	2000	-Central Ave extended S through Grand Marais Rd, forms W edge of SA -Turkey Cr tributaries still present, no structures within SA
2000 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 5.4.1a***	2000	-Steep sided ditch, ponds present along E side Central Ave -N end of SA grassed w tributaries bermed or banked -Central area covered by large parking lot, w grass buffer between it and RR; no structure/factory on SA or adjacent
2004 Aerial w/ Pelee *Public Interactive Mapping*, ERCA ***Supplementary Figure 5.4.1b***	2004	-Parking lot extended over most of SA -Large factory building on S side of Plymouth Ave extends into SA inside parking lot - Turkey Cr tributaries channelized into ditches or covered over with parking, ponds expanded and dredged -New series of banks/berms abutting Plymouth Ave -Small structure present between parking lot and RR, within larger area of disturbance
2006 Aerial w/ Pelee *Public Interactive Mapping*, ERCA	2006	No change from previous aerial image
2008 Aerial *Public Interactive Mapping*, ERCA ***Supplementary Figure 5.4.1c***	2008	-Large building demolished, along with some parking lot in N part of SA -Disturbed area around small structure re-vegetated
Aerials *Public Interactive Mapping*, ERCA	2010-2017	No change from previous aerial image
Aerial *Public Interactive Mapping*, ERCA (***Figure 5.4.1d***)	2019	No change from previous aerial image

5.4.5 SMP Central Avenue Expansion - Historical Plaques

There are no historical plaques in the vicinity of the SMP Central Avenue Expansion.

5.4.6 SMP Central Avenue Expansion - Property Inspection Results

The Property Inspection for the proposed SMP Central Avenue Expansion was conducted on 20 February 2020, under clear skies and a temperature of -5 °C, with no snow cover impacting visibility.

The proposed SMP Central Avenue Expansion Study Area was composed of two areas, one accessible (west half) and one surrounded by a high security fence (east half), though the eastern section was viewable through the fencing.

The west half of the Study Area consists entirely of large concrete sewer drains, and large ponds flanked by steep slopes, and are surrounded by deep ditching and mounding (***Plates 5.4-1, 5.4-3, 5.4-4***). The topography is at a significantly lower elevation than the surrounding area. In the north west corner of the Study Area, a large concrete drain with limestone stones, has been constructed. The whole western half of the Study Area has been heavily modified with deep ditches, one along the west boundary and two in the centre are divided with berming (***Plate 5.4.3***). The bermed area, where visible, is composed of yellow/grey clay with rolled stones, concrete, and asphalt inclusions. Several areas have constructed stone runoffs. From the ditch and ponds up to the fenced area and up to Central Avenue overpass, is a very steep incline with planted trees and bush.

The fenced off area on the east side of the Study Area contained asphalt parking lot, light posts, un-manicured grass, large piles of construction debris and buildings (***Plates 5.4-2*** and ***5.4-5***). This portion of the Study Area is at a significantly higher elevation than the area on the west half. Large piles of construction debris and a large transport truck trailer are present in the mid-north portion and a few small buildings are located in the southeast of this section, with various piles of construction debris and machines.

The Property Inspection confirmed that the entire landscape of the SMP Central Avenue Expansion Study Area has been heavily modified. Images from the Property Inspection are provided on ***Figure 5.4.2***.

5.4.7 SMP Central Avenue Expansion - Archaeological Potential

The whole of the SMP Central Avenue Expansion Study Area has been extensively, and heavily modified within the latter part of the 20th century and early 21st century. The original farmland was engulfed in the 20th century by industrial expansion, with the construction of a factory and extensive parking lot *ca.* 2000-2004 (see ***Supplementary Figure 5.4.1a & b***). The western section of the Study Area was modified to provide containment ponds for Turkey Creek and its tributaries. This was further modified by the addition and expansion of these ponds in the early 2000s, while the decline of the factory is evident by the dismantling of the structures and dramatic reduction of the parking lot area (see ***Supplementary Figure 5.4.1c***). All of this late 20th/early 21st century activity indicates that the landscape has been deeply disturbed. Therefore, there is no archaeological potential remaining for the whole of the Study Area, as indicated on ***Figure 5.4.2*** and no further archaeological work is recommended.

5.5 South Windsor Sewershed - Summary of Potential

The four solutions within the South Windsor Sewershed have each been examined through background research and Property Inspections. None of these Study Areas (Dougall Underpass SMP, 2929 Howard Avenue SMP, 2459 Chrysler Centre SMF, and the Central Avenue SMP Extension), exhibit or retain high archaeological potential and no further work is recommended for these locations. A summary of these results is provided in **Table 5.5.1** and full recommendations are in **Section 8.3**.

Table 5.5.1
South Windsor Sewer Shed Solutions - Archaeological Potential Summary Chart

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
5.1	South	Grand Marais Drain	Stormwater Management Pond, Dougall Underpass	ROAD-S1	No water within 300M	Farm land/agricultural field, apparently escaped any development apart from former road edge across south end & former Northwood St in NE corner. Not within proximity to any historic roads or structures. NE corner approx. 50m from railway.	No	Level, former agricultural field with utilities & previous road construction around the edges	Low (Disturbance along edge near railway and no high potential triggers for remainder)	No further work
5.2	South	Grand Marais Drain	Stormwater Management Pond, 2929 Howard Avenue	ROAD-S2	<300M from historic Turkey Cree (now channelized as the Grand Marais Drain)	In vicinity of a toll gate on 1880 Atlas; on Windsor, Essex & Lakeshore Electric Railway (1913); industrial lands for the MCR & NYCR (1920s); industrial lands (1960s); commercial use (2000s); Grand Marais Road and Canal buffers	No	All paved with one structure; steep bank on the south up to the EC ROW overpass	Low (due to extensive modern disturbance)	No further work
5.3	South	Grand Marais Drain	Stormwater Management Facility (Underground Storage), 2459 Chrysler Centre	ROAD-S3	> 300M to Turkey Creek	Farm land til post-1950, no known historic structure.	No	Parking lot for Chrysler Plant with graded lawn along NE edge, building in SW corner & dead end of Cadillac Street in NE corner; utilities present.	Low (no high potential triggers, & modern disturbance)	No further work
5.4	South	Grand Marais Drain	Expansion, Central Avenue Stormwater Pond	STM-S7	Tributaries of Turkey Creek historically crossed this property;	Farm land until late 20th C, fronting historic Grand Marais Rd; CP Rail ca 1890s forms southern boundary of Study Area; two structures fronting Grand Marais ca 1912; Central Pond & SE parking lot present as of 2000; additional parking lots & large building by 2004, demolished in 2008.	No	West half: ponds, ditches, berms, banks - heavily modified; East half: industrial with paved parking area, flat with piles of concrete and gravel in the north & structures in the southeast - also heavily modified; both section steeply banked up to surrounding roads/rails	Low (due to extensive modern disturbance)	No further work

6.0 Riverside Drive Vista Phase 2A and East Riverside and Riverside Drive East- Coastal Flood Protection Landform Barrier

Due to the extensive overlap of Study Areas for the Riverside Drive Vista Phase 2A and the Coastal Flood Protection Landform Barrier, these two proposed works are combined under **Section 6.0**.

The proposed Riverside Drive Vista Phase 2A and Riverside Drive East Landform Barrier Stage 1 Study Area is deliberately broad in scope in order to allow for a wide range of construction activities within it, and/or future detailed design alterations. It is possible that the footprints of the Study Area may later be reduced based on detailed design refining the construction zones, and therefore subsequent archaeological work could utilize the refined Study Area. As a *caveat*, the reader is reminded to review the Introduction (**Sections 1.0, 1.1**, and **1.2**) and the Final Conclusions and Final Recommendations (**Sections 7.0, 8.0**, and **8.4**) in conjunction with **Section 6.0**.

6.0.1 Proposed Riverside Drive Vista Phase 2A

The proposed Riverside Drive Vista Phase 2A project entails full road reconstruction, watermain, sanitary sewer and storm sewer improvements from west of Ford Boulevard to east of St. Rose Avenue (***Figure 6.1***). There are currently extant storm and sanitary sewers within the Riverside Drive East road ROW, and abandoned sewers from the west limit to Esdras Place (City of Windsor n.d.-b). The proposed works will require distribution and construction up to 4.5 metres south of the Riverside Drive East ROW property line along the entire length of this area, and up to 10 metres north of the northern ROW property line (**Development Plans** and Dillon Consulting Limited, personal communication). These dimensions provide the maximum scope for the archaeological Stage 1 Study Area boundaries for the Riverside Vista Phase 2A component (see ***Figure 6.2a*** for a schematic overview and ***6.10a-c*** for the specific Study Area limits). The proposed RIVERSIDE Vista Phase 2A Study Area encompasses all of the Riverside Landform Barrier Area 1 Study Area, extending approximately 400 metres west of Area 1 to 5245 Riverside Drive East. The Vista Phase 2A Study Area also extends approximately 35 metres to the east of Area 1, to 7045 Riverside Drive East, slightly overlapping the Riverside Landform Barrier Area 2 Study Area. The historical lot designation for the Vista Phase 2A Study Area is Part of Lots 113 to 123, Concession One, Former Township of Sandwich East.

6.0.2 Proposed New and Upgraded Landform Barrier, Riverside Drive East (BERM-1-2, BERM-2-1, BERM-3-2)

The Landform Barrier is a flood management feature, and is being upgraded in some areas, and newly constructed in others. Portions of the current landform barrier that do not require any alteration or construction are still considered within the archaeological Study Area for consistency and ease of reporting and for future reference. The overall Landform Barrier extends from Ford Boulevard to the Town of Tecumseh border (Dillon and Aquafor 2020d), however the archaeological Study Area and the preferred solutions begin at 5656 Riverside Drive East somewhat east of Ford Boulevard (Dillon and Aquafor 2020d) (***Figure 6.1***). The historical lot designation for the Landform Barrier Study Area is Part of Lots 115 to 149, Concession One, Former Township of Sandwich East.

The Riverside Landform Barrier is divided into three sections, from west to east, these are: Area 1 (BERM-1-2 or -E1); Area 2 (BERM-2-1 or -E2); and Area 3 (BERM-3-2 or -E3). The Landform Barrier Study Areas width is defined as being from the closest edge of Riverside Drive East footprint (not including the shoulder), to five metres past the proposed berm footprint (upgraded or new). Where the Riverside Drive Vista Phase

2A overlaps with the Landform Barrier Study Area (all of Area 1 and the west end of Area 2), the northern limit of the Landform Barrier Study Area is a minimum of 10 metres north of the Riverside Drive East ROW property line. For locations within the remainder of Riverside Area 2 and for all of Area 3, where there is no need to upgrade the existing berm, the Study Area is defined as encompassing an area five metres beyond the edge of the Riverside Dr. E.'s footprint on the same side of the road where the berm is generally situated, or to the edge of the ROW or proposed easement (if applicable), or from the road footprint to the south side of the Ganatchio Trail where relevant in Riverside Area 3 (see ***Figures 6.2a-c*** for a schematic overview and ***Figures 10a-k*** for the specific Study Area limits). The start and end points of each section, and which side of Riverside Drive E the Landform Barrier is to be located, are detailed in the following paragraphs.

Riverside Area 1 starts just east of Villaire Ave, within 5656 Riverside Dr. E, just west of 5680 Riverside Dr. E, on the north side of the road. Riverside Area 1 is to be upgraded throughout on the north side to the west edge of 6566 Riverside Dr. E. From that point until opposite 6845 Riverside Dr. E the current topography is sufficient and berm work is not required. It is currently unknown whether additional berming is to be required opposite 6845 Riverside Dr. E (see **Development Plan, Landform Barrier Sheet 3**), however there is no berm work planned for the section between 6867 and 7010 Riverside Dr. E, which marks the east end of Area 1. The east end of Area 1 crosses the St. Rose Pump Station Study Area (see **Section 4.1**) ending at the proposed pump station's eastern limit. ***Figures 6.2a*** presents an overview of Area 1.

Riverside Area 2 starts at the eastern edge of the St. Rose PS Study Area at the western boundaries of 7010 and 7007 Riverside Dr. E., and continues eastwards, where it passes St. Paul's PS Study Area (see **Section 4.3**). There is no berm work from the western limit of Area 2 until just past the St. Paul's PS Study Area, with the exception of a small section from 7250 to 7320 Riverside Drive E., on the north side opposite Belleperche Place. The berm work again starts at 7880 Riverside Dr. E on the north side of the road until 8040 Riverside, where it crosses the road and starts on the south side at the western boundary of 8057 Riverside Dr. East. The berm work stops between Watson Avenue and 8555 Riverside Dr. E., where upgrades had previously been completed. The upgrade work then continues from 8575 eastward to the Brumpton Park Study Area (see **Section 4.6**), just west of Riverdale Avenue. ***Figures 6.2b*** presents an overview of Riverside Area 2.

The Riverside Area 3 overlaps with the end of the Brumpton Park Study Area and follows the Ganatchio Trail eastwards on the south side of Riverside Drive East. There is an extant berm within this section, also along the Trail, and therefore some of the Trail is at a high enough elevation that upgrade work is not required. The Berm/Trail follows along the south side of the road, over the Little River, until it finishes at the Blue Heron/Lakeview PS Study Area (see **Section 4.4**) on the border with the Town of Tecumseh. (Note that archaeological potential has not been assigned to the channelized Little River portion in this report.) See ***Figures 6.2c*** for an overview of Area 3.

The whole of the Riverside Area 3 route follows the Ganatchio Trail. This is a bike and walking trail that was started by the City of Windsor and currently extends from the east end of Little River Road to the border of the Town of Tecumseh (City of Windsor n.d.-a:38). The trail comes north through Brumpton Park, and then heads east just south of Riverside Drive East. The main part of the trail follows the former Windsor & Tecumseh Electric Railway Co. right-of-way (ROW). The company started buying up land *ca*1905 and by the 1940s the service was defunct. The ROW was then turned into part of Clearview Avenue, and then eventually used as the trail.

In 1979, the Ganatchio Trail was three kilometres long. By 1983, with the help of the National Participation

Movement, the trail was extended to eight kilometres (City of Windsor n.d.-a:38). The trail "includes the original asphalt path limited to bike and pedestrian use and bordered by green space; a mixed-use bike path on residential streets and a pedestrian/bike path through the naturalized parkland of the Little River Corridor" (City of Windsor n.d.-a:38). The pathway was raised, creating a low berm, by using the dredged material from the Detroit River when the city was creating the Lakeview Park Marina (City of Windsor n.d.-a:38).

6.1 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Known Archaeological Sites

For Riverside Drive Vista Phase 2A and for the Landform Barrier Riverside Area 1 and Area 2, there are no registered archaeological sites within one kilometre of these three Study Areas. For RIVERSIDE Area 3, there is one registered archaeological site in the OASD within one kilometre of this Study Area. This is AbHr-19, the Nicodemo-Dupuis site, which is Early Archaic to Terminal Woodland period campsite with a Middle Archaic component located south of the Study Area. For more discussion of the site, please refer to **Section 4.5.1**.

6.2 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Previous Archaeological Work

There are six previous archaeological reports for work within 50 metres of the Riverside Landform Barrier Study Area. These are outlined below according to their relevant section of the Barrier.

1) Mayer Heritage Consultants Inc. (2005). *Archaeological Assessment (Stage 1), Proposed Vista Improvement, Riverside Drive East and West, City of Windsor, County of Essex, Ontario*.

The first is a report by Mayer Heritage Consultants Inc. (2005) that has been summarized in **Section 4.1.2**. The report appears to overlap with all three of the Riverside Landform Barrier Study Areas as well as the Vista Phase 2A Study Area. No reports relating to any additional assessments associated with the Vista Improvements were identified in the MHSTCI report database. Please refer to **Section 4.1.2** for a summary of this report.

6.2.1 Riverside Drive Vista Phase 2A & Riverside Area 1 (BERM-1-2), Ford Blvd to St. Rose Ave.

Apart from MHCI 2005, there are no other previous archaeological reports for work within 50 metres of the Vista Phase 2A and Riverside Landform Barrier Area 1 Study Areas.

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The Riverside Vista Phase 2A and Area 1 of the Riverside Landform Barrier Study Areas are located within an area of pre-1800 Euro-Canadian settlement and within 100 metres of an historic road, as identified by the WAMP (CRM Group *et al.* 2005:Figure 2). It is also within the buffer zone for the Detroit River (CRM Group *et al.* 2005:Figure 1).

6.2.2 Riverside Area 2 (BERM-2-1), St. Rose Ave. to Riverdale Ave.

2) Cultural Resource Management Group Limited (2016). *Stage 1 Archaeological Assessment Report, 233 Watson Avenue Archaeological Assessment, Part of Lot 129, Concession One, Geographic Township of Sandwich, Windsor, Essex County, Ontario*. PIF P109-0054-2016. Report on file at MHSTCI.

In 2016, CRM Group conducted a Stage 1 background study for the property at 233 Watson Avenue, located

between Watson and Frank Avenues south of Riverside Drive E, approximately 30 metres south of Riverside Area 2. The background study determined that the property had moderate potential for both Indigenous and historic Euro-Canadian archaeological resources, and should undergo further assessment via shovel test pit survey (CRM Group 2016a:16-18).

3) Cultural Resource Management Group Limited (2016). *Stage 2 Archaeological Assessment Report, 233 Watson Avenue Archaeological Assessment, Part of Lot 129, Concession One, Geographic Township of Sandwich, Windsor, Essex County, Ontario*. PIF P109-0056-2016. Report on file at MHSTCI.

In 2016, CRM Group assessed the property at 233 Watson Avenue (30 metres south of Riverside Area 2) through a shovel test pit survey. The test pit survey determined that the property had been extensively disturbed during modern times, and nothing of cultural heritage value or interest was identified (CRM Group 2016b:11).

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Area 2 of the Riverside Landform Barrier Study Area is located within an area of pre-1800 Euro-Canadian settlement and parts are within 50 metres of the historic Windsor & Amherstburg Railway, as identified by the WAMP; it also crosses the 100-metre buffer for historic Lauzon Road, and is within the buffer for the Detroit River (CRM Group *et al.* 2005:Figures 1 & 2). The east end of Area 2 is indicated as low potential in the WAMP likely due to modern disturbances (CRM Group *et al.* 2005:Figure 4).

6.2.3 Riverside Area 3 (BERM-3-2), Riverdale Ave. to East City Limits

4) Cultural Resource Management Group Limited (2000). *Archaeological Assessment, Part of Lot 135, Concession 1 & Part of Block 103, Plan 12-M182, City of Windsor, Essex County, Stages 1 & 2 Archaeological Assessment Report*. CIF 2001-031-004. Report on file at CRM Group.

In 2000, CRM Group conducted a Stage 1 & 2 background study and assessment on a property on the south side of Riverside Drive E within the block formed by Martinique Drive, Menard Street, and Flora Avenue (CRM Group 2000:Figure 3). The property was determined to have high potential for archaeological resources, and was subjected to shovel test pit survey. Initial shovel testing in the northern third identified deep fill deposits.

> "The fill extended south from the northern limit of the property adjacent to Riverside Drive for a distance of between 90 metres on the east and 50 metres on the west, covering the northern third of the property (Plate 1 [showing testing in relation to the Ganatchio Trail]). The lower fill material consisted primarily of concrete and asphalt rubble. The upper fill deposit was clean clay loam. " (CRM Group 2000:7).

Subsequently, only the southern two thirds of the property was shovel tested in 2000. Nothing of cultural heritage value or significance was identified in intact archaeological deposits, although two Indigenous artifacts were recovered from fill (CRM Group 2000:10). The north part of the assessment area was not cleared of archaeological concern due to the presence of deep fill, and was recommended for additional assessment following the removal of the fill; the remainder of the property was not recommended for further archaeological assessment (CRM Group 2000:11). The Riverside Area 3 Study Area passes through the north end of the area assessed by CRM Group and identified as having deep fill layers (***Figure 6.3a***).

5) Cultural Resource Management Group Limited (2002). *Archaeological Assessment, Part of Lot 135, Concession 1 & Part of Block 103, Plan 12-M182, City of Windsor, Essex County, Stage 2 Archaeological Monitoring Report*. CIF 2001-031-004. Report on file at CRM Group.

In 2000, CRM Group conducted Stage 2 monitoring for the preparation of the road allowance for Mountbatten Crescent within the area recommended for further archaeological assessment in an earlier report (see CRM Group 2000, above). CRM Group monitored the removal of fill from the road allowance, and shovel-shined exposed areas to look for archaeological features (CRM Group 2002). While buried topsoil was identified in the southern part of the monitored area, the northern part of the road allowance consisted entirely of fill, with evidence that any buried topsoil had been stripped out at an earlier date (CRM Group 2002:15). Remnant organic deposits periodically present immediately above the blue clay subsoil (CRM Group 2002:15) implied wet forest or swamp environment. Evidence of infilling with domestic refuse in the late 20th century was also encountered (CRM Group 2002:15). Nothing of cultural heritage value or interest was identified during the Stage 2 monitoring. The Riverside Landform Barrier Area 3 Study Area crosses approximately 10 metres north of the northern end of the stripped area (***Figure 6.3b***). As a result of the monitoring and the previous shovel testing undertaken by CRM Group in 2000, the 2002 report recommended that the whole of "the northern third of the property be cleared of any further archaeological conditions" (CRM Group 2002:17).

6) Wood. (2019). *Stage 1 Archaeological Assessment, East Riverside Municipal Environmental Assessment, Part of Lots 145, 146, and 147, Concession 1 Petite Cote, Former Township of Sandwich East, Essex County, Now in the City of Windsor, Ontario*. PIF P348-0053-2019. Report on file at MHSTCI.

In 2019, Wood. conducted a Stage 1 background study as part of the East Riverside Municipal Environmental Assessment, which addressed a large area either side of Jarvis Avenue 10 metres south of Riverside Drive E, between Banwell Road and McTague Court/Whistler Crescent (Wood. 2019:Figure 2). The background study determined that the property possessed archaeological potential due to its proximity to Lake St Clair and the presence of a known Indigenous archaeological site within one kilometre (Wood. 2019:11). A Property Inspection determined that the property retained archaeological potential warranting Stage 2 assessment in lawn and vegetated areas, but did not retain archaeological potential within the footprints of extant structures, roadways, and driveways (Wood. 2019:13, Figure 8). The Riverside Landform Barrier Area 3 Study Area is approximately 10-15 metres north of the northern end of this previous study area (see ***Figure 6.3c***).

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Area 3 of the Riverside Landform Barrier Study Area is located within an area of pre-1800 Euro-Canadian settlement and within 50 metres of the historic Windsor & Amherstburg Railway, as identified by the WAMP (CRM Group *et al.* 2005:Figure 2). It is located within the buffer zones for the Detroit River/Lake St. Clair, the Little River, and two other unnamed waterways (CRM Group *et al.* 2005:Figure 1). Sections of Area 2, however, cross areas denoted as low potential in the WAMP, the designation likely due to modern disturbances (CRM Group *et al.* 2005:Figure 4).

6.3 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Environmental Factors

Most of the Riverside Landform Barrier Study Area is level, although as it is located along the River over land historically documented as marsh, it is unlikely that the topography is natural.

Four soil types occur across the Riverside Landform Barrier Study Areas: these are Brookston Clay Loam, Brookston Clay, Colwood Fine Sand Loam, and Clyde Clay soils (see **Section 1.3.2** for detailed descriptions). All four soil types are characterised by poor natural drainage (Richards *et al.* 1949).

The entirety of the Riverside Landform Barrier is within 300 metres of the current shoreline of the Detroit River; in most parts of the Study Area this distance is less than 100 metres. Prior to infilling of the shoreline beginning in the late 19th century, much of the Study Area would have been over or directly adjacent to the marshes lining the south shore of the River (see **Section 1.3.3**).

6.3.1 Riverside Drive Vista Phase 2A & Riverside Area 1 (BERM-1-2), Ford Blvd to St. Rose Ave.

Soils in Riverside Vista Phase 2A and the Landform Barrier Riverside Area 1 are Brookston Clay Loam and Brookston Clay. Within the Study Area, Brookston Clay Loam occurs from west of Ford Boulevard to just east of St Louis Avenue, and Brookston Clay occurs from just east of St Louis Avenue to St Rose Avenue.

The entirety of the Vista Phase 2A and Riverside Area 1 are within 100 metres of the current Detroit River shoreline. Two small watercourses feeding into the River were documented on the early 20th century superceded NTS maps within these Study Areas (***Figures 6.5 and 6.6***)

6.3.2 Riverside Area 2 (BERM-2-1), St Rose Ave. to Riverdale Ave.

Soils in Riverside Area 2 are Brookston Clay, Colwood Fine Sand Loam, and Clyde Clay. Within the Study Area, Brookston Clay occurs from St Rose Avenue to just west of Belleperche Place; Clyde Clay occurs from just west of Belleperche Place to 150 metres southwest of Lauzon Road and again at the west end of Area 2 around Riverdale Avenue; and Colwood Fine Sand Loam occurs from 150 metres southwest of Lauzon Road to just west of Riverdale Avenue.

The entirety of Riverside Area 2 is within 100 metres of the current Detroit River shoreline. The current mouth of the Little River is 100 metres to the east of the eastern edge of Riverside Area 2, its former mouth being in the vicinity of Brumpton Park and within Area 2. Additionally, a small watercourse fed into the Detroit River near Eastlawn Avenue and was documented on the early 20th century NTS maps (see ***Figures 6.5 and 6.6***).

6.3.3 Riverside Area 3 (BERM-3-2), Riverdale Ave. to East City Limits

Soils in the Riverside Area 3 are Colwood Fine Sand Loam and Clyde Clay. Within the Study Area, there is a small pocket of Clyde Clay at the west end of Area 3 around Riverdale Avenue, and the soil also occurs from just east of Greenpark Boulevard to the east boundary of the City of Windsor. Colwood Fine Sand Loam occurs from just east of Riverdale Avenue to just east of Greenpark Boulevard.

Most of Riverside Area 3 is within 100 metres of the current Detroit River shoreline, except where that shoreline has been extended in the area of the Southwestern Sales Corporation dock (10120 Riverside Drive E) and at the City of Windsor boundary. Riverside Area 3 crosses the current mouth of the Little River between Riverdale and Bertha Avenues. Three small watercourses feeding into the Detroit River or Lake St. Clair within Area 3 have also been documented on various historic maps or aerial photographs in the vicinity

of Florence Avenue, Clairview Avenue, and at the Windsor/Tecumseh border (***Figures 6.4, 6.5*** and ERCA 2016: Historic Aerials).

6.4 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Historical Research Summary

The Riverside Drive Vista Phase 2A and the Riverside Landform Barrier are located in the northeastern part of Windsor, along the Detroit River and Lake St. Clair southern shorelines. The Vista Phase 2A historically includes part of Lots 113 to 123 while the Landform Barrier includes part of Lots 115 to 149, Concession One, Former Township of Sandwich East. Since the Vista Phase 2A and the Landform Barrier cover a substantial number of Historic lots, a general Historic overview of the Study Areas is provided below.

The following are a list of late 19th to 21st century viewed documents outlining the land use and development of the Study Areas 1, 2 and 3 for the Landform Barrier, the Vista Phase 2A Study Area encompassing and being discussed with the Landform Barrier Area 1.

Table 6.1
Proposed Riverside Drive Vista Phase 2A & Landform Barrier, Summary of Historical Records

Document	Date	Comments
Map of E&W Sandwich Townships *Historical Atlas of Essex and Kent* H. Belden & Co. 70 Chains : 1 Inch ***Figure 6.4***	1881	**Vista Ph2A&Area 1:** School on S side Riverside Dr E on boundary of Lots 115/116 Con 1; no creeks shown -House on Lot 114 fronting the S side of Riverside, lot listed as owned by James H Canniff **Riverside Area 2**: Structure on S side Riverside on Lot 123 Con 1 at the intersection of St Rose, listed as Alex St. Louis -Mouth of Little R shown as wide opening into Lake St Clair, on E side of Gore Lot 131; swings E farther inland -No other watercourse shown in Area 2 **Riverside Area 3**: Long watercourse enters Lake St Clair at boundary of Lots 142/143 Con 1 [note: map shows mouth too far E, and probably should be in Lot 141]; no other watercourse
Town of Walkerville, Township of Sandwich East, *Plan showing location of the Windsor and Tecumseh Electric Railways Company's line through portions of the City of Windsor* Owen McKay, O.L.S.	1905	-Very detailed map showing names of land owners, bearings, lots, and roads, and route of RR -Riverside Dr E labelled as "River or Front Rd" -W and E marsh drains shown but just labelled "canal" -St Rose indicated as Lauzon Rd -Mouth of Little R farther E than on *Historical Atlas*, and the N part of Little R is channelized

Document	Date	Comments
Belle River, Ontario 40J07 (Ed.1) Dept of Militia and Defence 1 : 63,360 ***Figure 6.5***	1912	-Overall shows very little development apart from along shoreline w wooden and brick structures along Riverside Dr -Electric RR on N side Wyandotte to St Rose, then parallel to shoreline S of Riverside to Wolf Point, then hugs S side of Riverside **Vista Ph2A&Riverside Area 1**: Small tributary noted around St Louis vicinity; W of this there is an increase in small 'cottages' on the N side of the road until Ford Blvd -Longer creek in vicinity of Janisse Dr (arises around the vicinity of the Grand Trunk Railway) **Riverside Area 2**: Small creek around Kiwanis Park at Eastlawn Ave; heads in SE direction and crosses Lauzon Rd somewhere N of St Rose Ave (possibly where Wyandotte crosses) -Little R mouth shifted E, no longer at border of Area 2/3 **Riverside Area 3**: Hospital at Lake View on N side of Riverside -Hospital E of Little R on N side of Riverside -Little R channelized for a distance S of flat river mouth entering Lake St Clair -School on S side of Electric RR (near Jarvis Ave) -Small watercourse near E end of SA in vicinity of Blue Heron/Lakeview PS SA; longer watercourse between Little R and E small watercourse no longer shown -Only N-S road is Lesperance just E of SA
Belle River, Ontario 40J07 (Ed.2) Dept of Militia and Defence 1 : 63,360	1920	-Electric RR labelled "Windsor and Amherstburg Railway (Electric)" -Very little change from 1912 NTS map -Some housing infill to the S around St Rose (outside of SA)
Page 8, 9, & 12*, *Essex Border Maps 1929-1959* H.W. Patterson ***Figures 6.9a-b*** *P8 updated 1946 & 1954; P9 updated 1960s; P12 1929-1963	1929-1959	**Riverside Area 2**: Thin strip of land between Riverside Dr and lake to Lauzon Ave -removed electric RR inland on N side of Clearview Ave -West Marsh Drain shown along S side of Riverside, just E of Frank Ave continuing E **Riverside Area 3**: Shows channelized Little R with Riverside Dr -E of Little R, S of Riverside Dr is East Marsh Drain, to its S a dashed line for the "removed" (late edit) electric RR, then to its S is Clairview Ave -Small section shown W of Little R, which shows the same information, but the drain is listed as the West Marsh Drain
Belle River, Ontario 40J07 (Ed. 3) Dept of National Defence 1:63,360 ***Figure 6.6***	1931	**Vista Ph2A&Riverside Areas 1&2:** Small tributaries still present, but roadways shown over top of them -Marshy ground N of Riverside Dr, E of St Louis Ave (one tributary shown) to between Patrice Pl and Homedale Blvd **Riverside Area 3:** Tributary area still undeveloped, school still present

Document	Date	Comments
Air Photos (Historical), 1931 Detroit River *Public Interactive Mapping*, ERCA 1 : 10,000 ***Figures 6.7a-b***	1931	**Vista Ph2A&Riverside Area 1:** Single residential lots w houses on N side of Riverside Dr up to ~Reedmere Rd eastward, then larger lots to Jefferson Ave, after which 3 small structures -E of Jefferson after houses is open land, no infill into lake -S of Riverside, residential development focussed along N-S cross streets St Louis, Reedmere, Jefferson, some more densely infilled than others -Small tributaries not visible except for one near Eastlawn **Riverside Area 2**: Thin strip of land on N side Isabelle Pl up to approx Lauzon Road; no infilling has started -Residential structures dotted here and there, no substantial buildings noted -Former electric RR used as road (Clearview Ave) -Housing N of Riverside from Lauzon Rd to the W as there was a wider swath of land between road & Lake St Clair -Mostly agricultural field from Watson Ave to the east -Shadow of probable Little R mouth to W of where current channelized mouth is situated; infilled, appears to have come through Brumpton Park **Riverside Area 3**: (covers E to Mountbatten Cres) Open agricultural fields to S of Riverside, some infilling shown to N of road -Former RR ROW clearly shown, parallel to/S of Riverside -Mouth of channelized Little R shown as 2 narrow spits of land either side (no infilling); some of Little R channelized, still natural farther S
Belle River, Ontario 40J07 (Ed. 4) Dept of National Defence Scale 1 : 63,360	1940	**Riverside Area 1, 2:** Not much difference from previous NTS map; more residential infilling, creeks shown **Riverside Area 3**: Little R channelized S to CPR, w a channelized drain heading SE, then E to almost the border w Tecumseh
Page 86, *Our Town: A History of Riverside, Ontario, 1921-1966 (Vol 1)* [photos] R. Fullarton	*ca.* 1945	**Riverside Area 2, 3:** Photo of Yacht Club in 1945 with ditches and disturbed area along S side of Riverside

Document	Date	Comments
Air Photos (Historical), 1947 Detroit River *Public Interactive Mapping*, ERCA 1 : 15,000 ***Figures 6.8a-b***	1947	**Riverside Area 2** (aerial covers most, from Belleperche Pl to the E): -Small lots N of Riverside, S of Riverside residential area peters out around Frank Ave and is agricultural to the east -Infilling into lake shown at end of Eastlawn Ave -Electric RR farther inland, near SA at extreme W end -West Marsh Drain visible on S side Riverside Dr **Riverside Area 3** (aerial covers all): SA vicinity in agricultural fields or orchards S of Riverside -Former electric RR tracks run along S side of Riverside -Infilling into lake started along N side of Riverside, and there are many narrow holdings with houses and driveways -Land either side of Little R mouth extensively infilled into lake, start of marina to the W visible -E-W section of Clairview S of former electric RR footprint until just E of Adelaide Ave, then connected onto bed of RR -Florence to Adelaide area subdivided, housing along streets -East Marsh Drain visible from Little R to Tecumseh border, on S side of Riverside Dr
Sheets 302, 304, 305-306, 308-309, 332-335, *Riverside Insurance Plan of Windsor (Vol. 3)* Underwriters' Survey Bureau Ltd.	1953	-Shows small watercourse right at Windsor/Tecumseh boundary; it just touches N side of Riverside Dr -East Marsh Drain shown starting farther E than previously -West Marsh Drain not shown at all -Only watercourses the one at the E end, and Little R
Air Photos (Historical), 1988 Detroit River *Public Interactive Mapping*, ERCA 1 : 9,000 ***Supplementary Figures 6.1a-c***	1988	Covers all three Berm areas **Vista Ph2A&Riverside Area 1**: Housing and yards to N and S of Riverside Dr -Land on N side of Riverside Dr to W of St Rose Ave not entirely infilled -Reaume Park opposite Ford Blvd present -Subdivisions to S of Riverside infilled now; houses fronting Riverside are set back from the road **Riverside Area 2**: Infilling N of Riverside from Eastlawn to Lauzon completed; area S of Riverside completely developed with residences, large apartment blocks **Riverside Area 3**: Areas N of Riverside infilled, more development -Areas S of Riverside less built up, more parks, open space -Housing either side of Jarvis w long, skinny lots on W side

Document	Date	Comments
Aerials *Public Interactive Mapping*, ERCA	2000 - 2019	**Vista Ph2A&Riverside Area 1, 2:** Minor changes with the areas having been built up prior to 2000 **Riverside Area 3:** Infilling N of Riverside for Shoreview subdivision -Gradual development of various subdivisions on S side of Riverside, with the exception of lands from Clover St to Chateau Ave (street W of Bellagio Dr) which are open fields behind houses off Riverside Dr E -Open lands between Jarvis and Banwell are grassed and treed parts of individual lots from residences fronting Jarvis

There are a number of factors that came into play in the latter part of the 19th century into the first part of the 21st century that have impacted the Vista Phase 2A and the three Berm Study Areas. There has been both residential construction and waterfront construction that have highly altered the landscape. There has also been the construction, and decommissioning of the Electric Railway, with its associated berm construction and placement of the Ganatchio Trail; the infilling or burying of watercourses; the channelization and movement of the Little River mouth along the shore of Lake St. Clair; and the excavation and filling in of two drains within the Study Areas. The above table has itemized the various changes through time for the Vista Phase 2A and the three Berm Study Areas, and each of these events will be discussed below.

6.4.1 Riverside Drive Vista Phase 2A & Riverside Area 1 (BERM-1-2)

The general vicinity of the Riverside Drive Vista Phase 2A and the Riverside Area 1 was the first area of these Study Areas to be developed and have residential neighbourhoods constructed. At the turn of the 1900s, the area was still relatively agricultural with houses dotted along major roads such as Front Road (Riverside Drive East), and there were not many north-south roads present. There were a number of early 20th century houses or cottages fronting the north side of Riverside Drive East from Villaire Avenue to Ford Boulevard on the 1912 NTS map (***Figure 6.5***) suggesting a small cottage community. Gradually, residential streets were constructed north-south and various residences including what was to be designated the Prado Heritage Conservation District just to the south of the Riverside Area 1 Study Area and overlapping the south edge of the Vista Phase 2A Study Area (City of Windsor 2020c). Reaume Park or Reaume-Coventry Gardens, in the west end of the Vista Phase 2A Study Area, was established in the mid-20th century (City of Windsor n.d.-a:78-79). Building and infilling of the shoreline within/adjacent to the Vista Phase 2A and Riverside Area 1 Study Areas started in the 1930s to 40s with more infilling as the decades proceeded, and this was generally from west to east from Riverside Area 1 to Area 2, and then Area 3.

There were two small watercourses noted draining into Lake St. Clair in the Riverside Vista Phase 2A and Riverside Area 1 Study Areas. They were recorded in the vicinity of St. Louis Ave. and Janisse Drive. These were noted on various early 20th century topographic maps, and were gradually filled in or put underground. The 1920s to 1930 NTS maps still showed their presence, but streets had been laid over top of them.

6.4.2 Riverside Area 2 (BERM-2-1), St Rose Ave. to Riverdale Ave.

There was one watercourse shown on the Historic mapping that emptied into Lake St. Clair around Eastlawn Avenue, in the Kiwanis Park. The area has been quite built up with residences during the 20th century and there is evidence that the Little River's mouth was once within the eastern limit of the Riverside Area 2 Study Area but had been moved east sometime in the latter part of the 19th century to the early part of the 20th.

The Windsor & Tecumseh Electric Railway "...tracks ran down Wyandotte Street to Isabelle Place, and from Isabelle they followed the present day Ganatchio Trail to Lesperance Road." (Fullarton 2008:26). The Ganatchio trail headed towards Lake St. Clair at Brumpton Park and then turned east to parallel Riverside Drive and the lake shoreline. The Electric Railway was in operation from 1907 to 1938 (Fullarton 2008:27). The Land Registry records indicate that the buying of the land from the numerous landowners took place in 1905, and its construction was completed in two years when it opened in 1907. The construction of the railway through the Riverside Area 3 Study Area would have contributed to the extensive disturbance.

The 1905 Electric Railway map and the Essex Border Map show the presence of the west marsh drain or canal running from approximately halfway between Frank Ave and Watson Avenue, along the south side of Riverside Drive East. This drain continued all the way to the eastern edge of the Riverside Area 2. The west marsh drain had been entirely filled in by 1953 as it was not depicted on the Fire insurance maps of that year. The dredging and subsequent filling in of the west drain would have extensively disturbed most of the area along the southern edge of Riverside Drive East in Riverside Area 2.

6.4.3 Riverside Area 3 (BERM-3-2)

The Riverside Area 3 Study Area is the westernmost part of the Landform Barrier. This area has been the last to be developed, and today it still has some open land to the south of Riverside Drive East. One large change to the Study area has been the apparent shifting and channelization of the Little River. The *Historical Atlas* of 1881 has the mouth of the River as being fairly wide, located on the wedge shaped Lot 131, and the river's course was shown as fairly meandering (H. Belden & Co. 1881). By the 1912 NTS map, the River had been channelized and straightened, and its mouth had appeared to have been shifted east into Area 3. Over the next couple of decades, the River was transformed into two watercourses further inland: one part a straight channel, and the other original course meandering to the east of that channel. By 1940, the channelization had been completed all the way south to the Canadian Railway. The aerial photographs show that there were indications that the mouth of the Little River had indeed been shifted from the eastern end of Area 2 (in Brumpton Park) to the western end of Riverside Area 3. This infilling and straightening occurred sometime after 1881 and before 1905 when the map of the Electric Railway showed the mouth in its current location and the Little River channelized.

There were three watercourses in the Riverside Area 3 Study Area that drained into Lake St. Clair, plus the Little River which flows into the Detroit River. The easternmost one is at the boundary between the City of Windsor and the Town of Tecumseh. This is within the Heron/Lakeview PS Study Area. There was a much longer watercourse that probably debouched into the lake somewhere on Lot 141 or at the border of Lot 142/143. It should be noted that this watercourse appeared on the 1881 *Historical Atlas*, but none of the early 20th century NTS maps. The aerial photographs are difficult to determine where this watercourse exited into the lake, but the watercourse is still in evidence in the later 20th century aerial photographs further inland, but its exit is not discernible. The Property Inspection noted it had been channelized, and a culvert under Riverside Drive E. on Lot 141 east of Clairview Avenue (see **Section 6.6.3**). The third watercourse is a small tributary that is visible on the 1947 aerial photograph (ERCA Interactive Mapping) and which flows to the Lake west of Florence Avenue on Lot 138 (see ***Figure 6.8b***).

The Essex Border Map and the 1947 Aerial (ERCA) show the east marsh drain along the south side of Riverside Dr. E from Little River to the Tecumseh border. The east marsh drain was still partly open in 1953 based on the Fire Insurance Plan of that year. The dredging and subsequent filling in of the east drain would have extensively disturbed most of the area along the southern edge of Riverside Dr. E in Riverside Area 3.

6.5 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Historical Plaques & Heritage Notes

There are no historical plaques within the Riverside Drive Vista Phase 2A and Riverside Landform Barrier Study Areas.

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Several historical house properties within or in close proximity to the Riverside Drive Vista Phase 2A and Riverside Landform Barrier Study Area are listed on the *Windsor Municipal Heritage Register* (City of Windsor 2019) (see **Appendix D**). These were flagged on the development plans and have been reviewed for archaeological significance only. This report is not to be considered a historic structure study.

Within the Riverside Drive Vista Phase 2A and Riverside Area 1 Study Area, from 5245 Riverside Drive on the west side of Ford Boulevard to 7055 Riverside Drive, there are twenty-one Heritage Sites, as well as the Prado Place Heritage Conservation District, listed on the Windsor Municipal Heritage Register (City of Windsor 2019). Most of the listed properties date from the mid 1920s to 1940s, except for seven properties which are of special note and described as follows.

The Prado Place Heritage Conservation Districts north boundary falls within the Study Area (City of Windsor 2005). The Prado Place subdivision, within the original Farm Lot 114, dates to the 1920s, with the north west corner reserved as an 'Estate' owned by Joseph L. Hudson, the founder of the Hudson's Department Store (now Marshall Fields) in Detroit, in 1881 (City of Windsor 2005). The City of Windsor designated the Prado Place Heritage Conservation District under Part V of the Ontario Heritage Act (By-law 353-2004) in 2004, as an area of "significant cultural landscape" (City of Windsor 2005:2.0). Listed as Heritage Attributes and of special interest are the streetscape elements (right-of-way, curbs, trees) and Historic Town of Riverside cast iron Street Lights, one of which is located within the Study Area, on the southeast corner of the Riverside Drive and Prado Place intersection (City of Windsor 2005: 6.3, Appendix E).

Esdras Place Park was established in 1913 and is located on the north side of Riverside Dr. opposite Esdras Place. The Landform Barrier will be constructed through the south part of Esdras Place Park, named after Esdras Parent, one of the original land owners of the Farm Lot 116, Concession One, former Sandwich East Township (Fullarton 2008:109).

The house at 5265 Riverside Dr. East, built in 1890 and known as the George Janisse House, relates to the family of the earliest settlers in Sandwich Township. Also built by the Janisse family, is the house at 5325 Riverside Dr E., known as the Janisse-Schade House, built in 1928 and listed as Designated on the Windsor Municipal Heritage Register (City of Windsor 2019). The house at 5635 Riverside Dr E. built in 1912, relates to the St. Louis family who received the Crown Patent for the Lot 115, Concession One, former Township of Sandwich East (Plate 6-45, the white house). The Patrice Reaume House, located at 6185 Riverside Dr E., was constructed in 1868, is a French Farmhouse within the original Lot 117, Concession One, former Township of Sandwich East (***Plate 6-47***). Constructed in 1812, the Pierre Belleperche House, at 6405 Riverside Dr E., is an early 19th century French farmhouse built within Lot 119, Concession One, former Township of Sandwich East. These structures would have originally been within the larger Farm Lots included in the impacted Riverside Drive Vista Phase 2A Study Area.

Within the Riverside Area 2 Study Area, there are five Heritage Sites listed along Riverside Drive East, although none will be directly impacted (City of Windsor 2019). Of note, within 50 metres of the Study Area,

on the south side of Riverside Dr. E., are two properties dated to the 19th century (City of Windsor 2019). The 1850 French farmhouse, known as the Leandre St. Louis House, is located at 7075 Riverside Dr. E. on the original farm Lot 123, Concession One, former Township of Sandwich East (discussed in **Section 4.1.5**). The Bungalow located at 7341 Riverside Dr. E. dates to 1900, and is within the original farm Lot 124, Concession One, former Township of Sandwich East owned by A. Belleperche (***Figure 1.9***). The remaining three Heritage Sites date to the 1920s and 1930s (City of Windsor 2019).

Within the Riverside Area 3 Study Area, there are three Heritage Sites listed on the Windsor Municipal Heritage Register along Riverside Drive East, although none will be directly impacted (City of Windsor 2019). These are listed on Appendix D. The Lighthouse was moved to this location in 1980, and the two house structures date to the 1920s and 1930s (City of Windsor 2019).

6.6 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Property Inspection Results

The Property Inspection for the proposed Riverside Drive Vista Phase 2A and the Riverside Landform Barrier was conducted over two days, 27 - 28 November 2019. The weather was overcast both days, with a high of 9 °C on the 27th, and 2 °C on the 28th. Visibility and ground conditions were excellent, and there was no snow. Results of the inspection are presented on ***Figures 6.10a to 6.10k*** (note there is no 6.10i).

6.6.1 Riverside Drive Vista Phase 2A & Riverside Area 1 (BERM-1-2), Ford Blvd to St. Rose Ave.

Riverside Vista Phase 2A - Ford Blvd to Villaire Avenue

The Vista Phase 2A begins in the west part way through 5270 and at 5245 Riverside Drive E. (on the north and south sides of the road respectively). For discussion purposes, the Vista Phase 2A Study Area has been divided into western and eastern segments, dividing at 5656 Riverside Drive East at the start of the Landform Barrier Area 1 (see below for a description of the eastern segment). ***Figure 6.10a*** displays the Property Inspection results for this western segment of the Vista Phase 2A project. The proposed Ford PS Upgrades solution is also partially within the western end of this Study Area (see **Section 4.2**).

In the western segment, Riverside Drive E. itself is paved and narrow. Utilities such as water mains and storm and sanitary sewers were noted in the road ROW. There is a sidewalk on the south, with generally a narrow grass verge between the road footprint and sidewalk. The northern ROW edge, beyond the road footprint, varies from gravel to paved, with driveways and landscaping in some cases up to the road with little to no road shoulder present.

The southern edge of the Vista Phase 2A Study Area, western segment, consisting of a 4.5 metre strip south of the southern ROW, is primarily lawns intersected by driveways and streets. This is a residential neighbourhood, and the houses fronting the south side of Riverside Drive East typically have deep front lawns with minimal signs of landscaping (***Plates 6-43, 6-45***). The houses themselves generally appear to have been constructed at various times throughout the late 19th-20th century.

The northern portion of the Vista Phase 2A Study Area, western segment, extends 10 metres beyond the Riverside Drive East ROW, and, apart from Reaume Park northwest of, and opposite the Ford Boulevard intersection, it is also all residential lots. Many of the houses are new builds, having replaced the early 20th century houses/cottages first indicated on the 1912 NTS map, and are large in scale with substantial landscaping and hardscaping of their front yards (***Plate 6-44***). Others have lawns with little visible evidence of extensive disturbance.

Plates 6-43 to 6-45 provide an overview of the topography and current conditions of this western segment of the Riverside Vista Phase 2A. See also **Section 4.2, Ford PS Upgrades**, ***Figure 4.2.5***, ***Plate 4.2-1*** for a photo of the Study Area within Reaume Park.

Riverside Vista Phase 2A & Riverside Landform Barrier Area 1 - Villaire Avenue to St Rose Avenue
The eastern segment of the Vista Phase 2A portion includes both the north side of Riverside Drive E., described in the following paragraph with the Landform Barrier Area 1 Study Area, and the road and south side of the road, described here and depicted on ***Figures 6.10a - 6.10c***). Riverside Drive E. is a narrow, paved road with little to no shoulders. There is a sidewalk within the southern ROW, separated from the road by a narrow grass verge. Fire hydrants and storm sewer grates signified the presence of utilities within the ROW. Residential lots continue to front Riverside Drive E. on its south, the houses generally of 20th century construction with minimal landscaping. The front yards are deeper in the west, shortening in length and increasing slightly in degree of obvious landscaping as one moves from west to east, however most of the Study Area south of the ROW is still in lawn (***Plates 6-45 - 6-48***).

Area 1 of the proposed Riverside Landform Barrier Study Area begins on the east side of 5656 Riverside Drive East and extends to the west lot line of 7010 Riverside Drive E. (***Figure 6.10a to 6.10c***). The Landform Barrier Study Area is strictly on the north side of Riverside Drive E. through Area 1. This is a residential neighbourhood and houses line the north side of the road for most of this section. The houses are a mixture of early 20th century to modern, including new builds. Underground parking was noted at one of the newer homes (5820 Riverside). The level of landscaping varies considerably across Area 1, with hardscaping, garden beds, paved driveways and parking, and open or treed lawns present. Occasionally the extant berm can be distinguished either within or just beyond the Study Area (***Plate 6-5***). One non-residential property, the Royal Canadian Mounted Police (RCMP) detachment at 6080 Riverside Drive E. across from Jefferson Boulevard, has a paved parking lot and a graded/landscaped boulevard (***Figure 6.10b*** and ***Plate 6-4***). The Study Area includes the northern edge of ROW which also varies in Area 1 and consists of sections of paved or gravel shoulder, paved or gravel parking areas for the adjacent houses, lawns or garden extensions. There is no curb or sidewalk on the north side of the road. The extant storm sewer runs within the northern edge of the ROW for much of Area 1 and catch basins were periodically noted. The extant sanitary sewer runs parallel to the storm sewer, on its south side, for part of the Study Area also.

The eastern end of Area 1 consists of a narrow shoreline and the southern edge of St. Rose Beach Park, overlapping with the proposed St. Rose New Pump Station Study Area (see **Section 4.1**). The narrow shoreline has an extant berm along it (***Plates 6-11 & 6-12***). ***Plates 6-1 - 6-12***, and ***6-45 - 6-48*** provide a sample of the Study Area topography and current conditions.

6.6.2 Riverside Area 2 (BERM-2-1), St Rose Ave. to Riverdale Ave.

Area 2 of the proposed RIVERSIDE Landform Barrier extends from 7010 to the east lot line of 8040 Riverside Drive East on the north side of the road. The proposed berm then crosses to the south side of the road, with a short overlap such that the Study Area on the south side begins partway through 8031 Riverside Drive E. and extends eastwards to meet Area 3 at the Ganatchio Trail just east of 8885 Riverside Drive E. (***Figures 6.10c to 6.10f***). On both sides of the road the Study Area comprises the edge of ROW with additional private property requirements for a good portion of the strip. There are long stretches within the Area 2 Study Area where no additional construction is proposed, the current berm or topography meeting the elevation requirements. These locations were also covered under the Property Inspection as they are within the Study Area.

The stretch of Area 2 on the north side of Riverside Drive E. crosses residential lot fronts, most of which were constructed within the past 50 years, many on infilled land (***Plates 6-13, 6-14***). Sewer lines are present along the northern edge of ROW for much of this section. Between the proposed St. Rose new PS and the extant St. Paul PS there were two inlet or bays off the Detroit River noted within a 10-15 metres of the Study Area (***Plates 6-15, 6-16***). From the foot of Fairview Boulevard to the east side of St. Paul PS, the Study Area crosses open parkland. Evidence of former subdivision of this section was noted by the presence of the treed lot lines and by the remnants of gravel and concrete in the lawn just beside the edge of ROW that marked abandoned driveways and/or sidewalks (***Plate 6-17***). There is an overlap between the Landform Barrier Study Area and the St. Paul PS Study Area, as indicated on ***Figure 6.10d*** (see also St. Paul PS under **Section 4.3**). Immediately east of the St. Paul PS is a large modern house (7810 Riverside Drive E.) with extensively landscaped frontage. From this lot to the east end of Area 2 on the north side of the road, it is currently vacant land, however evidence of its former usage as residential and commercial properties was noted in the mixed gravel and grass nature of the ground surface (***Plate 6-18***). A substantial fence currently bounds that property, set just outside the ROW. Utilities were noted within the ROW, especially at the foot of Lauzon Road. There is no sidewalk currently along the north side of Riverside Drive East within the Study Area.

The Study Area crosses to the south side of Riverside Drive East opposite the east end of the vacant lots, and just east of the Frank Avenue cul-de-sac. From here to Watson Avenue the Study Area beyond the ROW consists of residential houses that appear to have been constructed in the 20th century, and with varying degrees of front yard landscaping (***Plate 6-19***). A sidewalk is present along the south side of Riverside Drive East ROW and continues for the remainder of Area 2. East of Watson Avenue to 8555 Riverside Drive E, the landform barrier had been recently constructed in 2018-2019 alongside road work (see **Development Plans** and ***Figure 6.10e***. It is very pronounced across the driveways and front yards of these residential lots (***Plate 6-20***). East of this point, the remainder of Area 2 crosses the frontage of large apartment complexes, many with both underground and above ground parking (***Plate 6-21***), and the small patches of lawn or garden are obviously landscaped. An extant low berm is visible periodically (***Plate 6-22***) and utilities are present. This section has been extensively disturbed through multiple construction episodes. The east end of Area 2 abuts the Brumpton Park SMF Study Area (see ***Figure 6.10f*** and **Section 4.6**).

Plates 6-13 to 6-22 provide a sample of the current topography and conditions of Area 2.

6.6.3 Riverside Area 3 (BERM-3-1), Riverdale Ave. to East City Limits

Area 3 of the proposed Riverside Landform Barrier Study Area follows the Ganatchio Trail from its bend just east of 8885 Riverside Drive East, north of Brumpton Park, to the City of Windsor/Town of Tecumseh border (***Figures 6.10f to 6.10k*** [Note: there is no Figure 6.10i]). The Trail, located on the south side of Riverside Drive E., is a paved, multi-use trail that varies from a relatively straight line to a meandering path over the approximate 3.4 kilometre length of Area 3, and is sometimes very close to Riverside Drive E. and elsewhere set back from the road. The ROW of Riverside Drive E. is generally quite broad through this section and the Study Area is primarily within the ROW. The Study Area for this section has been defined as from the south edge of the paved road footprint (not including shoulder) to five metres south of any proposed berm alteration or construction, or to the south edge of the Ganatchio Trail where no berm work is proposed. Due to past landscaping and berm construction, much of this section is already at the required elevation and no berm work is being proposed, however the whole of the Study Area was included in the Property Inspection.

The west end of the Study Area, from its juncture with Area 2 to the Little River, consists of the paved road shoulder, a landscaped boulevard, the Trail and then lawn and/or parking lots to the south of the Trail. As

Area 3 starts at the junction in the Ganatchio Trail off the north end of Brumpton Park, it also overlaps with the northeast corner of the Brumpton Park SMF Study Area (see ***Figure 6.10f*** and **Section 4.6**). Northeast of the Park, a large apartment complex fronts Riverside to the west of Riverdale Avenue, while to the east, between the street and the Little River, there is a parking lot and a small amount of green space. It was noted that both the Trail and Riverside Drive E. are at a substantially higher grade through this section then the land and subdivisions to their south, suggesting extensive landscaping. The sides of the Little River canal are also bermed. ***Plates 6-22 to 6-24*** depict the general topography and conditions of this western section. See also ***Figure 6.10f***.

The Clairview Pump Station is located on the east bank of the Little River canal within the Study Area, and landscaping associated with the pump station was noted. From Bertha Avenue (east of the Clairview PS) to Martinique Avenue the Trail runs south of a series of paved parking lots. South of the Trail are subdivisions, both extant and under construction. There is a noticeable difference in elevation between the Trail and the subdivisions (see ***Plate 6-25***), with the Trail having previously been constructed as part of the flood protection berm for much of this section (***Figures 6.10f and 6.10g***). From Martinique to Florence Avenue, the Study Area is in general much narrower, with only a grassy boulevard between the Trail and Riverside, apart from a paved parking lot accessed from Florence Avenue and on its west. South of the Trail in this section are residential neighbourhoods, and the existing berm is occasionally noticeable. Undulations in the terrain south of the Trail denote previous landscaping. This is particularly apparent in a parkette east of Sand Point Court, which joins the Ganatchio Trail along Riverside to the north/south Little River Corridor Park (see ***Figure 6.10g to 6.10h*** and ***Plates 6-27 to 6-29***). Drainage swales and utilities were also noted within, or immediately adjacent to this section of the Study Area. A thicket off the south side of the Trail just west of Florence Avenue was observed to be a wet swale, possibly for stormwater management as it is in the location of a former small watercourse (see ***Figure 6.8b and Figure 6.10h***).

From Florence Avenue to the intersection of Clairview Avenue and Riverside Drive E.(***Plates 6-30 to 6-32*** and ***Figure 6.10h***), the Study Area consists of the slightly bermed Trail and fairly narrow, landscaped boulevard with utilities. There is an older residential neighbourhood to the south of the Trail. Where the Study Area does extend south of the Trail, the terrain is sloped and graded. Utilities were noted on either side of the Trail. East of Clairview, the Study Area is again substantially raised above the land to the south, some of which is still agricultural and was retaining water at the time of the Property Inspection (***Plate 6-35***). A channelized watercourse with a culvert was noted just east of Clairview (***Figure 6.10h*** and ***Plate 6-34***) within a heavily landscaped section of the Trail. Residential subdivisions are again present south of the Trail beginning approximately 150 metres west of Greenpark Boulevard (***Figure 6.10j***), however these are set back from the Trail which is bordered by lawn on both sides which swales or ditches emphasizing the slightly higher elevation of the Trail (***Plates 6-39 to 6-40***). The Study Area continues in this general fashion, landscaped with utilities, to its eastern terminus at the Windsor/Tecumseh border (***Figure 6.10k***), where it overlaps the Blue Heron/Lakeview PS Study Area (**Section 4.4**).

Plates 6-23 to 6-42 provide a sample of the Area 3 Study Area terrain and conditions.

6.7 Riverside Drive Vista Phase 2A & Riverside Landform Barrier - Archaeological Potential

The Landform Barrier is situated in a long and varied Study Area, running parallel to the Detroit River and Riverside Drive East, through the eastern part of the City of Windsor to the eastern boundary at the city limits with the Town of Tecumseh. The Study Area includes areas that will require upgrades to the berm, new

construction, and portions that do not currently require any work. Those portions that do not require any alteration or construction are still considered within the archaeological Study Area for consistency and ease of reporting and as an added feature for future reference about their potential.

The Riverside Drive Vista Phase 2A Study Area contains the Riverside Landform Barrier Area 1, includes a few metres of Area 2, and covers the whole Riverside Drive East ROW with additional lands to the north and south.

Figures 6.10a-h to 6.10j-k provide a visual guide to the areas of high and low potential. **Table 6.2**, at the end of this section, provides a summary of the archaeological potential by Area, while **Section 8.4** provides the detailed recommendations.

6.7.1 Riverside Drive Vista Phase 2A & Riverside Area 1 (BERM-1-2), Ford Blvd to St. Rose Ave.

The Vista Phase 2A Study Area begins at 5245 Riverside Drive East and includes the Riverside Drive E. ROW as well as private lands. The northern boundary consists of 10 metres north of the northern ROW limit, while the southern boundary is 4.5 metres south of the southern ROW property line, except where the ROW has already been widened to that distance. Additionally, the proposed Ford PS Upgrades Study Area overlaps with the west end of the Vista Phase 2A Study Area, and the St. Rose New PS Study Area with the east end (see **Sections 4.1** and **4.2** and ***Figures 4.1.5*** and ***4.2.5***). The Riverside Landform Barrier Area 1 Study Area is covered within the Vista Phase 2A between the 5656 Riverside Drive East and the proposed St. Rose New PS, including part of the northern ROW and a varying distance north of the ROW. Where the proposed berm work limits extend more than 10 metres north of the ROW, then those limits form the northern edge of the combined Study Area. ***Figures 6.10a-c*** display the archaeological potential results and recommendations for the Vista Phase 2A and Riverside Area 1.

The proximity to the Detroit River and the Historic transportation corridor along its shoreline automatically generate a high potential rating for the Study Area, for both Indigenous and Historic Euro-Canadian archaeological resources. However, the potential is reduced where extensive modern disturbance (ie. road work, sewers, deep construction), marshy terrain or infilled shoreline are present. The Riverside Drive East ROW itself has been assigned low potential within the footprint of the road, paved or gravel shoulder, and sidewalk due to the presence of storm and sanitary sewers, water mains, and a general likelihood of grading during road construction. Portions of the ROW however, that are beyond these footprints, generally in lawn, retain high potential.

The Study Area strip north of the ROW crosses Reaume-Coventry Gardens Park, at the west end, and is primarily residential for the remainder. Many of the houses are of late 20th-21st century construction with extensive landscaping/hardscaping. South of the Riverside Drive E. ROW, the Study Area consists primarily of level lawns, with minimal obvious landscaping, and driveways. The houses on this side are generally older than on the north and set back from the road. Since most of the Riverside Vista Phase 2A and Riverside Area 1 Study Area consists of residential sections, the potential is highly variable depending on the level of landscaping, infilling and paving. There were two areas within this Study Area that contained small watercourses at the beginning of the 20th century – one was in the vicinity of St. Louis Ave. (Lot 114) (Lower right of ***Figure 6.10a***), and the second in the vicinity of Janisse Drive (within Lot 120) (Upper middle of ***Figure 6.10c***). Later in the 20th century, these watercourses had either been infilled, or been diverted underground. Particular attention is paid to these areas that had/have watercourses through the Study Area as they increase archaeological potential, depending upon the level of disturbance in their vicinity.

The Riverside Vista Phase 2A and Riverside Area 1 sections are considered to have variable archaeological potential ranging from low to high. The amount of construction and infilling has greatly impacted the integrity of this Study Area. North of the ROW some areas, such as those properties across from Esdras Place, the Reaume-Coventry Garden Park, and the greenspace across from St. Rose Avenue, have evidence of less landscaping and retain fairly high archaeological potential. The area in the vicinity of St. Louis that may have contained a watercourse, is listed as variable potential to low. The area around Janisse Drive where a watercourse had been indicated, is noted as having low potential due to disturbance. Near the Riverside Area 1's limits ending at the St. Rose pump station property, there are sections deemed to have low archaeological potential as they are made land. The whole of the southern portion, south of the Riverside Drive E. sidewalk, is considered to retain high potential due to the lack of obvious disturbance.

Therefore, in the areas where construction will take place and that have been designated to have variable or high archaeological potential, further archaeological work will be required. In those areas deemed to have low archaeological potential, no further archaeological work is recommended.

6.7.2 Riverside Area 2 (BERM-2-1), St Rose Ave. to Riverdale Ave.

The Riverside Area 2 continues along the north side of Riverside Drive East, starting at the eastern edge of the St. Rose PS property and continues heading eastwards (***Figures 6.10c-f***). The Study Area switches to the south side of Riverside Drive East, just east of Frank Avenue, and then continues on this side of the road to the end of this section just before Riverdale Avenue. Much like the Riverside Area 1, this Study Area has been heavily urbanized, containing single residences and apartment complexes, with paved driveways, and infrastructure services. The background study noted two watercourses within the Riverside Area 2. One was an unnamed watercourse that exited into Detroit River in the vicinity of the Kiwanis Park at the end of Eastlawn Avenue, and the other was the original location of the Little River's mouth in Brumpton Park.

The archaeological potential is also highly variable for this part of the Study Area, with large sections that have obviously had extensive disturbances including the former West Marsh Drain that had been situated on the south side of Riverside Drive East, beginning between Frank and Watson Avenues and extending to the Little River canal, until it was filled in sometime in the mid-20th century. As well, Ganatchio Trail (former Electric Railway) enters the Study Area at the eastern limits of Riverside Area 2 at Brumpton Park, and it is thought that the original placement of the mouth of the Little River was located in Brumpton Park, but had been filled in sometime in the late 19th to early 20th century. All of these factors indicate that this section of the Study Area has been heavily modified and disturbed. Therefore, from Watson Avenue, eastward to the eastern end of the Riverside Area 2, the archaeological potential is deemed to be low.

Therefore, in the areas where construction will take place and that have been designated to have variable or high archaeological potential, further archaeological work will be required. In those areas deemed to have low archaeological potential, no further archaeological work is recommended.

6.7.3 Riverside Area 3 (BERM-3-1), Riverdale Ave. to East City Limits

The Riverside Area 3 continues on the south side of Riverside Drive East from Riverdale Avenue to the city limits with the Town of Tecumseh (***Figures 6.10f-h, j-k***). Much like the eastern section of Riverside Area 2, there has been extensive disturbance within the Study Area. The presence of the former deep West and East Marsh Drains (the demarcation point of the West and East Drains is the Little River) and their subsequent infilling, as well as the former Electric Railway and the Ganatchio Trail have contributed to much of this extensive disturbance. Other disturbances include large paved parking lots, the installation of various services,

and the paving and landscaping of the various properties along the Study Area have contributed to extensive disturbances as well.

There were four watercourses noted for this section of the Study Area - the channelized mouth of the Little River; two unnamed watercourses around Lot 138 and Lot 141 (or lot boundary between 142/143), and the small watercourse noted at the eastern boundary of the Study Area in the Heron/Lakeview PS Study Area. The area around the current mouth of the Little River shows extensive disturbance and landscaping. The banks of the Little River have been built up, with the level of land dropping greatly down to the surrounding area. The dredging of this channel would have also severely impacted the surrounding land. The unnamed watercourses have had their courses and entry into Lake St. Clair obscured, and it could not be found in the later mapping or aerial photographs. Its course has probably been shifted underground. The southern sections of this watercourse (which are outside of the Study Area) are still visible on 21st century aerials. The Property Inspection identified these watercourses on the south side of the Ganatchio Trail as a wet swale and a channelized culvert (***Figure 6.10h***). The immediate area around the watercourses within the Study Area have been extensively disturbed. The small watercourse at the eastern end of the Study Area has also been obscured, and it is now contained within a storm water pipe. Its immediate area has been heavily modified and disturbed.

One area (***Figure 6.10j***) in the eastern portion of the Riverside Area 3 is considered to have high archaeological potential based on the background study. This area consists of two sections on either side of Greenbank Boulevard. At this point, the former Electric Railway was further to the south, and the Ganatchio trail runs along the southern edge of the Study Area, while the East Marsh drain was along the southern edge of Riverside Drive East. Therefore, there is a wedge of land in this area, between the drain and the trail that may not have been extensively disturbed and still retains archaeological potential.

Most of the Riverside Area has been heavily disturbed in the past through construction of the Electric Railway, the Ganatchio Trail, the East Marsh Drain, road and residential construction, and the diversion or burying of watercourses. In the areas where berm construction will take place and that have been designated as having variable or high archaeological potential, further archaeological work will be required. In those areas deemed to have low archaeological potential, no further archaeological work is recommended.

Table 6.2
Riverside Landform Barrier - Archaeological Potential Summary Chart

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendation
6.0	East	Riverside Drive East	Riverside Drive Vista Phase 2A		<100M to Detroit River shoreline; two historic, unnamed, small watercourses	Primarily rural til 20th C; historic road; infilling of shoreline in 20th C	No	Variable levels of disturbance, residential neighbourhood, utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
6.0	East	Landform Barrier	Riverside Area 1 - Ford Boulevard to St Rose Avenue	BERM-E1 (BERM-1-2)	<100M to Detroit River shoreline; two historic, unnamed, small watercourses	Primarily rural til 20th C; historic road; infilling of shoreline in 20th C	No	Variable levels of disturbance, residential neighbourhood, utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
		Landform Barrier	Riverside Area 2 - St Rose Avenue to Riverdale Avenue	BERM-E2 (BERM-2-1)	<100M to Detroit River shoreline; 2 historic watercourses (one is Little River)	Primarily rural til 20th; historic road; Windsor & Tecumseh Electric Railway; West Marsh Drain	No	Variable levels of disturbance, residential neighbourhood; utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
		Landform Barrier	Riverside Area 3 - Riverdale Avenue to East City Limits	BERM-E3 (BERM-3-2)	<100M to Detroit River shoreline, 3 small watercourses; sandy loam shoreline	Primarily rural til 20th-2st century; historic road, Windsor & Tecumseh Electric Railway; East & West Marsh Drain	No	Variable levels of disturbance, Study Area in narrow to broad ROW; extant berm; utilities, landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]

7.0 FINAL CONCLUSIONS

This Stage 1 Background Study for the WSMP has reviewed, in detail, eight proposed solutions in the Central Windsor Sewershed (**Section 3.0**), 11 in the East Windsor Sewershed (**Section 4.0**), four in the South Windsor Sewershed (**Section 5.0**), and the Riverside Drive Vista Phase 2A and Riverside Landform Barrier (**Section 6.0**). Their individual research and results have been discussed above, and their specific recommendations are provided below in **Section 8.0**. Additionally, **Table 7.1** provides a summary overview of each solution, their potential and general recommendations, while ***Figure 7.1*** provides a visual overview.

Table 7.1
Archaeological Potential Summary Chart

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
3.1	Central	Detroit River	New Prince Road Sewer Storm Sewer Outfall	STM-C1	On Detroit River shoreline, partially in former lagoon by a canal, near to McKee Creek	Waterfront of Historic Sandwich Town	19th C Mineral Springs Hotel at the SW corner of Chappell & Sandwich	Industrial yard, gravel road, Rail line, berm, hydro tower, fences and asphalt roads and a bermed edge of the canal.	High (at top of slope) & Low (slope, infilled marsh, disturbed)	Stage 2 Assessment for part of the Study Area
3.2	Central	Detroit River	Detroit Street Storm Sewer Outfall Upgrades	STM-C2	On Detroit River shoreline; infilled shoreline	Within Huron Reserve lands & 19th C Sandwich Town & waterfront	AbHs-10, AbHs-16, AbHs-30, AbHs-31, AbHs-32, AbHs-33, AbHs-34, AbHs-60, AbHs-64, AbHs-69; in close proximity to unregistered burial sites, probable Baby Mill	Industrial dockyard, gravel piles, silos/elevators, trucking. Ground surface completely disturbed.	High (deeply buried deposits) & Low (made-land, disturbed)	Stage 2 Assessment for part of the Study Area [plus river section needs marine assessment]
3.3	Central	Detroit River	New Cameron Avenue Storm Sewer Outfall	STM-C3	On Detroit River shoreline; partially sloped	Former railway lands with station & ferry crossing; site of the Michigan Central Railway Tunnel; adjacent to historic Riverside Dr W	No	Landscaped park setting with some utilities noted. Part of Study Area is steeply sloped.	High (undisturbed areas or historic train station) & Low (rail tunnel & other disturbances)	Stage 2 Assessment for part of the Study Area [plus river section needs marine assessment]
3.4	Central	Detroit River	New Bruce Avenue Storm Sewer Outfall	STM-C4	On Detroit River shoreline, historically steep bluff	Adjacent to historic Riverside Dr W; on 18th C French farm lots; Holiday Inn with parking & movie theatre in Study Area 1967 to 1999	Fort Gowie (unregistered); AbHs-14, Francois Baby House	Terraced landscaping in a park setting	Low (disturbed)	No further work
3.5	Central	Detroit River	New Marentette Avenue Storm Sewer Outfall	STM-C5	On Detroit River shoreline	18th C Odawa Village & Burying Ground; 19th C residential; Verhoeff Wharf on waterfront; 19th C railway industrial with sheds, turntable & roundhouse; adjacent to historic Riverside Dr. E.	AbHs-11 - Odawa village site; AbHs-65 - Euro-Canadian homestead; 1700s era burial just over 300m	Landscaped park setting, variable topography. with terraced slope, paved paths, stone breakwall	High (undisturbed or deeply buried)	Stage 2 Assessment; Note: mercury-contaminated soils (CARF 1992); [plus river section needs marine assessment]
3.6	Central	Detroit River	New Stormwater Surcharge (Underground) Storage, Optimist Memorial Park	STM-C6	> 1km to water; heavy clay soils; level terrain	Farm/woods til mid-20th century then a park with road/parking lot; >50 m from CP Rail; >800 m to historic Tecumseh Rd	No	Level park setting, with asphalt and gravel parking and driveway area through the Study Area.	Low (no high potential triggers)	No further work

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
3.7	Central	Detroit River	New Albert Road Storm Sewer Outfall	STM-C7	On Detroit River shoreline & (historically) tributary outlet; substantial infilling of waterfront	Within 19th C Walkerville boundaries; adjacent to historic Riverside Dr E; 20th C - Ford Motor Plant lands & structures (now demolished); pre-1800 E-C	Walker Wharf approx. 300M to the west	No access. Berm along Riverside. Rest is grass through gravel/concrete, mounded with concrete at River's edge. Disturbed.	Low (disturbed - large structures & infill)	No further work on the land section; river section needs marine assessment
3.8	Central	Detroit River	New Drouillard Underpass Pump Station	STM-C8	<300M Detroit River shoreline	Early French farm lot; 50M from Great Western Rail line; within early 20th C Ford City & multiple houses & institution present on 1924 FIP	No	Currently mix of park, vacant land, pump station & parking lot. Depressions, probably from former structure demolitions, visible.	Low (disturbed) to High (between disturbances)	Stage 2 Assessment for part of the Study Area
4.1	East	Detroit River/Riverside	New St. Rose Pump Station	PS-E-ROSE	On Detroit River shoreline, most of Study Area is infill with only a narrow strip of original land north of Riverside Dr E.	Early French farm lot, no known structures; late 20th C infill	No	Level, park setting; low berm parallel to Riverside Dr E along the edge of ROW	High (original shoreline) & Low (made-land)	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]
4.2	East	Detroit River/Riverside	Upgrades, Regional Area 3, Ford Pump Station	PS-E-FORD	On Detroit River shoreline, modified shoreline	Early French farm lot; no known structures; park land in 20th C	No	Level park lawn, paved paths, outfall & lift station at river, utilities present.	High (original shoreline) & Lot (made-land)	Stage 2 Assessment for part of the Study Area
4.3	East	Detroit River/Riverside	Expansion, Regional Areas 1&2, St Paul Pump Station	PS-E-STPAUL	Almost entirety of Study Area is infill and was still part of the Detroit River in the mid-20th C.	St Paul PS constructed in the 1970s	No	Apart from extant PS, the Study Area is lawn with a small berm roughly parallel to Riverside Dr E.	High (small section of natural beachfront) & Low (made-land)	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]
4.4	East	Blue Heron/Lakeview Pump Station	Upgrades, Regional Area 5 , Blue Heron/Lakeview Pump Station	STM-E5	On Lake St. Clair shoreline, on or beside an historic inlet & stream now infilled	Early 19th century patent; Windsor & Tecumseh Electric Railway; rural residential in mid-20th C, now mostly parkland	No	Narrow corridor of grass north of Riverside Dr.; Park with sewers, utilities buried, some landscaping & paths including Ganatchio Trail	High (level of disturbance uncertain) & Low (infill, disturbed)	Stage 2 Assessment for part of the Study Area
4.5	East	Pontiac Pump Station	Upgrades, Regional Area 6, Pontiac Pump Station	STM-E6	<50M to Little River	Farm land til mid-20th C when PS & Little River Treatment Plant constructed	No	Partial inspection. Currently lawn, paved sections, large pump station.	Low (disturbed) to High (level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.6	East	Pontiac Pump Station	New Stormwater Management Facility (Underground Storage), Regional Area 6, Brumpton Park	STM-E6	40-250M from Detroit River; former Little River outlet in or adjacent to the Study Area	Early 19th C patents; Farm land until late 20th C; Windsor to Amherstburg Electric Railway across north edge of Study Area, within 100M historic Sandwich/Riverside Dr; Park established 1979 & expanded 1991	No	Raised land and visibly disturbed sections apparent within the treed lawn of the park, particularly in the north end. Paved Ganatchio Trail, play structure & utilities present. Long, linear strip depressions in west half from previous gardening features. Most of park is in lawn.	Low (disturbed) to High (level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.7	East	Little River	New LID Swales, Lauzon Pkwy (between Hawthorne & Cantelon)	ROAD-E4	Tributary of Little River within 300M of part of the Study Area	Farm land til -late 20th C, no known historic structures	No	Extensive disturbances related to utilities, berming, building & road construction & landscaping noted; level lawns present in part of the Study Area	Low (no high potential triggers, modern extensive disturbance) & High (within 300M to tributary & level of disturbance uncertain)	Stage 2 Assessment for part of the Study Area
4.8	East	Little River	New Stormwater Management Facility (Underground Storage), Lauzon Parkway, Meadowbrook Park	ROAD-E4	<300M to Little River; tributary of Little River crossed the Study Area	Farm land til mid-late 20th C; no known historic structures	No	Landscaped park with soccer pitch, paved basketball courts & parking, play structure; park is raised elevation from Meadowbrook Lane	High (undisturbed) & Low (disturbed)	Stage 2 Assessment for part of the Study Area

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
4.9	East	Little River	New Stormwater Management Pond, Lauzon Parkway, Little River Golf Course	ROAD-E4	Straddles Little River; River has been modified; on extant golf course	Farm land til early-mid 20th C; within 100M historic Lauzon Rd, no known historic structures. Golf course created 1925 onwards	No	Landscaping for golf course and drainage evident. Likely still pockets of natural soils.	High (undisturbed or level of disturbance uncertain) to Low (extensively landscaped)	Stage 2 Assessment for part of the Study Area
4.10	East	Pontiac Pump Station	New Stormwater Management Facility (Underground Storage), Commercial Lands, Wyandotte at Watson	ROAD-E9	Tributary historically crossed west end of Study Area	Farm land 'til mid-late 20th C; west portion extensively disturbed ca 1950s; shopping plaza developed post-1956	No	Plaza parking lot, structures & vacant land; west vacant lot appears wet and disturbed; varying degree of disturbance to remainder of lawns	High (undisturbed lawns) & Low (disturbed west end, parking lot & structure footprints)	Stage 2 Assessment for part of the Study Area
4.11	East	Little River	New Stormwater Management Facility (Underground Storage), Roseville Public School & Roseville Garden Park	ROAD-E11	No water within 300M	Farm land til late 20th C then park & school playing field	No	Relatively level lawn in park-setting; berm along the south edge, east end;, playground & ball diamond	Low (no high potential triggers, some landscaping disturbance)	No further work
5.1	South	Grand Marais Drain	Stormwater Management Pond, Dougall Underpass	ROAD-S1	No water within 300M	Farm land/agricultural field, apparently escaped any development apart from former road edge across south end & former Northwood St in NE corner. Not within proximity to any historic roads or structures. NE corner approx. 50m from railway.	No	Level, former agricultural field with utilities & previous road construction around the edges	Low (Disturbance along edge near railway and no high potential triggers for remainder)	No further work
5.2	South	Grand Marais Drain	Stormwater Management Pond, 2929 Howard Avenue	ROAD-S2	<300M from historic Turkey Cree (now channelized as the Grand Marais Drain)	In vicinity of a toll gate on 1880 Atlas; on Windsor, Essex & Lakeshore Electric Railway (1913); industrial lands for the MCR & NYCR (1920s); industrial lands (1960s); commercial use (2000s); Grand Marais Road and Canal buffers	No	All paved with one structure; steep bank on the south up to the EC ROW overpass	Low (due to extensive modern disturbance)	No further work
5.3	South	Grand Marais Drain	Stormwater Management Facility (Underground Storage), 2459 Chrysler Centre	ROAD-S3	> 300M to Turkey Creek	Farm land til post-1950, no known historic structure.	No	Parking lot for Chrysler Plant with graded lawn along NE edge, building in SW corner & dead end of Cadillac Street in NE corner; utilities present.	Low (no high potential triggers, & modern disturbance)	No further work
5.4	South	Grand Marais Drain	Expansion, Central Avenue Stormwater Pond	STM-S7	Tributaries of Turkey Creek historically crossed this property;	Farm land until late 20th C, fronting historic Grand Marais Rd; CP Rail ca 1890s forms southern boundary of Study Area; two structures fronting Grand Marais ca 1912; Central Pond & SE parking lot present as of 2000; additional parking lots & large building by 2004, demolished in 2008.	No	West half: ponds, ditches, berms, banks - heavily modified; East half: industrial with paved parking area, flat with piles of concrete and gravel in the north & structures in the southeast - also heavily modified; both section steeply banked up to surrounding roads/rails	Low (due to extensive modern disturbance)	No further work

Report Section No.	Sewer Shed	City Drainage Area	Solution	Label Code	Environmental Factors	Historical Factors	Archaeological Resources within 300m	Property Inspection Results	Archaeological Potential	Recommendations
6.0	East	Riverside Drive East	Riverside Drive Vista Phase 2A		<100M to Detroit River shoreline; two historic, unnamed, small watercourses	Primarily rural til 20th C; historic road; infilling of shoreline in 20th C	No	Variable levels of disturbance, residential neighbourhood, utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
6.0	East	Landform Barrier	Riverside Area 1 - Ford Boulevard to St Rose Avenue	BERM-E1 (BERM-1-2)	<100M to Detroit River shoreline; two historic, unnamed, small watercourses	Primarily rural til 20th C; historic road; infilling of shoreline in 20th C	No	Variable levels of disturbance, residential neighbourhood, utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
		Landform Barrier	Riverside Area 2 - St Rose Avenue to Riverdale Avenue	BERM-E2 (BERM-2-1)	<100M to Detroit River shoreline; 2 historic watercourses (one is Little River)	Primarily rural til 20th; historic road; Windsor & Tecumseh Electric Railway; West Marsh Drain	No	Variable levels of disturbance, residential neighbourhood; utilities; landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area
		Landform Barrier	Riverside Area 3 - Riverdale Avenue to East City Limits	BERM-E3 (BERM-3-2)	<100M to Detroit River shoreline, 3 small watercourses; sandy loam shoreline	Primarily rural til 20th-2st century; historic road, Windsor & Tecumseh Electric Railway; East & West Marsh Drain	No	Variable levels of disturbance, Study Area in narrow to broad ROW; extant berm; utilities, landscaping	High to Low, based on disturbance level	Stage 2 Assessment for part of the Study Area; [plus river section needs marine assessment]

8.0 FINAL RECOMMENDATIONS

The final recommendations are presented by Sewershed area, Central, East and South, and the Riverside Drive Vista Phase 2A and Riverside Landform Barrier.

8.1 Central Windsor

There are eight individual Study Areas in the Central Windsor section of this project. The following are FAC's final recommendations for these sections based on historical research, review of visual sources, and Property Inspections.

1) The Bruce Ave. Outfall, Optimist Memorial Park, and Albert Road Outfall

Three of the Study Areas in the Central Windsor Section have been found to have, or to retain, no archaeological potential: the Bruce Avenue Outfall, STM-C4 (***Figure 3.4.5***); the Surcharge Storage Optimist Memorial Park, STM-C6 (***Figure 3.6.4***); and the Albert Road Outfall, STM-C7 (***Figure 3.7.4***). Therefore, FAC recommends: no further archaeological work for these three Study Areas based on the cited figures. However, the Albert Road Outfall Study Area does include a small portion of the Detroit River and a marine archaeological assessment is required for the riverbed portion of this Study Area.

2) Prince Street Sewer Outfall, STM-C1

Most of the Study Area was originally marsh and then infilled in the 20th century. There is only a small section within the Chappell Street ROW that has been identified as retaining potential.

Therefore, FAC recommends:

1) Those areas identified on ***Figure 3.1.6*** as having low potential require no further archaeological work, and the area indicated as high potential is recommended for Stage 2: Monitoring during construction;

   If possible, pre-excavation of the proposed construction footprint in the area of high potential is recommended. If no archaeological deposits are encountered, then monitoring of the construction work itself will be to ensure that construction activities stay within the pre-excavated trenching. The pre-excavation is to be conducted by machine under the direction of a licensed archaeologist. Once the asphalt and/or concrete has been removed, the machine excavation must be conducted by a backhoe/excavator with a flat-bladed bucket. All monitoring work must refer to the Construction monitoring contingency plan.

CONSTRUCTION MONITORING CONTINGENCY PLAN

When archaeological sites are expected or have been identified in deeply buried conditions as *per* **Section 2.1.7, Standard 4b** of the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011).

1) Monitoring of construction activities has been recommended for the section within the Study Area deemed to retain high potential as indicated on ***Figure 3.1.6***. A licensed archaeologist will be retained by the proponent and must have access to the areas being excavated to monitor. Prior to construction a copy of this report will be made available to the project archaeologist and a monitoring schedule arranged.

2) If human burials are identified, all construction activities must cease in that area. The archaeologist(s) must have safe access to the construction area where the potential remains are located. The police or coroner and the Registrar of cemeteries, Ministry of Government and Consumer Services (416 212-7499) must be notified immediately.

   The construction contractor will provide the project archaeologist with site access to conduct detailed documentation of any exposed features. The construction contractor shall make available crew and machinery as necessary to assist the archaeologist with removal of fill material and to expose features in order to assess and document them.

3) The construction contractor and site foreman shall be made aware of the need for archaeological monitoring, and will inform the project archaeologist of the projected construction schedule, providing them with 48 hours notice prior to the actual construction excavation. The project archaeologist shall be made aware of any safety concerns associated with the construction work in this section in order to meet site health and safety requirements.

The proponent will confirm scheduling with the archaeological consulting company prior to the commencement of operations, as *per* **Section 7.9.9, Standard 1c** (MHSTCI 2011).

3) Detroit Street Outfall, STM-C2

Most of the Study Area was originally marsh and then infilled in the 20th century, and is thus considered to have low potential. There is one area in the northeastern part of the Study Area that could retain integrity.

Therefore, FAC recommends:

1) Those areas identified on ***Figure 3.2.7*** as having low potential require no further archaeological work. Stage 2: Assessment is recommended for the area identified on ***Figure 3.2.7*** as having high potential. This assessment should follow the *Standards and Guidelines*, **Section 2.17, Standard 1** (MHSTCI 2011) for deeply buried deposits. This strategy should be formed in conjunction with MHSTCI to develop an effective, targeted use of a backhoe for the area indicated as having high potential;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

4) Cameron Avenue Outfall, STM-C3

There is a mix of potential within the Cameron Avenue Outfall Study Area. An historic rail station (CSR) has been noted within the western part of the Study Area, while the central portion has been extensively disturbed by the construction of the rail tunnel. The extent of disturbance is unknown for the remainder of the Study Area.

Therefore, FAC recommends:

1) The area identified on ***Figure 3.3.4*** as having low potential requires no further archaeological work, and the area indicated as high potential is recommended for Stage 2: Assessment as *per* the *Standards and Guidelines*, **Sections 2.1.2 and 2.1.7** (MHSTCI 2011),

with a mix of shovel testing at five metre intervals and use of a backhoe with a flat-bladed bucket. This strategy should be developed in conjunction with MHSTCI to devise an effective assessment strategy in the area indicated as having high potential;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

5) Marentette Avenue Outfall, STM-C5

Based on the background research, the Marentette Avenue Outfall Study Area has high potential for both Indigenous and Euro-Canadian archaeological resources, and high potential for Indigenous burials. There is also the potential presence for structural remains from the 19th century Verhoeff Wharf. The extent of disturbance from the construction of the roundhouse and other rail yard associated activities and from other activities is unknown for the Study Area.

Therefore, FAC recommends:

1) The area identified on ***Figure 3.5.6*** as having high potential is required to have a Stage 2: Assessment as *per* the *Standards and Guidelines*, **Sections 2.1.2 and 2.1.7** (MHSTCI 2011), with a mix of shovel testing at five metre intervals and use of a backhoe with a flat-bladed bucket. This strategy should be developed in conjunction with MHSTCI to devise an effective assessment strategy for the Study Area.

   It should also be noted that there may be contaminated soils in the area, and prior to any field work, soil testing should be conducted, and appropriate health and safety measures then be followed as required;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

6) Drouillard Underpass Pump Station, STM-C8

The Drouillard Underpass PS Study Area has seen a number of construction and destruction activities over the 20th century. The Study Area possesses high archaeological potential for those areas that have not been extensively disturbed. This property was part of the boom of the early 20th century and part of Ford City.

Therefore, FAC recommends:

1) Those areas indicated on ***Figure 3.8.4*** as having low archaeological potential require no further archaeological work. The remainder of the Study Area, including the footprints of the small garden sheds or backyard structures, is considered to retain high archaeological potential as the degree of disturbance to these areas cannot be confirmed at this level of study. Therefore, a Stage 2 Assessment through shovel testing at five metre intervals is recommended based on ***Figure 3.8.4***. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

8.2 East Windsor

There are 11 individual Study Areas in the East Windsor section of this project. The following are FAC's final recommendations for these Study Areas based on historical research, review of the visual sources, and the individual Property Inspections. The Study Areas in this section consist of the five pump stations: St. Rose (PS-E-ROSE); Ford (PS-E-FORD); St. Paul (PS-E-STPAUL); Pontiac (STM-E6); and Blue Heron/Lakeview (STM-E5). The other Study Areas include four Stormwater Management Facilities: Brumpton Park (STM-E6); Meadowbrook Park (ROAD-E4); Commercial Lands, Wyandotte at Watson (ROAD-E9); and Roseville Public School and Roseville Gardens (ROAD-E11). The last two Study Areas in the East Windsor section of this project are the Low Impact Design, Lauzon Parkway Swales (ROAD-E4), and the Stormwater Management Pond, Lauzon Parkway, Little River Golf Course (ROAD-E4).

8.2.1 Pump Stations

1) St Rose PS, PS-E-ROSE

The St. Rose PS Study Area originally consisted of a small strip of land along the Detroit River. This strip of land has been enlarged over the latter part of the 20th century (made land), and was used as a construction stock-piling area. Thus, the Study Area's potential has been greatly reduced, with only a small strip of land abutting Riverside Drive East that may still retain archaeological potential.

Therefore, FAC recommends:

1) For the area that is indicated as having low archaeological potential, no further archaeological work is recommended as *per* ***Figure 4.1.5***. The small strip of land indicated as retaining high potential, as *per* ***Figure 4.1.5***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

2) Ford PS, PS-E-FORD

Ford PS is located along the Detroit River, across from Ford Boulevard. While some of the Study Area has been infilled to a small extent and impacted by utility installation, there does not appear to have been much other disturbance overall.

Therefore, FAC recommends:

1) For the area that is indicated as having low archaeological potential, no further archaeological work is recommended as *per* ***Figure 4.2.5***. The majority of Study Area indicated as retaining high potential, as *per* ***Figure 4.2.5***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

3) St. Paul PS, PS-E-STPAUL

The aerial and historic mapping of the St. Paul PS Study Area demonstrates that most of this section of the Detroit River shoreline has been altered and infilled. Most of this Study Area has no archaeological potential, but there is a small section in the eastern part of the Study Area that could retain archaeological potential.

Therefore, FAC recommends:

1) For the majority of the area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.3.5***. The small section of Study Area indicated as retaining high potential, as *per* ***Figure 4.3.5***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

2) A marine archaeological assessment is required for the riverbed portion of this Study Area.

4) Blue Heron/Lakeview PS, STM-E5

The Blue Heron/Lakeview PS Study Area straddles Riverside Drive East. The northern section has been infilled, and extensively disturbed, as has the road bed itself. The southern section also has been impacted by 20th century construction activities, with the level of disturbance being unknown.

Therefore, FAC recommends:

1) For the northern section, including the footprint of Riverside Drive E. which does not retain any archaeological potential, no further work is required as *per* ***Figure 4.4.4***. The southern section which retains high archaeological potential in those areas that have not been extensively disturbed, as *per* ***Figure 4.4.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

5) Pontiac PS, STM-E6

The Pontiac PS Study Area is in between the Little River, and the 'Old' Little River -- both have been channelized. Archaeological potential is high, but there have been obvious impacts to parts of the Study Area with the construction of the PS itself, service installations, and landscaping associated with the channel and intake channel. Therefore, while the integrity of the Study Area is uncertain, since no photographic evidence could be found for extensive and overall disturbance to the whole of the Study Area, certain sections may still retain archaeological potential.

Therefore, FAC recommends:

1) For the majority of the area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.5.4***. The small section of Study Area indicated as retaining high potential, as *per* ***Figure 4.5.4,*** will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

8.2.2 Stormwater Management Facilities

1) SMF, Brumpton Park, STM-E6

The SMF, Brumpton Park Study Area background research confirms its use first as agricultural fields, with slow development in the vicinity of the area into the late 20th century. Given the distance to the Detroit River and the presence of the former mouth of Little River, a large portion of the Study Area is considered to have high Indigenous and Historic potential. Areas of obvious modern disturbance, such as the infilled former

mouth of Little River, the raised north end by the Ganatchio Trail and around the playground are considered to have low potential.

Therefore, FAC recommends:

1) For the northern and western portions of the Study Area that are indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.6.4***. The remainder of the Study Area indicated as retaining high potential, as *per* ***Figure 4.6.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) SMF, Meadowbrook Park, ROAD-E4

The Study Area is a park, and of rectangular shape. The northern end of the park has been extensively disturbed in the past. The southern end contained a baseball diamond, its level of disturbance is unknown. A watercourse connected to the Little River also appears to have been present in the southeast corner of the Study Area, but was not shown after 1975. Therefore, based on the background research, the SMF, Meadowbrook Park has low archaeological potential in the northern section, and while there may have been disturbance to the remainder, it is being designated as having high archaeological potential due to the watercourse and unknown level of disturbance (see ***Figure 4.8.4***).

Therefore, FAC recommends:

1) For the northern part of the Study Area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.8.4***. The majority of Study Area indicated as retaining high potential, as *per* ***Figure 4.8.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

3) SMF, Commercial Lands, Wyandotte at Watson, ROAD-E9

The proposed new Stormwater Management Facility (SMF), Wyandotte at Watson consists of a shopping plaza and vacant lands. The west end of the Study Area has been extensively disturbed from previous construction activities. The west end as well as the shopping plaza with parking are considered to have low archaeological potential, while the grassed areas in the southeastern section are considered to retain high archaeological potential.

Therefore, FAC recommends:

1) Most of the Study Area is indicated as having low archaeological potential, and no further archaeological work is required as *per* ***Figure 4.10.4***. The small remainder of the Study Area indicated as retaining high potential, as *per* ***Figure 4.10.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

4) SMF, Roseville Public School & Roseville Garden, ROAD-E11

The SMF, Roseville School & Park has mostly been agricultural in land use up to the last quarter of the 1900s. While there does not appear to have been any extensive land disturbance, and the area is currently a park, there are no criteria that would act as triggers for an archaeological assessment. The WAMP (CRM Group *et al*. 2005: Figures 1 & 2) places the Study Area within an area of low potential, and this current background study indicates that no criteria were found which would negate the WAMP's observations.

Therefore, FAC recommends:

1) That the whole of the SMF, Roseville School & Park Study Area is deemed to have low archaeological potential (***Figure 4.11.4***), and no further archaeological work is required.

8.2.3 Low Impact Development (LID) and Stormwater Management Pond (SMP)

1) New LID Swales, Lauzon Parkway, ROAD-E4

The background research for the Lauzon Parkway Swales indicates that this Study Area has variable archaeological potential. The Study Area itself is just over 300 metres from Little River, and was identified as an area of low potential by the WAMP (CRM Group *et al*. 2005: Figures 1 & 2, see ***Figure 10***), however the detailed background research conducted for this study has identified an Historic tributary of Little River within 300 metres of the southern half of the Study Area. The northern half of the Study Area does not meet any of the high potential triggers and has been extensively disturbed from previous construction and landscaping, and therefore has low archaeological potential. The southern half of the Study Area has both high and low potential areas.

Therefore, FAC recommends:

1) For those areas of the Study Area that are indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.7.4***. The small portion of Study Area indicated as retaining high potential, as *per* ***Figure 4.7.4***, will require Stage 2: Assessment through shovel testing at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) SMP, Lauzon Parkway, Little River Golf Course, ROAD-E4

The Study Area for the proposed Little River Golf Course SMP is almost the entire golf course. Based on the background study, the Golf Course has a mix of potential. There is a small area that can be confirmed as disturbed, since it is a parking lot. There are two areas that can be considered to possibly retain high potential, but there has been landscaping and grading, and therefore, probably have sections of both extensive disturbance, and areas still retaining potential. The remaining areas have been indicated as retaining high archaeological potential.

Therefore, FAC recommends:

1) For the area of the Study Area that is indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figure 4.9.5***. The remaining portions of Study Area indicated as retaining high potential, as *per* ***Figure 4.9.5***, will require Stage 2: Assessment through shovel testing either judgmentally, or at five metre intervals. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

8.3 South Windsor

There are four individual Study Areas in the South Windsor section of this project. The following are FAC's final recommendations for these sections based on historical research, review of visual sources and Property Inspections. The four Study Areas are: SMP, Dougall Underpass (ROAD-S1); SMP, 2829 Howard Avenue (ROAD-S2); SMF, 2459 Chrysler Centre (ROAD-S3); and SMP Central Avenue Expansion (STM-S7).

All four of these Study Areas have been found to have, or to retain, no archaeological potential. The background research for SMP, Dougall Underpass has agreed with the WAMP (CRM Group *et al*. 2005) that this Study Area has no archaeological criteria that would trigger the requirement of an archaeological assessment, apart from the northern corner that is within 50 metres of a railway. Even that is negated by the presence of the former intersection in the northern end of the Study Area. Therefore, this Study Area has low potential. The SMF, 2459 Chrysler Centre also does not meet any of the criteria that trigger high potential, and has been disturbed within the past 50 years. Therefore, the SMF 2459 Chrysler Centre also has low potential.

The other two Study Areas in South Windsor, SMP, 2929 Howard Avenue and the Central Avenue SMP Extension, were shown that while they may originally have had archaeological potential, the background research and Property Inspections have shown that there is no archaeological potential remaining.

Therefore, FAC makes the following recommendation:

1) The SMP, Dougall Underpass (***Figure 5.1.4***), the SMP, 2829 Howard Avenue (***Figure 5.2.6***), the SMF, 2459 Chrysler Centre (***Figure 5.3.5***), and SMP Central Avenue Expansion (***Figure 5.4.2***) Study Areas all have low archaeological potential and do not require any further archaeological work.

8.4 Riverside Drive Vista Phase 2A and East Riverside and Riverside Drive East- Coastal Flood Protection Landform Barrier

The Landform Barrier is situated in a long and fairly narrow Study Area, running parallel to the Detroit River and Riverside Drive East, through the eastern part of the City of Windsor to the eastern boundary at the city limits with the Town of Tecumseh. The Study Area includes areas that will require upgrades to the berm, new construction, and portions that do not currently require any work. The Landform Barrier has been divided into three main sections: Riverside Area 1 (BERM-1-2); Riverside Area 2 (BERM-2-1); and Riverside Area 3 (BERM-3-1). The Riverside Drive Vista Phase 2A Study Area contains the whole of the Riverside Landform Barrier Area 1, includes a few metres of Area 2, and covers the whole Riverside Drive East ROW with additional lands to the north and south.

The Riverside Vista Phase 2A begins at 5245 Riverside Drive East and extends eastwards to 7050 Riverside Drive East, encompassing the whole of the Riverside Drive ROW, 10 metres north of the ROW and 4.5 metres south of the ROW.

The Riverside Area 1 berm work will start on the north side of Riverside Drive E., at the eastern end of property 5686, heading eastward, and ends at the eastern side of the St. Rose PS property. The Riverside Area 2 Study Area continues on the north side of Riverside Drive E., until approximately just west of Frank Avenue where the berm work will switch to the south side of the Riverside Drive E. The Riverside Area 2 Study Area continues to Brumpton Park. It is approximately halfway between Frank and Watson Avenues,

on the south side of Riverside Drive, that the West Marsh Drain began, continuing as the East Marsh Drain east of Little River to the city border. And at the east end of the Riverside Area 2 the Electric Railway came in from the south at Brumpton Park to meet the Study Area, and then continued south of both Riverside Drive E and the East Drain, parallelling the shore of Lake St. Clair. The Riverside Area 3 Study Area started at the end of Brumpton Park continuing east to the City of Windsor Limits with the Town of Tecumseh.

The Riverside Vista Phase 2A and Riverside Areas 1 and 2 consist mostly of residential sections, the potential is highly variable depending on the level of landscaping, infilling and paving, and some areas are made land. These sections are considered to have variable potential ranging from low to high archaeological potential. The Riverside Area 3 consists mostly of land that has been identified as having low potential, with only one area considered to retain high potential based on the background study and Property Inspection.

Therefore, FAC recommends:

1) For the Study Area consisting of Riverside Drive Vista Phase 2A and Riverside Area 1 (BERM-1-2), those areas indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figures 6.10a-c***. The remainder of the Study Area indicated as retaining high or variable potential, as *per* ***Figures 10a-c,*** will require Stage 2: Assessment through shovel testing at five metre intervals, or judgmentally as indicated *per* the figures. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered.

2) For the Study Area consisting of Riverside Areas 2 and 3 (BERM-2-1, and BERM-3-1) those areas indicated as having low archaeological potential, no further archaeological work is required as *per* ***Figures 6.10c-h, 6.10j-k***. The remainder of the Study Area indicated as retaining high or variable potential, as *per* ***Figures 10c-e***, and *10j*, will require Stage 2: Assessment through shovel testing at five metre intervals or judgmentally as indicated *per* the figures. However, potential may be reduced during the Stage 2: Assessment if extensive disturbance is encountered;

3) A marine archaeological assessment is required for the riverbed portion of this Study Area.

9.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Standard 1

a) This report is submitted to the Minister of Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage, Tourism, Sport, and Culture Industries, a letter will be issued by the minister stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b) It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has complete archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

c) Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48(1) of the *Ontario Heritage Act*.

d) The Cemeteries Act, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of cemeteries, Ministry of Government and Consumer Services (416 212-7499).

Standard 2

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered or have artifacts removed from them, except by a person holding an archaeological licence.

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PROJECT PERSONNEL

Project Managers:	Ruth Macdougall (P359)	Jacqueline Fisher (P042)
Project Licensee:	Ruth Macdougall	
Field Directors:	Barbara Johnson (R1103)	Ruth Macdougall
Field Archaeologists:	Amanda Black (R375) Nicholas Williams	Jacqueline Fisher
Background Research:	Jacqueline Fisher Ruth Macdougall Julia Wither (R1055)	Barbara Johnson Nicholas Williams
GIS/Graphics:	Ruth Macdougall Nicholas Williams	Jim Molnar, PhD (P115) Julia Wither
Report Authors:	Jacqueline Fisher Ruth Macdougall	Barbara Johnson Julia Wither
Report Editors:	Jacqueline Fisher	Ruth Macdougall

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Windsor Museum	Windsor Public Library, Local History Branch
Windsor Community Archives	Dillon Consulting Limited
CRM Group Limited, Bruce Stewart and Staff	CRM Lab, Claire Freisenhausen
Archeoworks, Kim Slocki	AMICK, Mick Henry

NPD Table for City of Windsor Sewer Master Plan
Archaeological Stage 1: Background Study

Date	Weather	Conditions	Field Director
30 October 2019	Overcast, light rain; 6°C	Good	RM
31 October 2019	Overcast, drizzle to light rain; 9°C	Good	RM
27 November 2019	Overcast; 9°C	Good, no snow	BJ
28 November 2019	Overcast, windy and cold; 2°C	Good, no snow	RM
29 November 2019	Overcast, cold, breezy; 0 to -2°C	Good, no snow	RM
7 December 2019	Partly cloudy; 1°C	Good, no snow	BJ
19 December 2019	Clear skies, cold; -2°C	Good, no snow	BJ
30 January 2020	Partly cloudy, cold; -1°C	Good, no snow	BJ
20 February 2020	Clear skies; -5°C	Good, no snow	BJ

Source: Ministry of Natural Resources and Forestry 2015. *Make A Topographic Map*. Queen's Printer for Ontario. https://tinyurl.com/hcnlgld

FAC

Date: 16/03/20
Designer: JW

KEY

City of Windsor boundary

N

Scale
0 5km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.1: Location and Topography of Overall Project Area

Source: Ministry of Natural Resources and Forestry 2015. *Make A Topographic Map*. Queen's Printer for Ontario. https://tinyurl.com/hcnlgld

FAC

Date: 16/03/20
Designer: JW

KEY

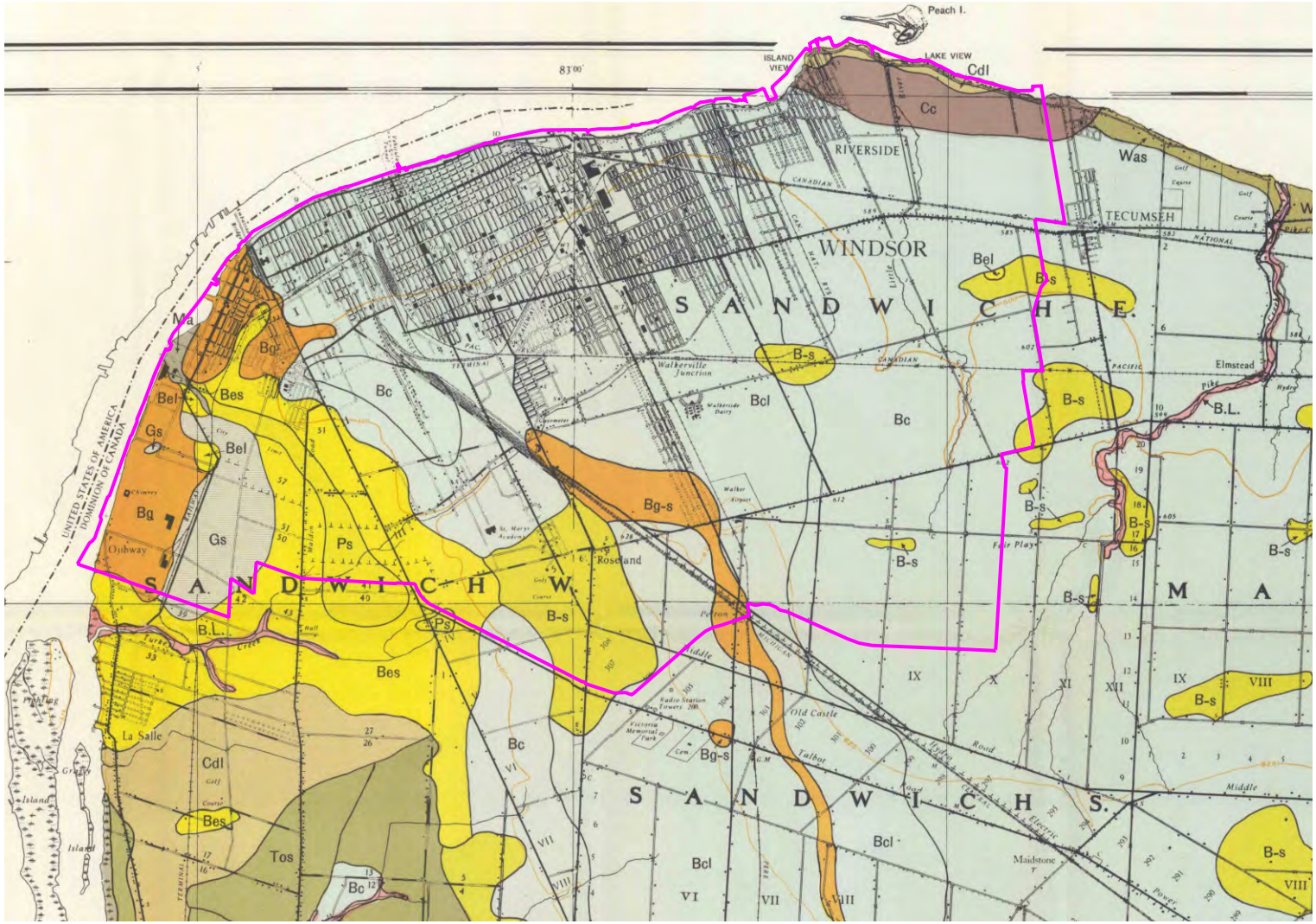
City of Windsor boundary

N

Scale
0 5km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.2: Aerial View of the Overall Project Area



Bc Brookston Clay

Bcl Brookston Clay Loam

Ps Brookston Clay Loam

Bes Berrien Sand

Bel Berrien Sandy Loam

B-s Brookston Clay Sand Spot Phase

Cdl Colwood Fine Sandy Loam

Tos Toledo Silt Loam

Was Wauseon Sandy Loam

Gs Granby Sand

Cc Clyde Clay

Bg Burford Loam

Bg-s Burford Loam Shallow Phase

Ma Marsh

B.L. Bottom Land

Source: N.R. Richards, A.G. Caldwell and F.F. Morwick, 1949. Soil Survey of Essex County. Report No.11 of the Ontario Soil Survey, Experimental Farms Service, Dominion Depart of Agricultural and Ontario Agricultural College.

FAC

Date: 19/05/20

Designer: JW

KEY

Approximate City of Windsor Boundary

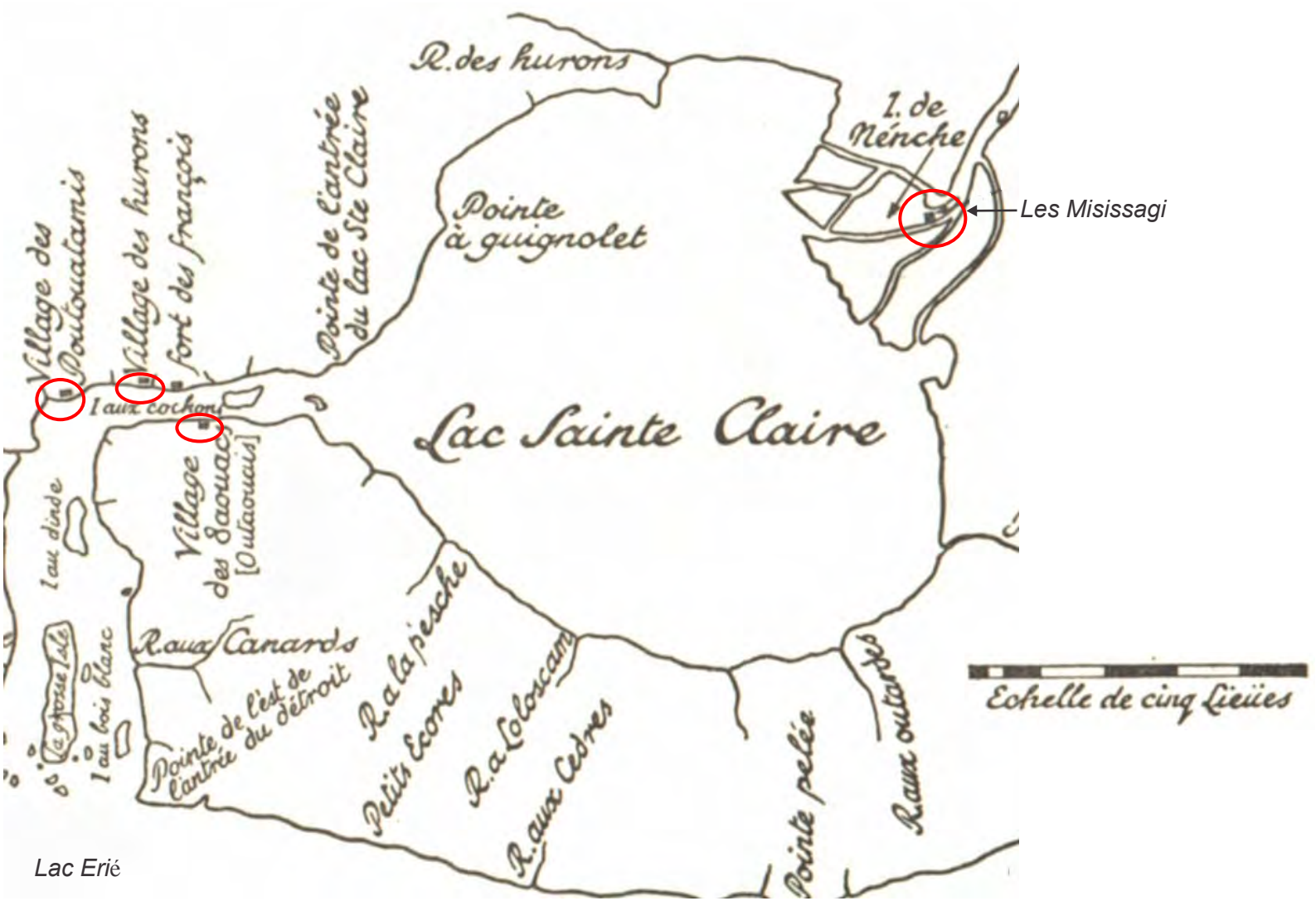
N

Scale

0 5 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.3: Soils in the City of Windsor



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FAC

Date: 25/03/20

Designer: JM

KEY

Indigenous Village

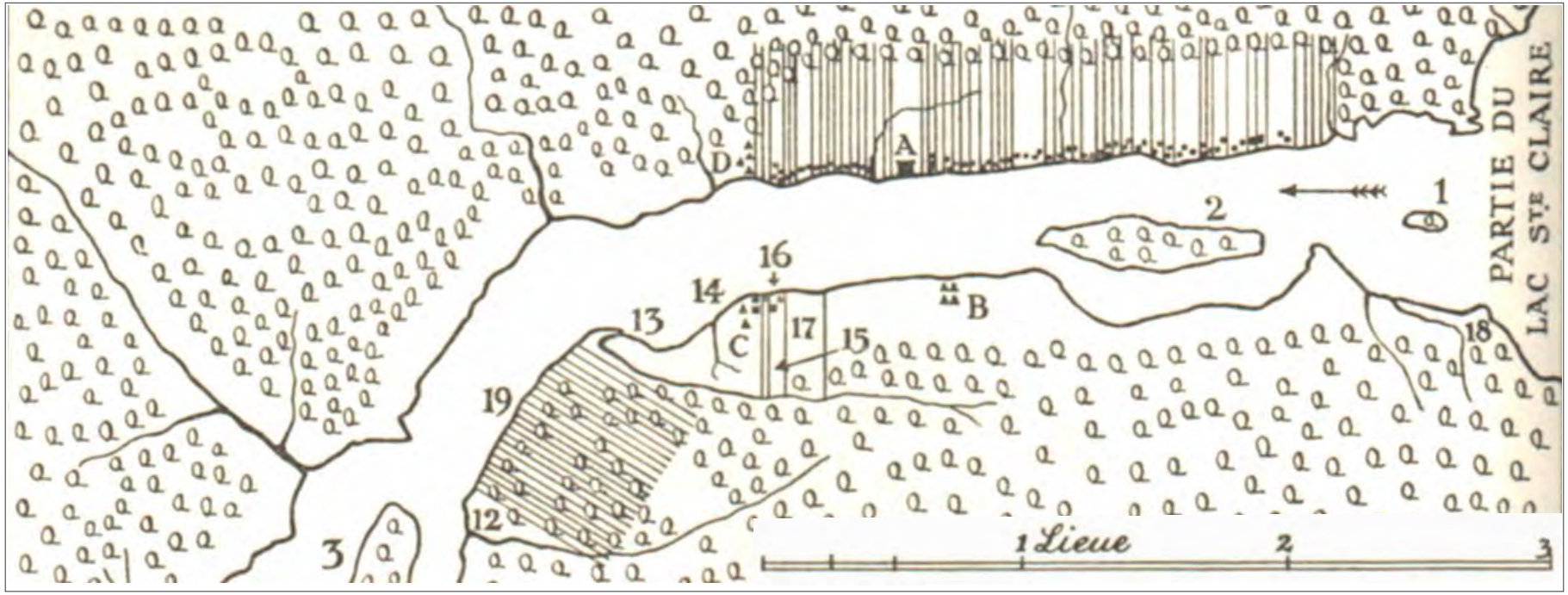
N

Approximate Scale

0 25 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.4: *Lac Sainte Claire* Map by Commandant Boishebert, 1730



KEY

A fort francais
B village outafois
C village huron
D village des Poutifatamis
1 Isle du large
2 Isle aux cochons qui sert de commune
3 Isle aux Dindes
12 Riviere aux Dindes
13 Riviere de la vie[i]lle Reine
14 Ruisseau de la Panise
15 Emplacement du forgeron des Hurons
16 Emplacement des R.P. Jésuites missionnaire ou est une Église
17 Terre de 12 arpans de front sur 40 de profondeur que Mr. Le chevalier de Longueuil a demandée
18 Pointe a la Perche
19 Nouvelle habitation francaise de 1749

Lajeunesse, Ernest J. 1960 The Windsor Border Region. Toronto: The Champlain Society for the Government of Ontario, University of Toronto Press.

FAC

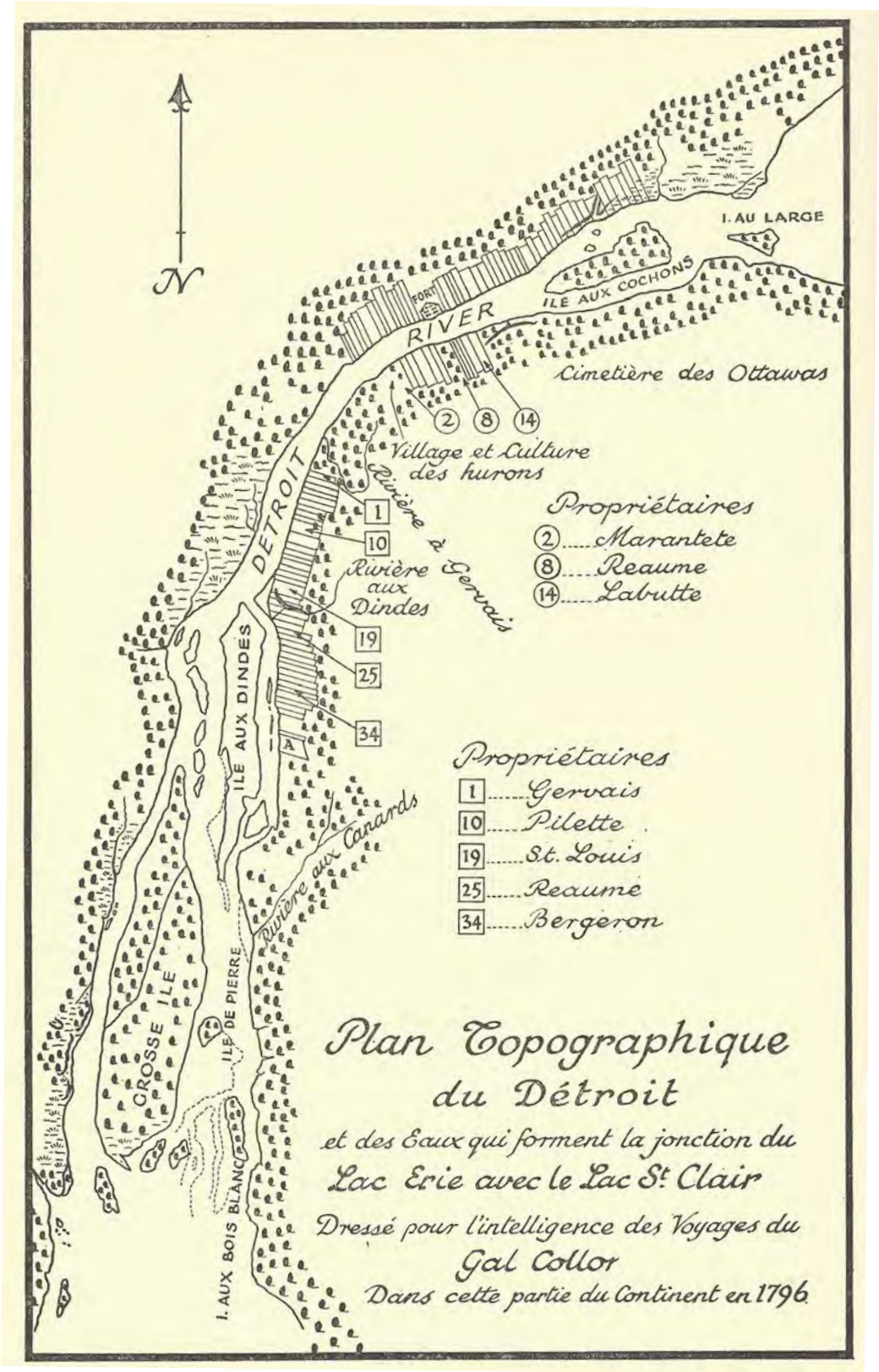
Date: 6/04/20
Designer: JM

N

Approximate Scale
0 10 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.5: *Carte de la Rivière du Détroit*, by Chaussegros de Léry, 1749, redrafted for Lajeunesse, The Windsor Border Region, 1960



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FAC

Date: 26/03/20

Designer: JM

KEY

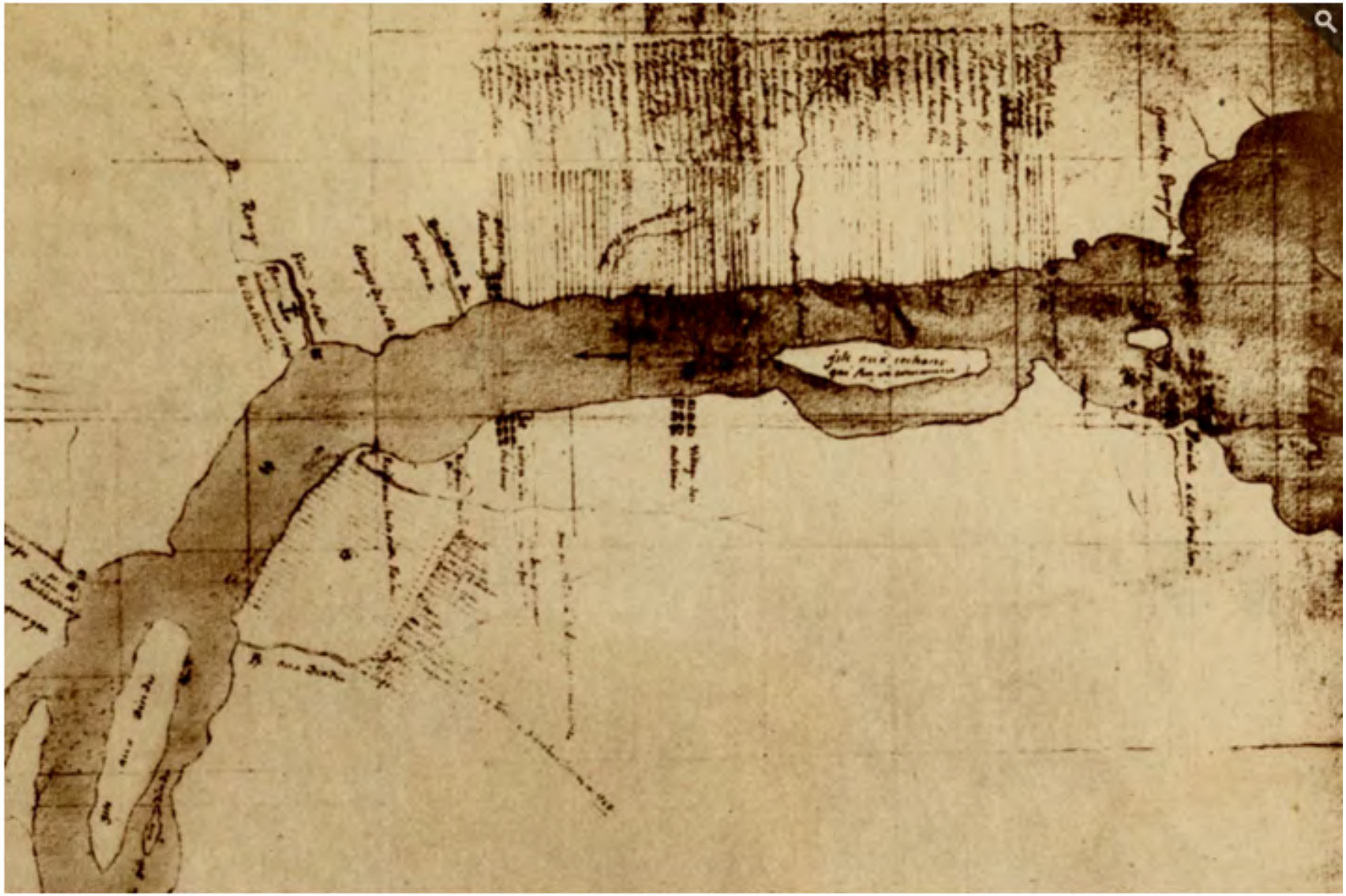
N

Approximate Scale

0 10 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.6: 1796 Collot map based on de Léry's map of 1754.



Detroit Public Library Digital Collections. Reprinted from the Detroit Times, 19 July 1931, Burton Historical Collection, Resource ID: bh006554.

FAC

Date: 6/04/20
Designer: JM

KEY

N

Approximate Scale

0 10 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.7: *Carte de la Rivière du Détroit*, by Chaussegros de Léry, 1755

Source: Detroitography website, https://detroitography.com/2016/02/24/la-riviere-du-detroit-1764/.

FAC

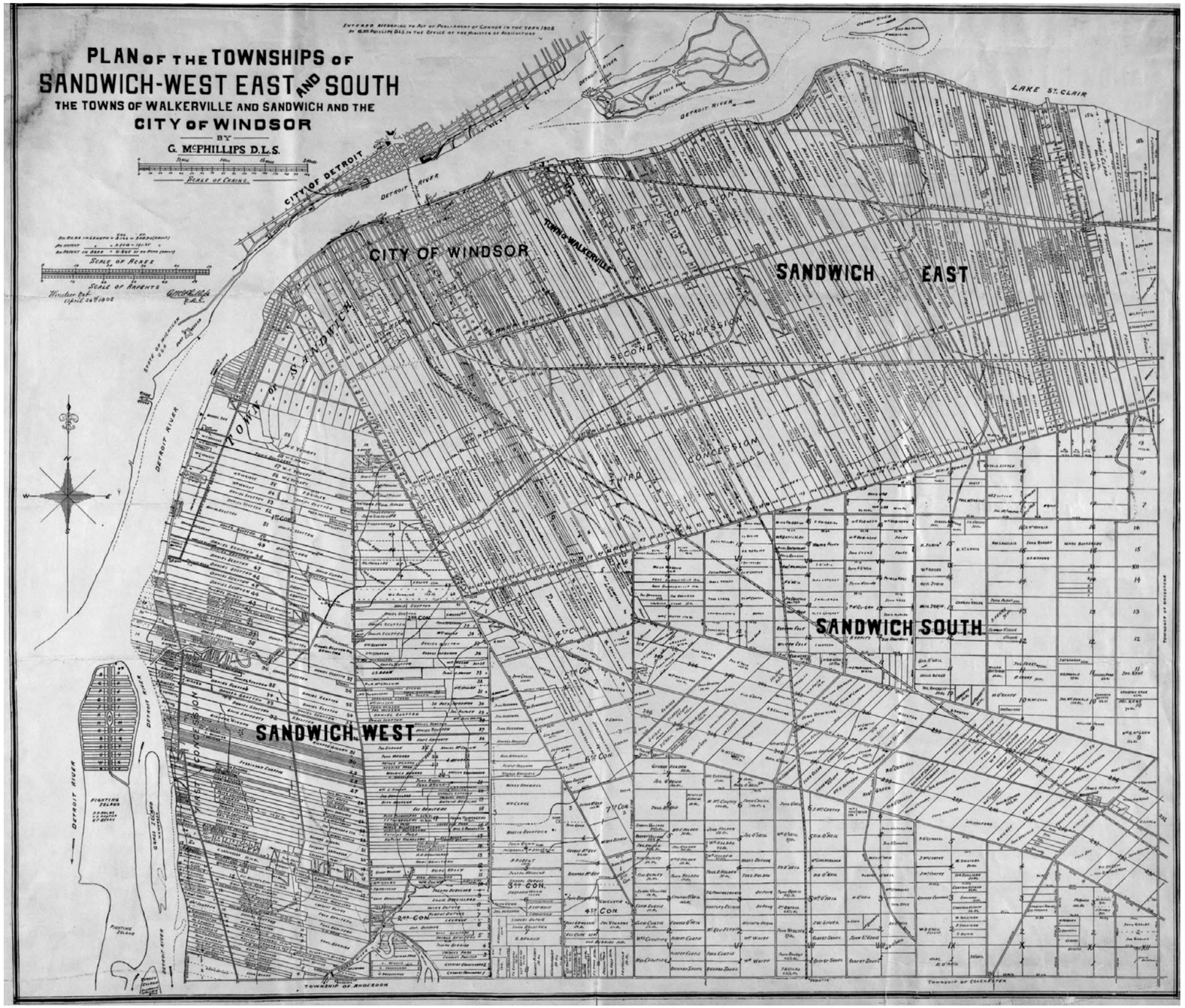
Date: 6/04/20
Designer: JM

N

Approximate Scale
0 25 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.8: *La Rivière du Détroit* map by Jacques Nicholas Bellin, 1764



Source: Plan of the Townships of Sandwich-West, East and South, the Towns of Walkerville and Sandwich and the City of Windsor, G. McPhillips, 1905, Windsor Community Museum, M29.

FAC
Date: 25/03/20
Designer: JM

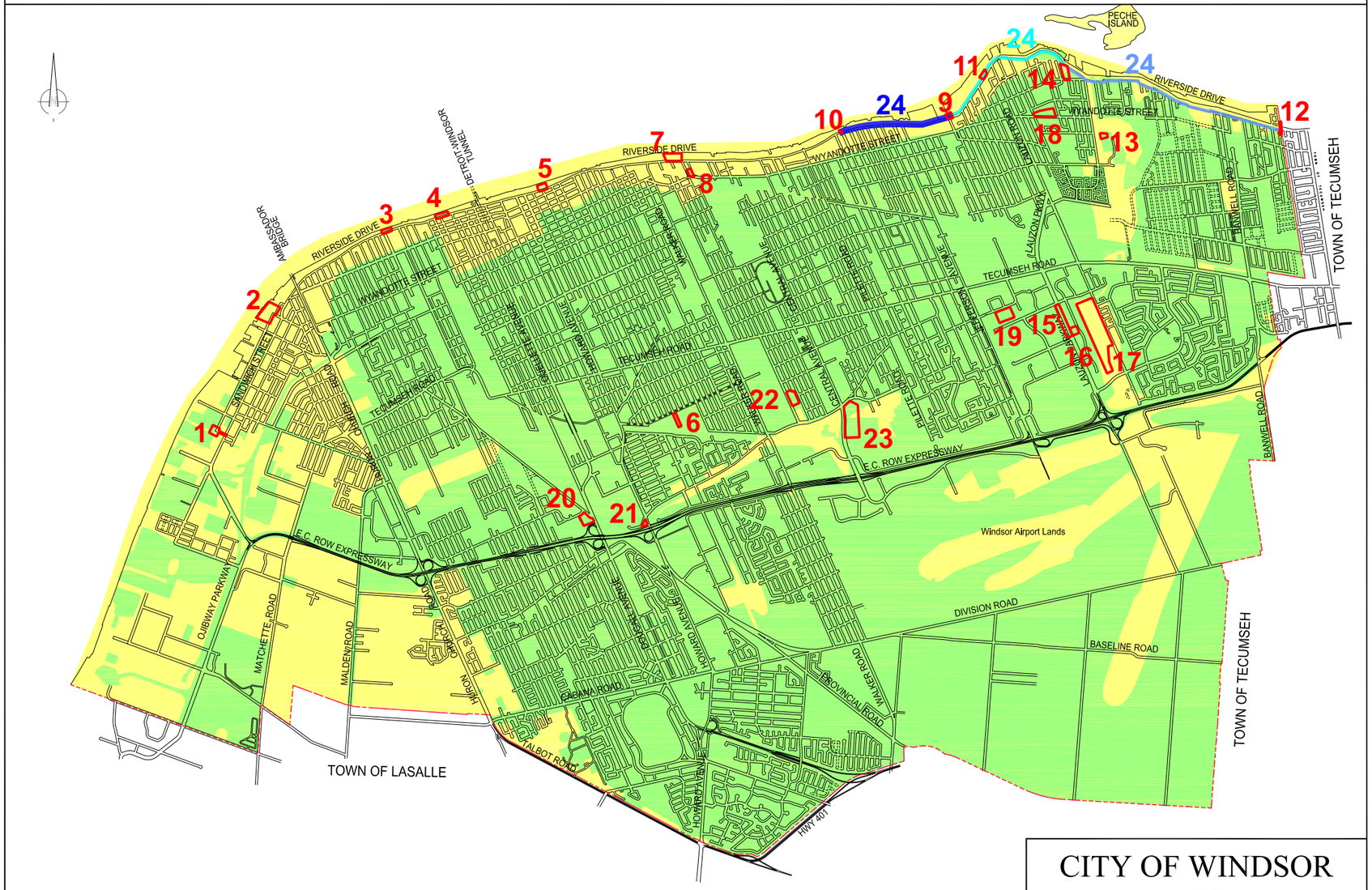
N

Scale
0 5 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 1.9: Plan of the Townships of Sandwich-West, East and South, the Towns of Walkerville and Sandwich and the City of Windsor by G. McPhillips, 1905

WINDSOR ARCHAEOLOGICAL MASTER PLAN: FIGURE 4.0 - ARCHAEOLOGICAL POTENTIAL



LEGEND:

- LOW POTENTIAL
- HIGH POTENTIAL
- CITY BOUNDARY (APPROXIMATE)

MAPPING BASED ON OBM FILES COMPILED BY PHOTOMAP AIR SURVEYS FROM 1985/86 PHOTOGRAPHY.

0 500 1000m

CITY OF WINDSOR

JUNE 2005

SCALE: 1:20 000

CRM Group (Cultural Resource Management Group Ltd.)

FISHER ARCHAEOLOGICAL CONSULTING | HISTORIC HORIZON INC. | DILLON CONSULTING LIMITED

Study Area Key

Central Windsor

1 Prince Rd New Outfall STM-C1

2 Detroit St Outfall Upgrade STM-C2

3 Cameron Ave New Outfall STM-C3

4 Bruce Ave New Outfall STM-C4

5 Marentette Ave New Outfall STM-C5

6 Optimist Park New Storage STM-C6

7 Albert Rd New Outfall STM-C7

8 Drouillard Underpass New Pump Station STM-C8

South Windsor

20 Dougall Underpass SMP, ROAD-S1

21 2929 Howard Avenue SMP, ROAD-S2

22 2459 Chrysler Centre SMF, ROAD-S3

23 Central Avenue SMP Expansion STM-S7

East Windsor

9 New St. Rose PS PS-E-ROSE

10 Ford PS Upgrades PS-E-FORD

11 St. Paul PS Expansion PS-E-STPAUL

12 Blue Heron/Lakeview PS Upgrades STM-E5

13 Pontiac PS Upgrades STM-E6

14 Brumpton Park, SMF STM-E6

15 LID Swales, Lauzon Parkway ROAD-E4

16 Lauzon Parkway, Meadowbrook Park, SMF ROAD-E4

17 Lauzon Parkway, Little River Golf Course, SMP ROAD-E4

18 Wyandotte at Watson, SMF ROAD-E9

19 Roseville School & Park, SMF ROAD-E11

Riverside Landform Barrier

24 Area 1 (BERM-1-2) & Riverside Vista Phase 2A

24 Area 2 (BERM-2-1)

24 Area 3 (BERM-3-2)

FAC
Date: 21/05/20
Designer:RM

KEY

Study Area Locations - Central, East, South Sewer Sheds

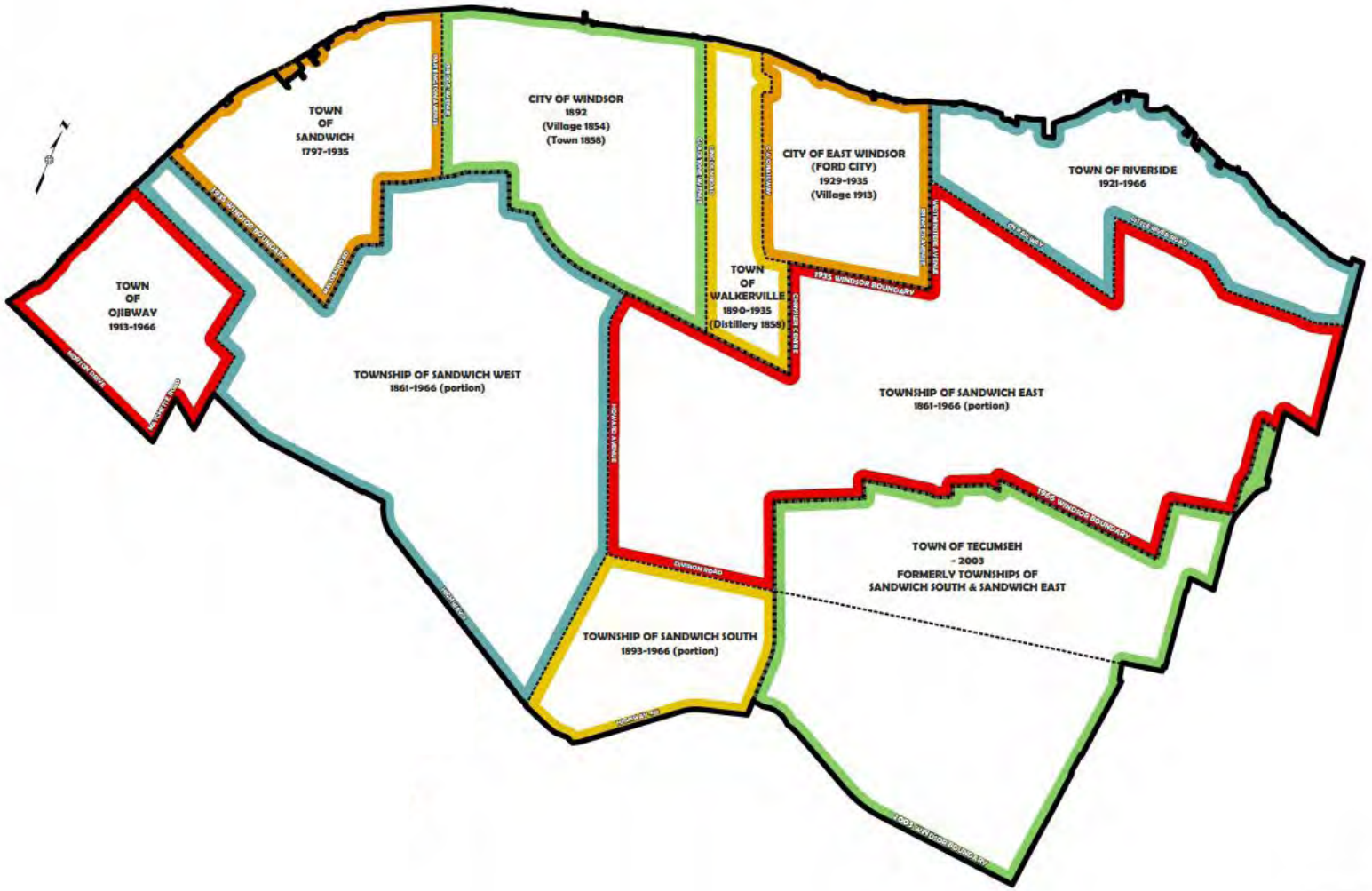
Study Area Location - Riverside Landform Barrier (BERM-1-2, BERM-2-1, BERM-3-2)
- Riverside Vista Phase 2A is shown with BERM-1-2

Scale 0 2.5 km

N

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 2.1: Windsor Sewer Master Plan Study Areas shown on the Windsor Archaeological Master Plan Potential Map (CRM Group et al 2005: Figure 4.0)



Source: City of Windsor Planning Department;
City of Windsor, History of Windsor
https://www.citywindsor.ca/residents/historyofwindsor/Documents/Former%20Municipal%20Boundaries%20Poster.pdf

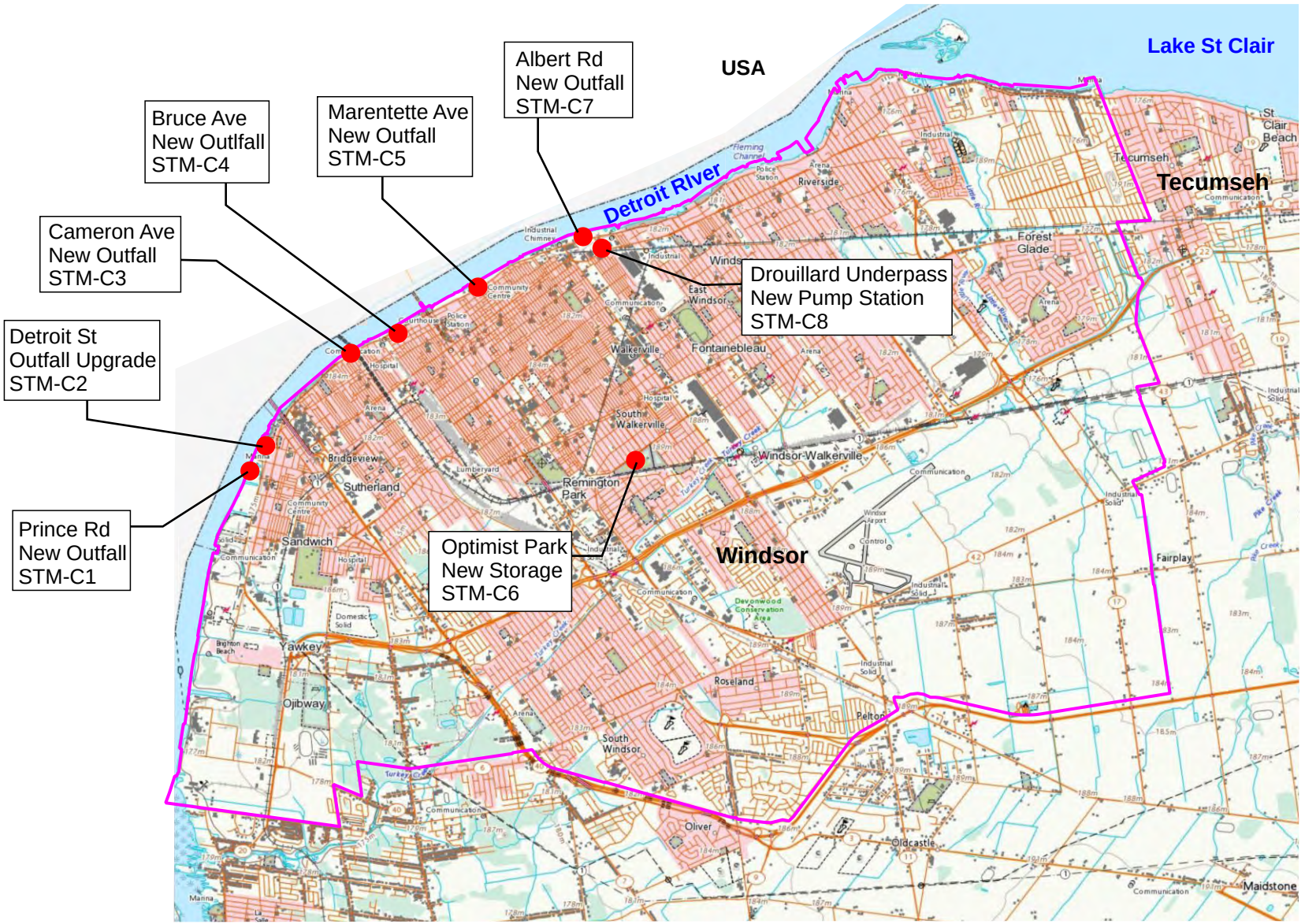
FAC

Date: 2/04/20
Designer: JM

Scale
0 5 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 2.2. Former Municipalities Comprising the City of Windsor



NTS Map Sheets 040J02, 040J03, 040J06, 040J07
Scale 1:50, 000
Atlas of Canada - Toporama;
National Resources Canada

FAC

Date: 15/05/20

Designer: RM

KEY

City of Windsor

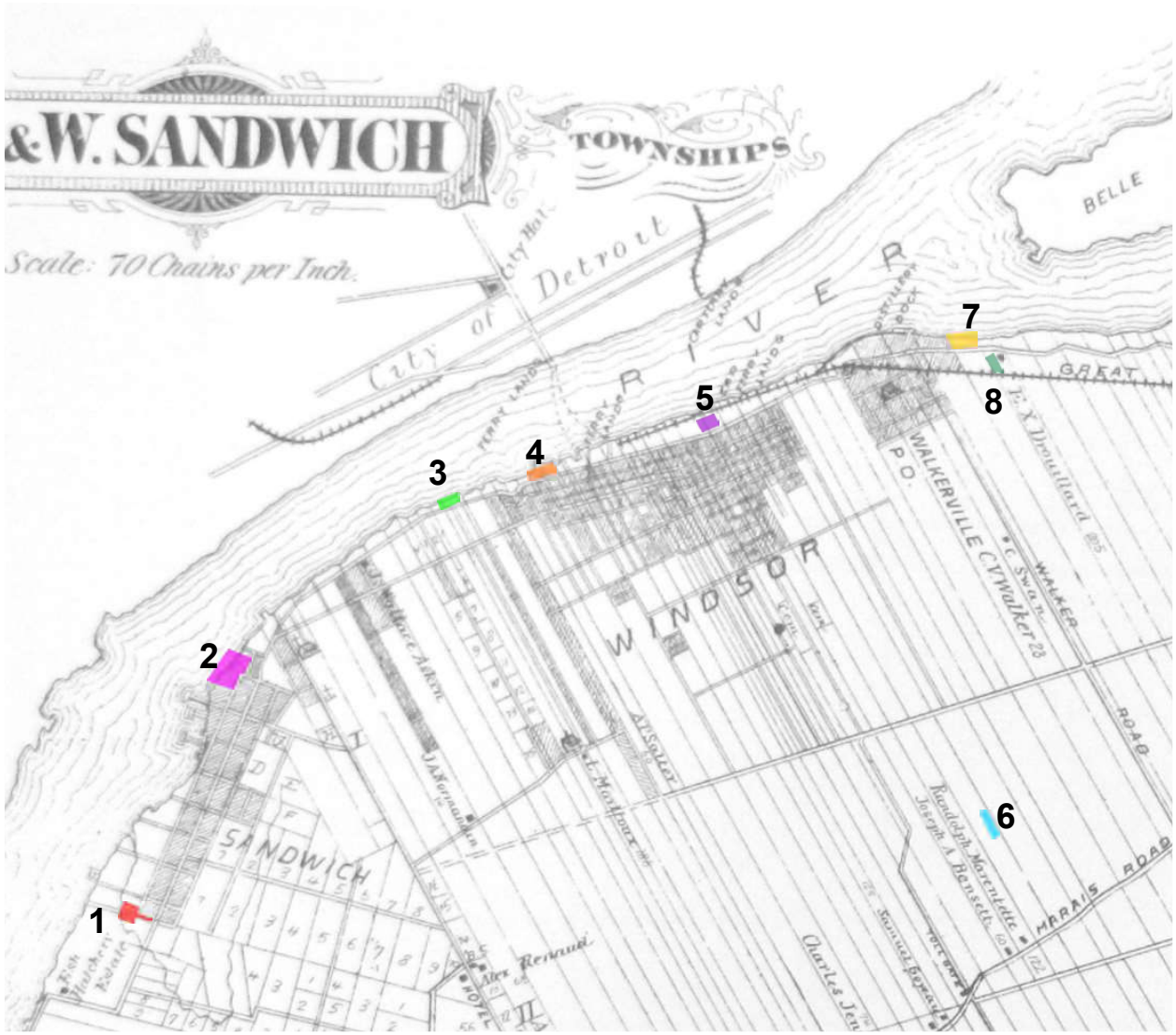
Study Area Location & Label

N

0 Scale 2.5 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1: Overview of Central Windsor Study Area Locations on Current NTS Mapping



KEY

1 Prince Rd Outfall
Town of Sandwich Plan 40,1847:
Part of Park Lot B West of Russell St.;
West of Russell St.#28;
Chappell St/ Grove/ End Street ROW;
Closed Russell Street"

2 Detroit St. Outfall
Part of the Indian Reserve;
Part of Water Lot Between Detroit and Chappell;
Lot 1 - Lot 4 & pt Lot 5
West side Russell St Plan 40;
Closed Detroit Street

3 Cameron Ave. Outfall
Part Lots 72 & 73, Con 1,
Sandwich West Twp

4 Bruce Ave. Outfall
Part Lots 78 & 79, Con 1,
Sandwich West Twp

5 Marentette Ave. Outfall
Part Lot 89, Con 1, Sandwich East Twp

6 Optimist Park Storage
Part Lot 91, Con 2, Sandwich East Twp

7 Albert Rd Outfall
Part Lot 98, Con 1, Sandwich East Twp

8 Drouillard P.S.
Part Lot 99, Con 1, Sandwich East Twp

FAC

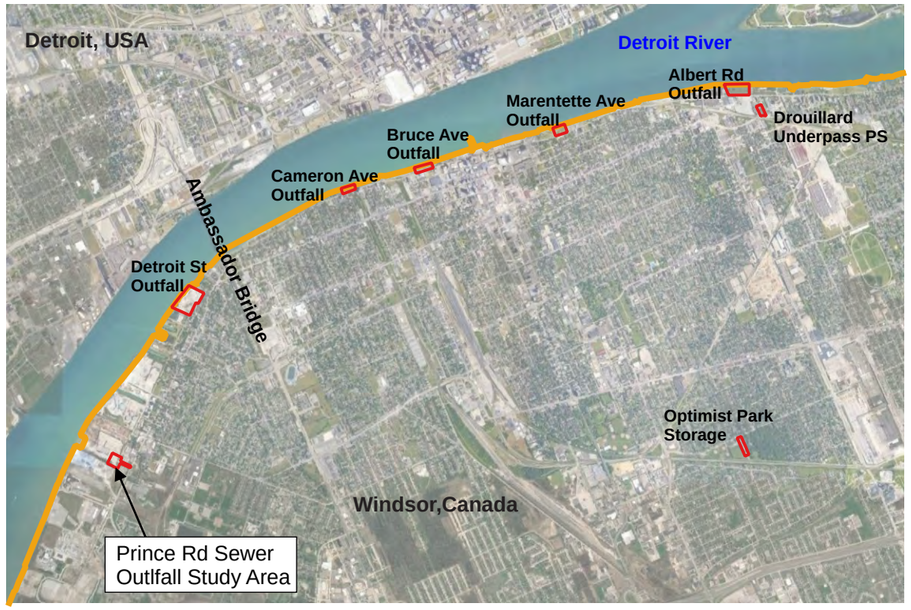
Date: 16/04/20
Designer: RM

N

Scale
(Approximate)
0 2.5 km

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

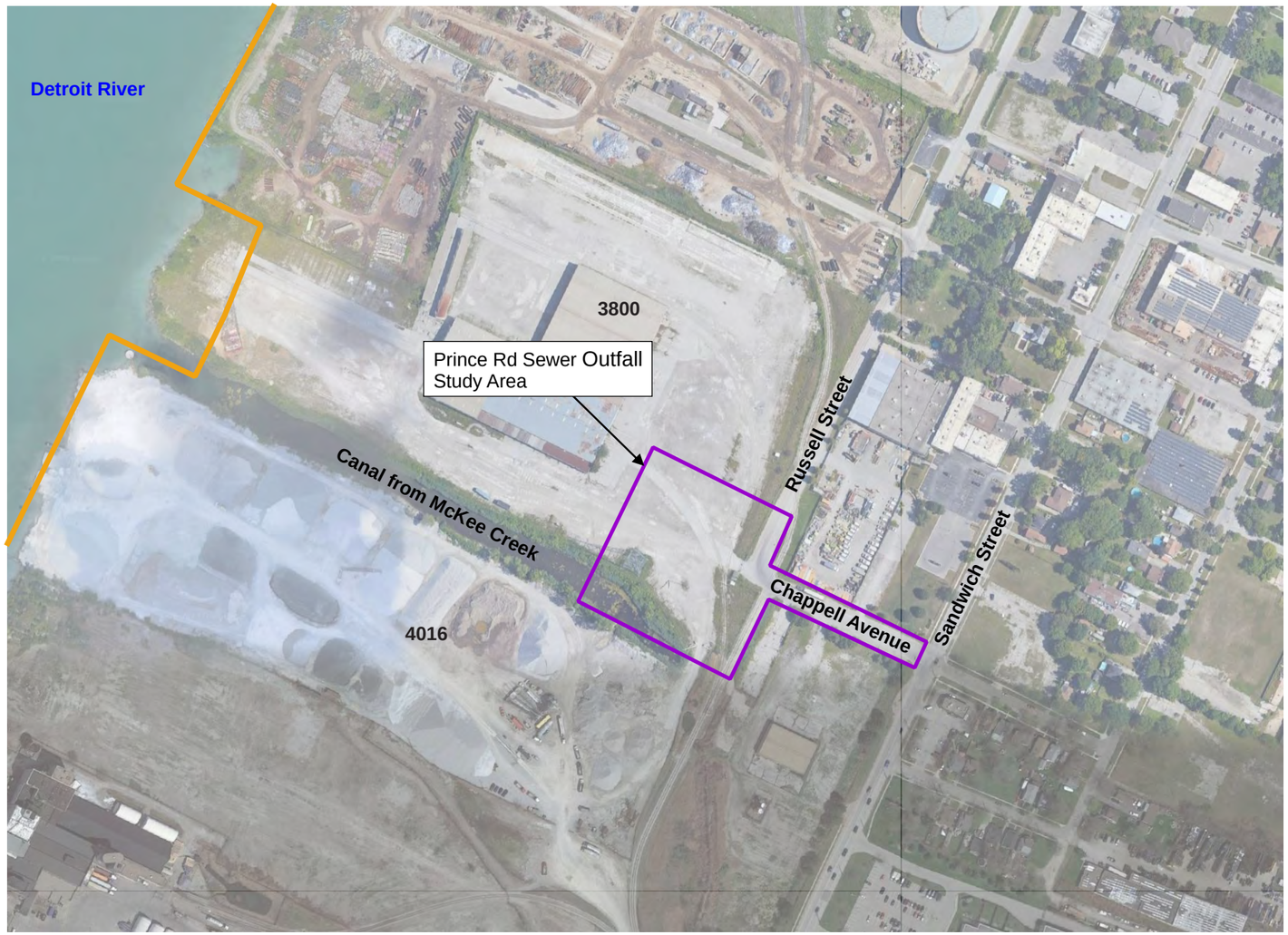
Figure 3.2: Central Windsor Study Areas on a Portion of the East & West Sandwich Township Map, Historic Atlas of Essex & Kent Counties, 1880-1881 (Belden 1881)



Key Map Showing Prince Rd Sewer Outfall Study Area
in context with the other Central Windsor Proposed Solutions

Scale 0 1 km

N



Scale 0 100 m

Satellite imagery: Google Earth 2017

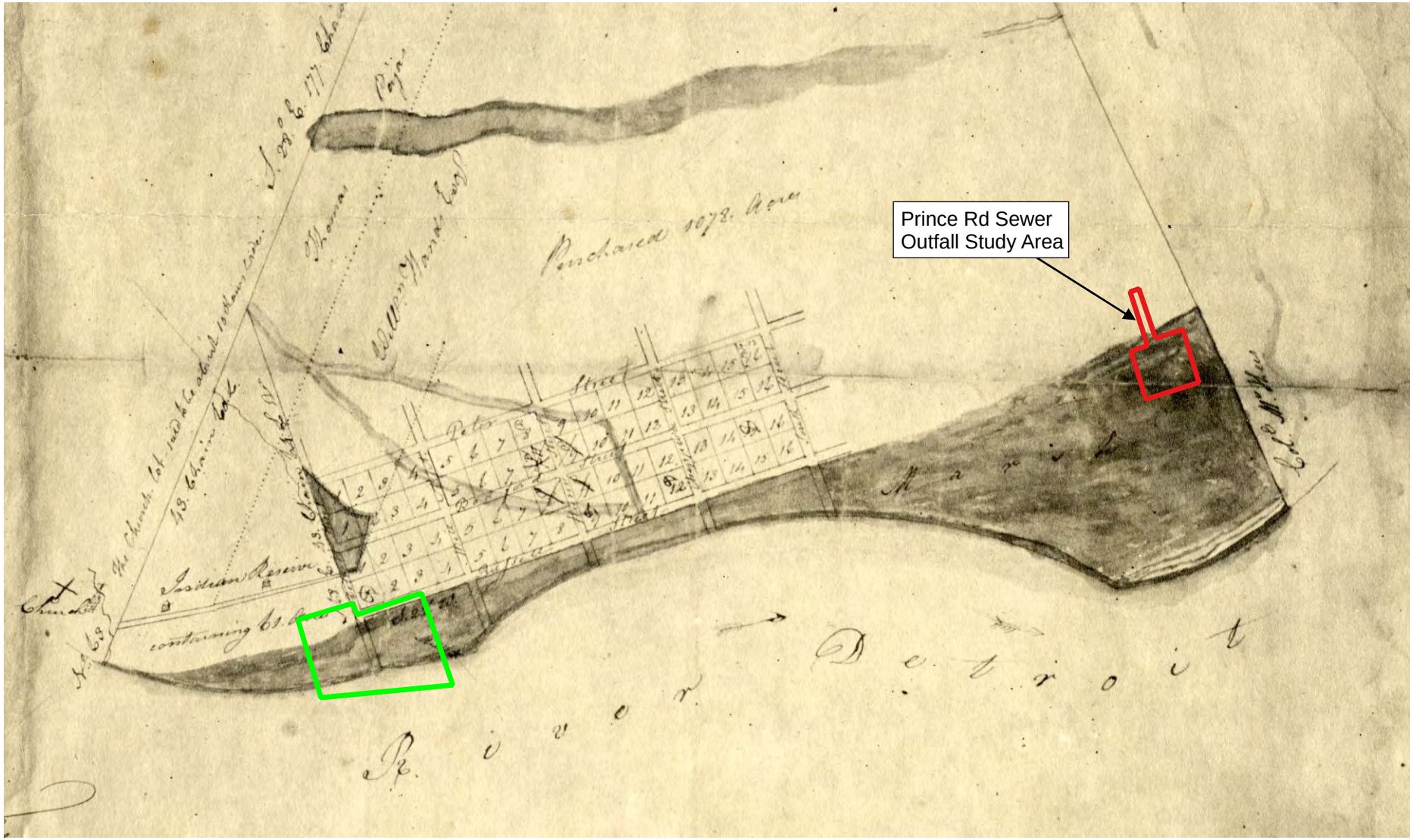
FAC
Date: 15/05/20
Designer: RM

KEY

- City of Windsor Boundary
- Study Area Boundary: Proposed Prince Rd Sewer Outfall (Close up)
- Proposed Solution Locations - Central Windsor (Key Map)

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.1: Prince Road Sewer Proposed New Storm Sewer Outfall (STM-C1), Aerial View of the Study Area



Portion of *Plan of purchase of Indian Reserve*, A. Iredell, 1797
Source: Museum Windsor, File M112

FAC

Date: 16/04/20

Designer: RM

KEY

Prince Road Sewer Outfall Study Area (Location Approximate)

Detroit Street Sewer Outfall Study Area (Location Approximate)

N

Scale (Approximate)

0 500 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.2: Prince Road Sewer, Proposed New Storm Sewer Outfall (STM-C1), Study Area on Iredell's 1797 *Plan of Purchase of Indian Reserve*

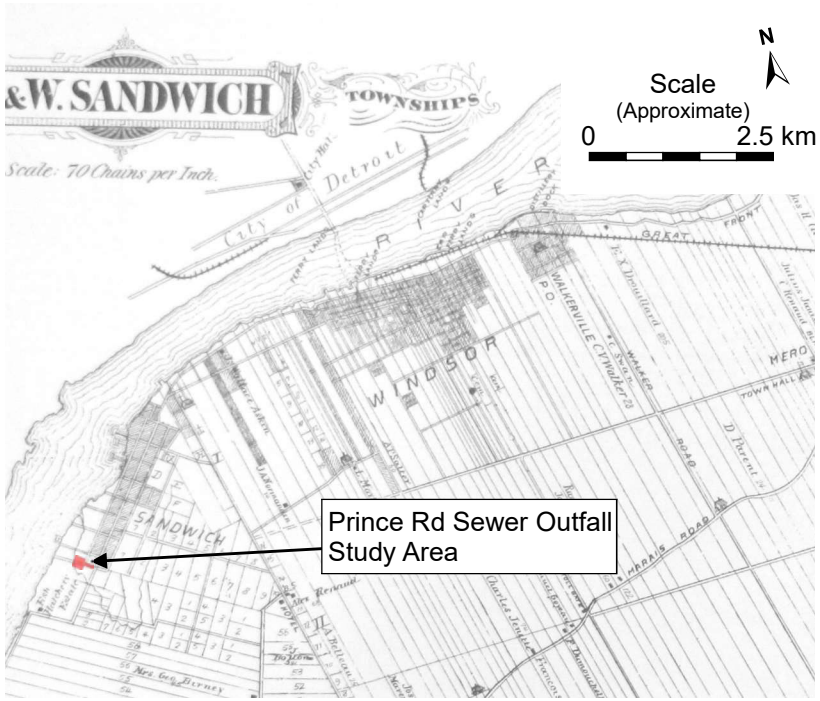


Figure 3.1.3a: Prince Road Sewer Outfall Study Area on the East & West Sandwich Township Map, 1880, from the *Illustrated Historical Atlas of the Counties of Essex & Kent, 1880-1881* (Belden 1881)

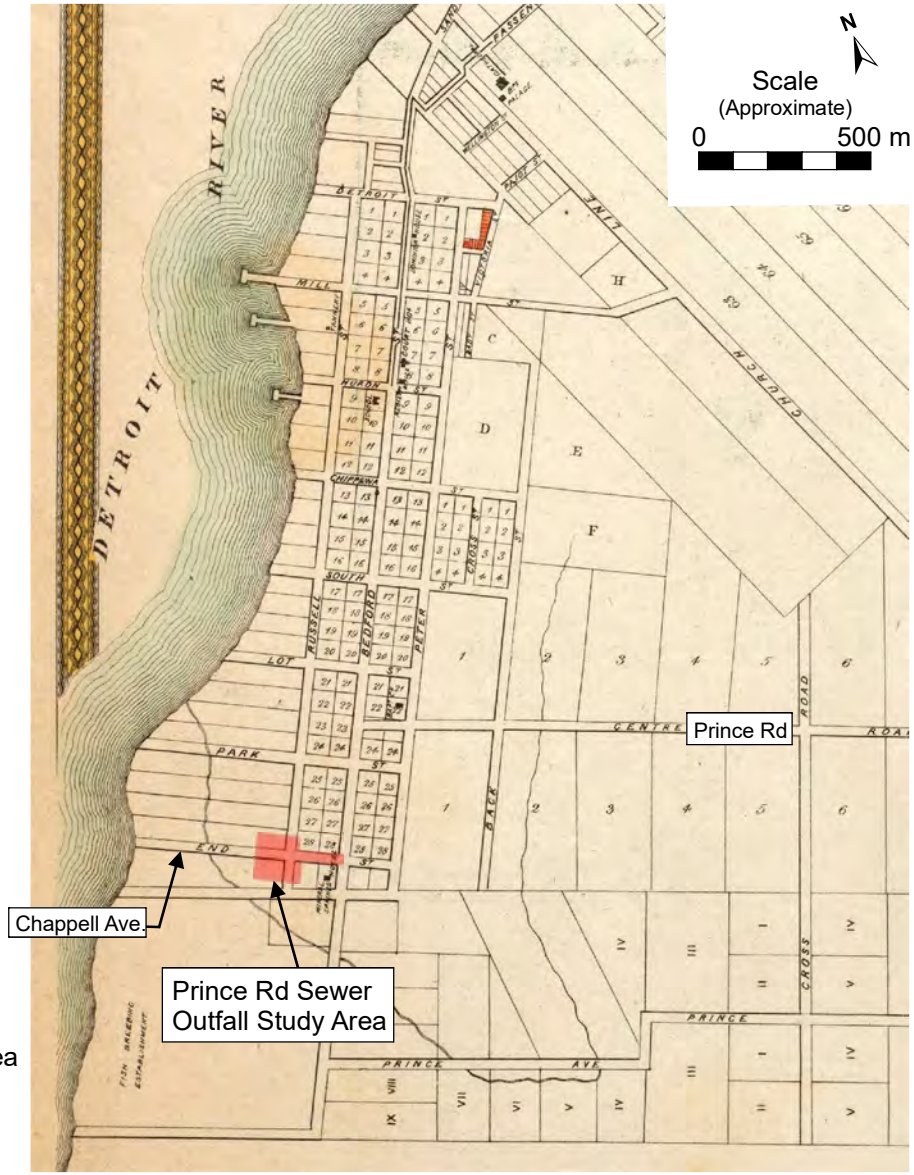


Figure 3.1.3b: Prince Road Sewer Outfall Study Area on the Town of Sandwich Map, 1879
(Source: Map of Windsor & Sandwich, University of Windsor "We Dig History")

FAC

Date: 15/05/20

Designer: RM

KEY

Prince Road Sewer Outfall Study Area (Location Approximate)
Town of Sandwich Plan 40, from 1847: Park Lot B West of Russell Street; Park Lot B; West of Russell Street #28; Chappell St/ Grove/ End Street ROW; and Closed Russell Street ROW

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.3: Prince Road Sewer, Proposed New Storm Sewer Outfall (STM-C1) Study Area on 1880 Sandwich Township & 1879 Town of Sandwich Maps

Figure 3.1.4a: 1913 NTS Map, Sheet 40J06, showing the Prince Rd Sewer Outfall. Scale 1:63,360

Figure 3.1.4b: 1939 NTS Map, Sheet 40J03-J06, showing the Prince Rd Sewer Outfall. Scale 1:63,360

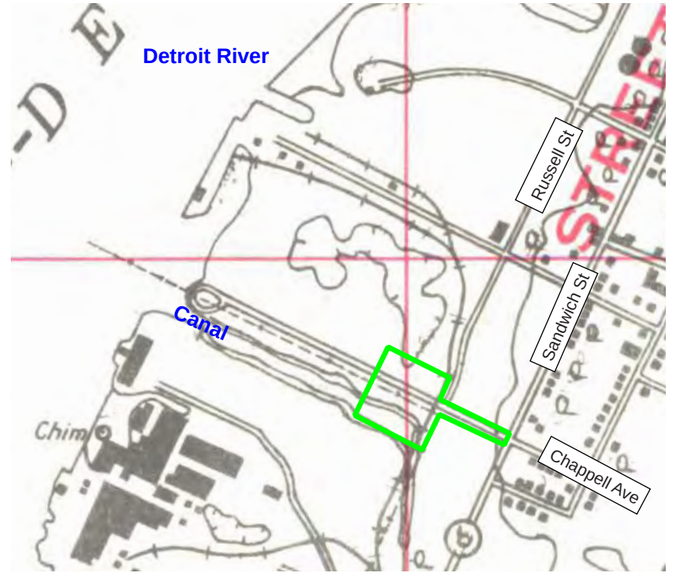


Figure 3.1.4c: 1961 NTS Map, Sheet 40J06a, showing the Prince Rd Sewer Outfall. Scale 1:25,000

Figure 3.1.4d: 1986 NTS Map, Sheet 40J06, showing the Prince Rd Sewer Outfall. Scale 1:50,000

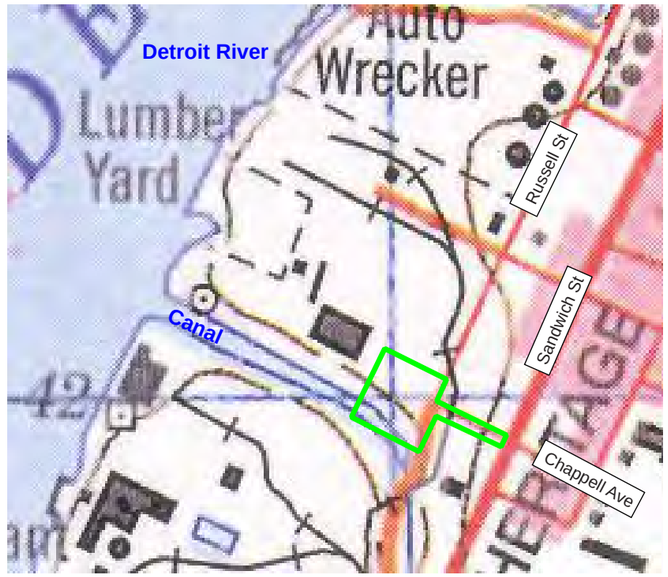


Figure 3.1.4e: 2001 NTS Map, Sheet 40J06, showing the Prince Rd Sewer Outfall. Scale 1:50,000

FAC
Date: 15/05/20
Designer: RM

KEY

Study Area: Proposed Prince Rd Sewer Outfall

N

Scale
0 500 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.4: Prince Road Sewer Proposed New Storm Sewer Outfall (STM-C1), Superceded NTS Maps of the Study Area, 1913, 1939, 1961, 1986, 2001

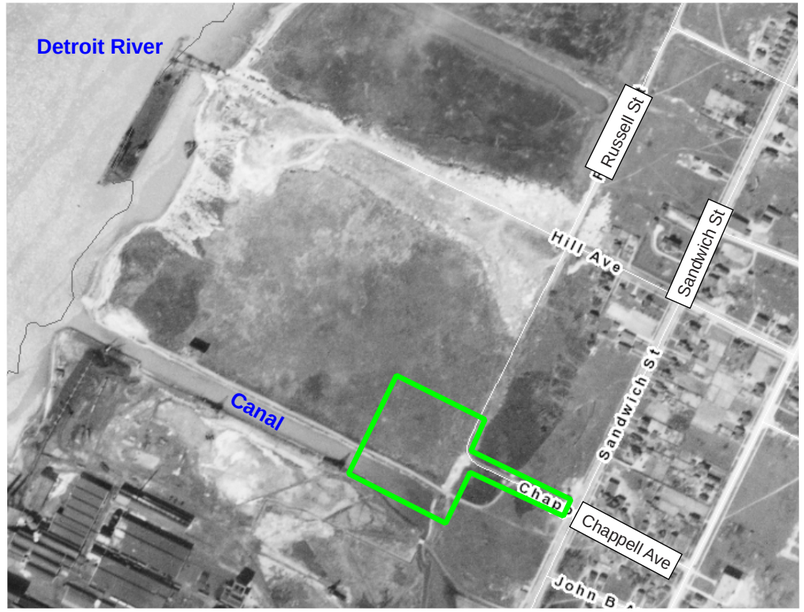


Figure 3.1.5a: 1931 Aerial Showing the Prince Rd Sewer Outfall Study Area. Note the street names & centrelines reflect the current configuration.
(Source: Historical Aerial Photographs, ERCA Public Interactive Mapping)

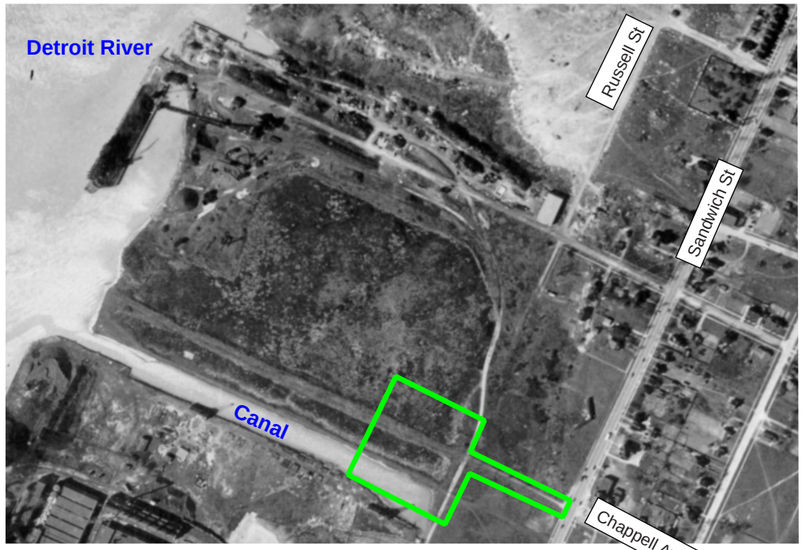


Figure 3.1.5b: 1949 Aerial Showing the Prince Rd Sewer Outfall Study Area
(Source: DTE Aerial Photo, Wayne State University. HA4-84)

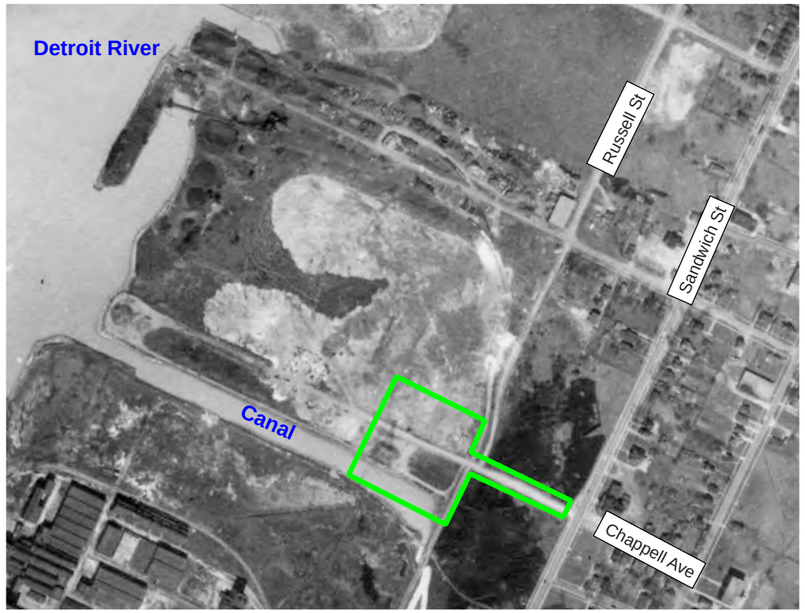


Figure 3.1.5c: 1956 Aerial Showing the Prince Rd Sewer Outfall Study Area
(Source: DTE Aerial Photo, Wayne State University. GA-1-108)

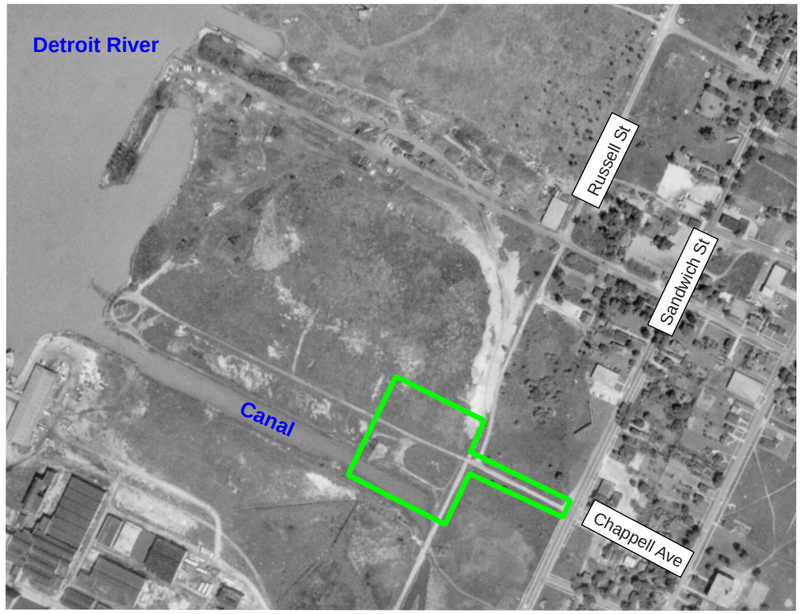


Figure 3.1.5d: 1961 Aerial Showing the Prince Rd Sewer Outfall Study Area
(Source: DTE Aerial Photo, Wayne State University. FM-30-122)

FAC
Date: 15/05/20
Designer: RM

KEY

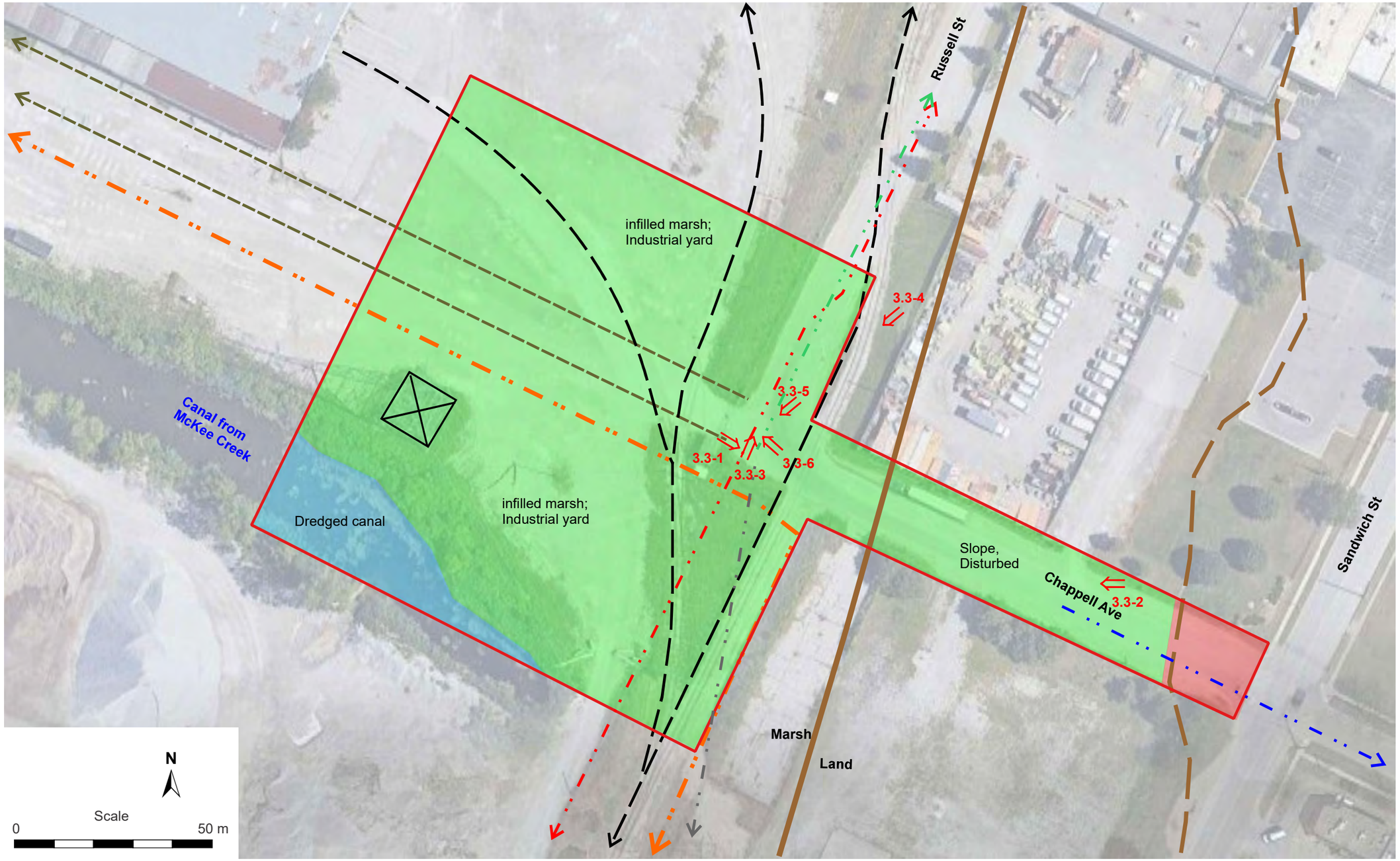
Study Area: Proposed Prince Rd Sewer Outlet

N

Scale
0 200 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.5: Prince Road Sewer Proposed New Storm Sewer Outfall (STM-C1), Historic Aerial Views of the Study Area, 1931, 1949, 1956 & 1961



Satellite Imagery: Google Earth 2017

FAC

Date: 15/05/20

Designer: RM

KEY

- Study Area Boundary
- High Potential - Stage 2 Monitoring Recommended
- No Potential - No Further Work Recommended (former marsh, extensive disturbance/infill, slope)
- Water (Dredged Canal, No Potential)
- Former Chappell Ave Extension (1961 NTS)
- Pipeline (1961 NTS)
- Extant Railway (City of Windsor, Map My City)
- Original Shoreline (Iredell, 1797)
- Top of bank (1961 NTS)
- Photo Plate Location & Direction
- Extant Storm Sewer*
- Extant Sanitary Sewer*
- Extant Combined Sewer*
- Abandoned Sewer*

*City of Windsor Interactive Mapping

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.1.6: Prince Street Sewer Proposed New Storm Sewer Outfall (STM-C1), Archaeological Potential and Recommendations

Plate 3.1-1: Prince Rd Sewer Outfall - Looking SE along Chappell Ave., from its intersection with Russell St. Sandwich St is at the top of the slope (Photo P1020126).

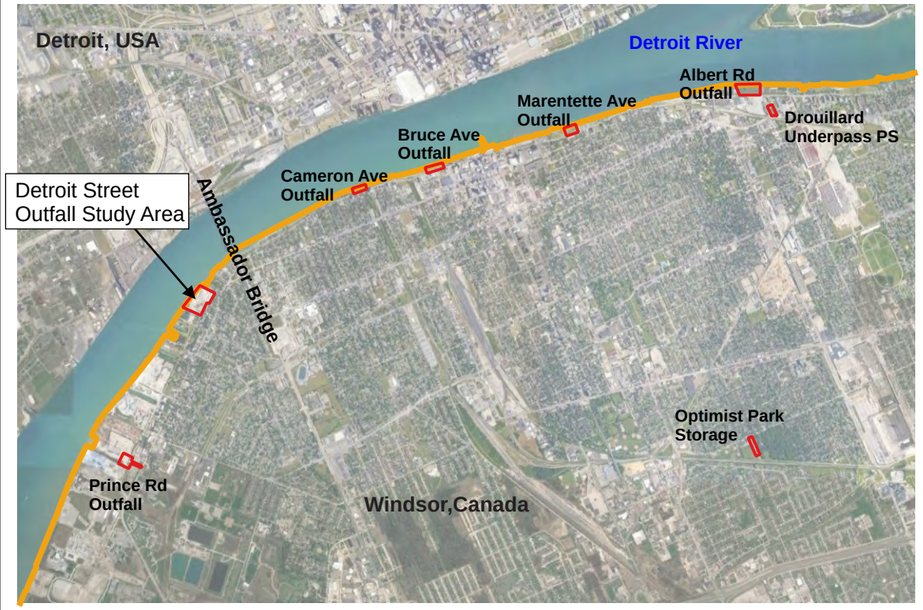
Plate 3.1-2: Prince Rd Sewer Outfall - Looking west along Chappell Ave. towards Russell St. and the industrial yard within the Study Area. (Photo P1020117).

Plate 3.1-3: Prince Rd Sewer Outfall - Looking along Russell St. from its dead end at Chappell Ave. Note the rail line; facing NE (Photo P1020127).

Plate 3.1-4: Prince Rd Sewer Outfall - Looking across Russell St. rail line. Note the reeds along the canal, the gate house and the berms within the fenced off portion of the Study Area: facing SW (Photo P1020120).

Plate 3.1-5: Prince Rd Sewer Outfall - Looking to the dead end of Russell St., with the canal and hydro tower within the Study Area in the background; facing SW (Image: Google Earth 2020, Street View, Image Date 2019).

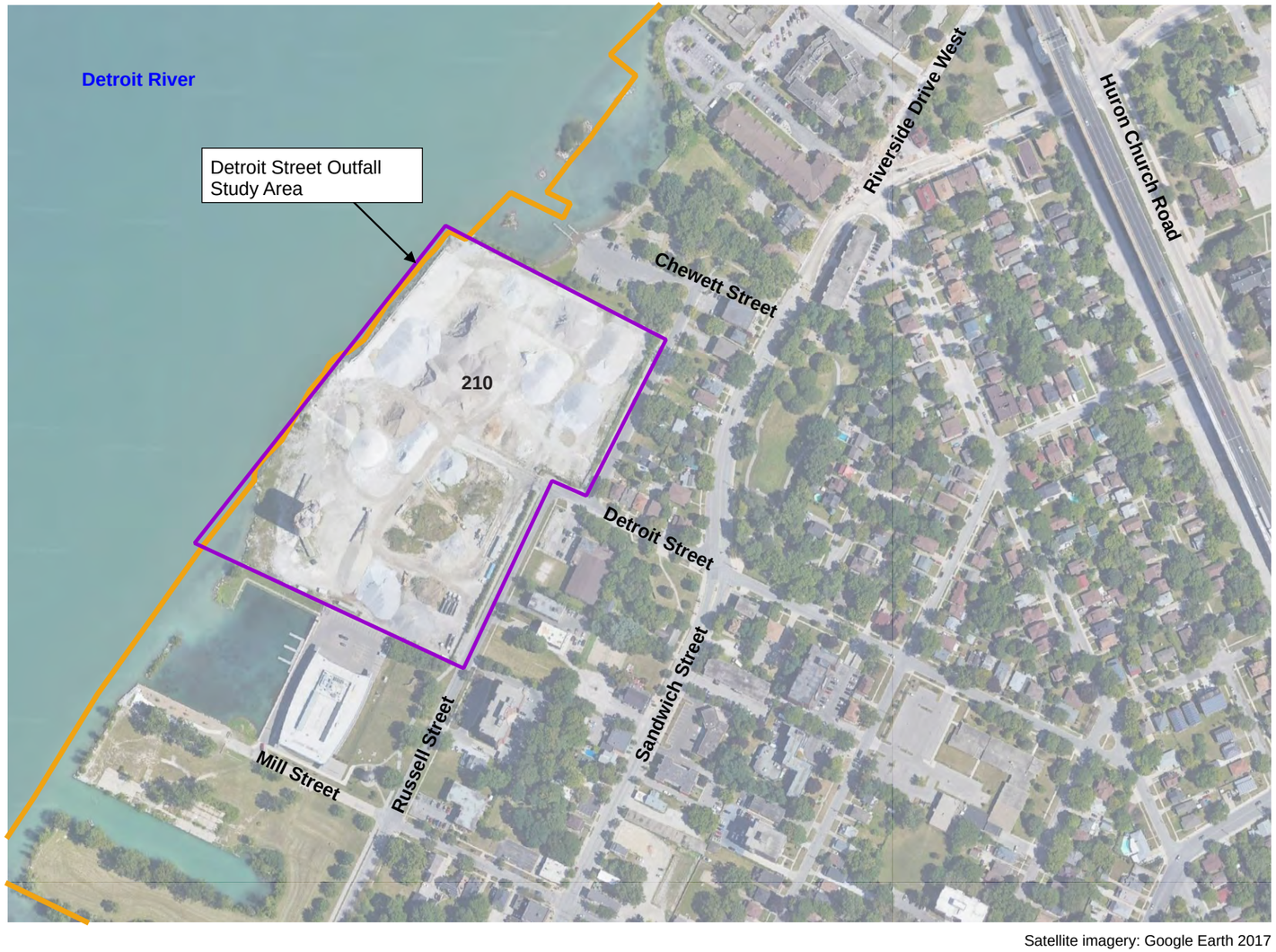
Plate 3.1-6: Prince Rd Sewer Outfall - Looking from Russell St. into the plant, showing the gravelled industrial yard with railtracks; facing NW (Image: Google Earth 2020, Street View, Image Date 2019).



Key Map Showing Cameron Outfall Study Area
in context with the other Central Windsor Proposed Solutions

Scale
0 1 km

N



Satellite imagery: Google Earth 2017

Scale
0 100 m

FAC
Date: 15/05/20
Designer: RM

KEY

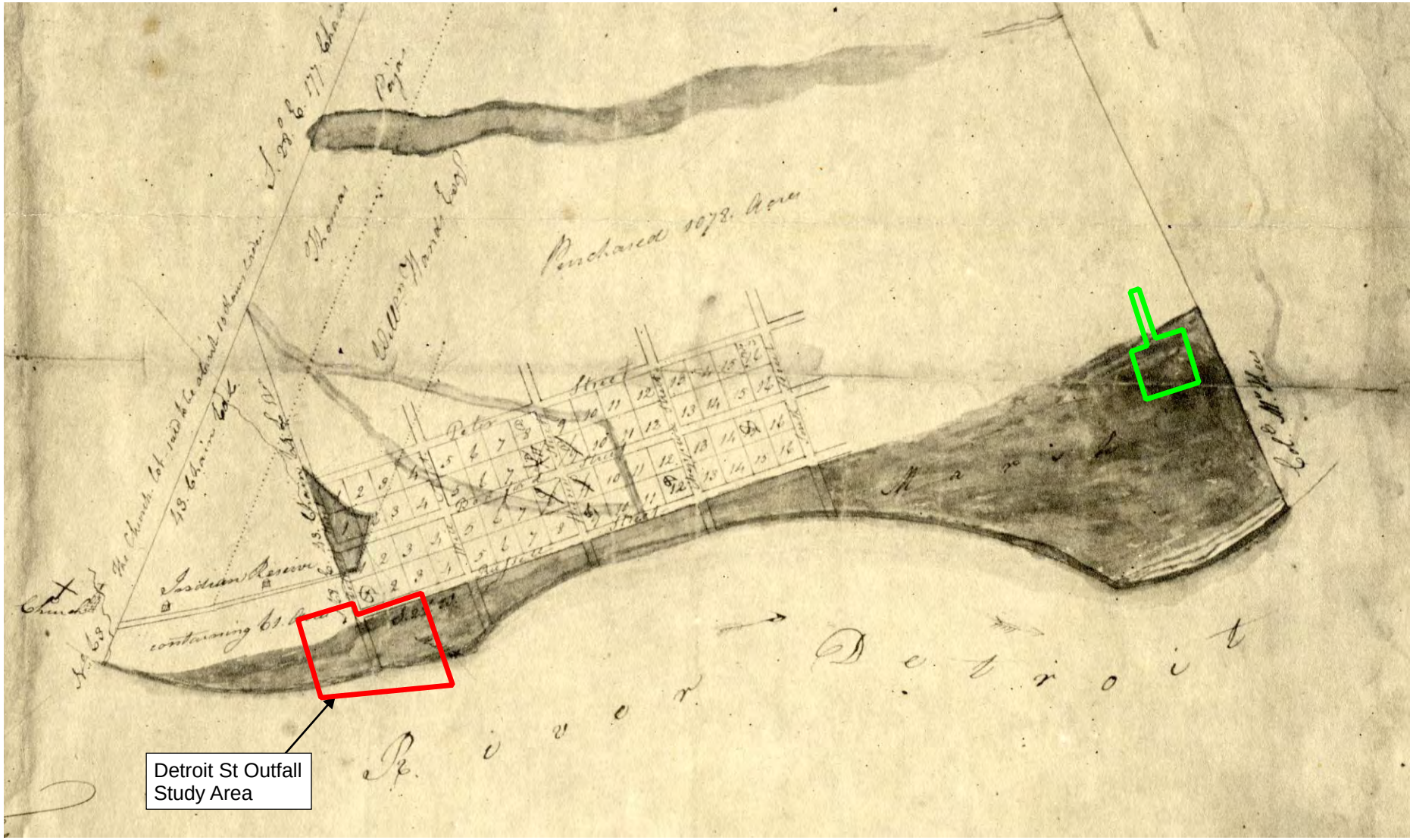
City of Windsor Boundary

Study Area Boundary: Proposed Detroit Street Outfall (Close up)

Proposed Solution Locations - Central Windsor (Key Map)

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.2.1: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2), Aerial View of the Study Area



Portion of *Plan of purchase of Indian Reserve*, A. Iredell, 1797
Source: Museum Windsor, File M112

FAC

Date: 15/05/20
Designer: RM

KEY

Detroit Street Sewer Outfall Study Area
(Location Approximate)

Prince Road Sewer Outfall Study Area
(Location Approximate)

Scale
(Approximate)
0 500 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.2.2: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2), Study Area on Iredell's 1797 *Plan of Purchase of Indian Reserve*

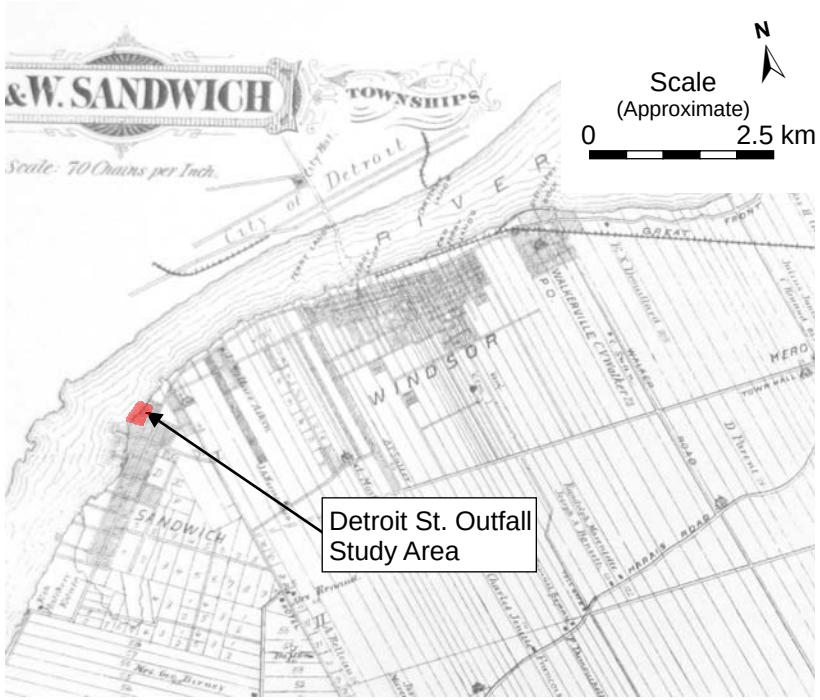


Figure 3.2.3a: Detroit Street Outfall Study Area on the East & West Sandwich Township Map, 1880, from the *Illustrated Historical Atlas of the Counties of Essex & Kent, 1880-1881* (Belden 1881)

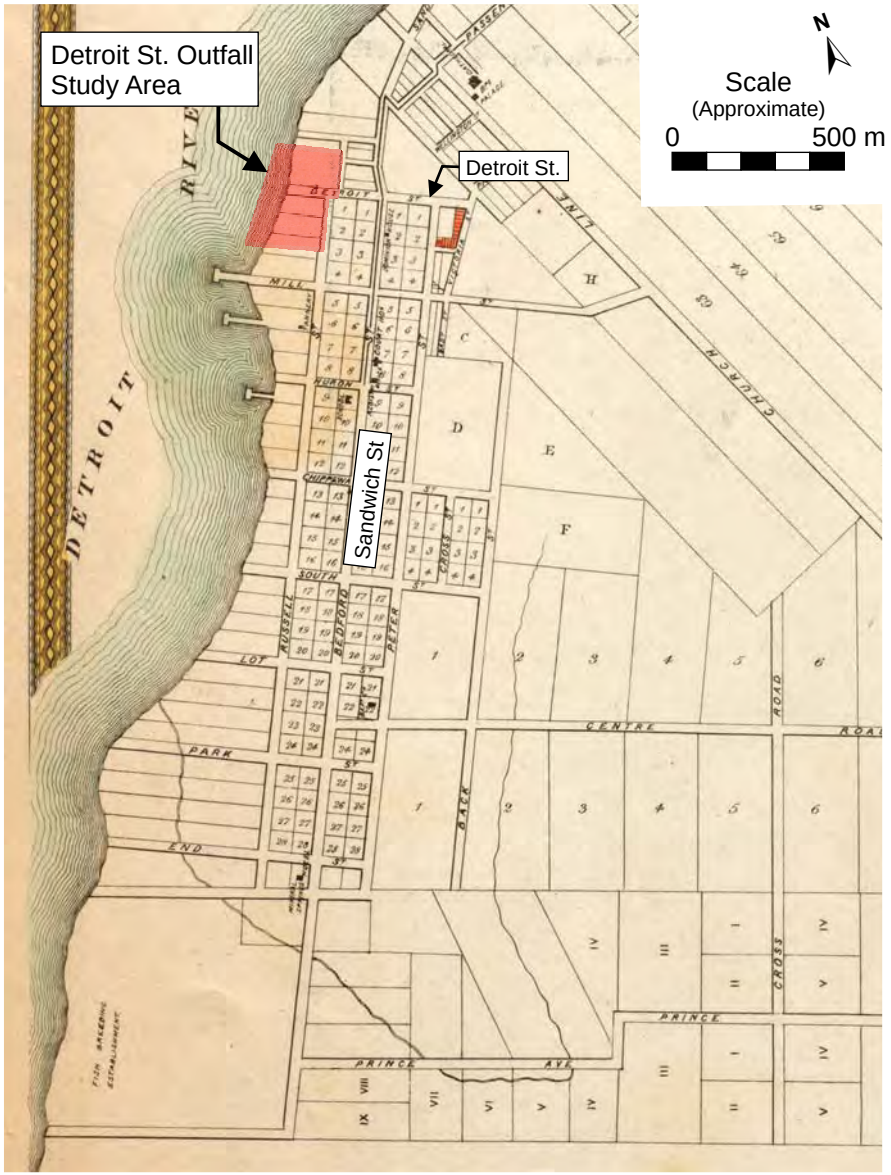


Figure 3.2.3b: Detroit Street Outfall Study Area on the Town of Sandwich Map, 1879 (Source: Map of Windsor & Sandwich, University of Windsor "We Dig History")

FAC

Date: 15/05/20

Designer: RM

KEY

Detroit Street Outfall Study Area (Location Approximate)

Part of the Indian Reserve; part of the Water Lot in front of Indian Reserve Between Detroit and Chappell; Lot 1 to Lot 4 and part of Lot 5 West side of Russell Street, Plan 40; Closed Detroit Street (west side of Russell); and part of the Russell Street ROW

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.2.3: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2) Study Area on 1880 Sandwich Township & 1879 Town of Sandwich Maps

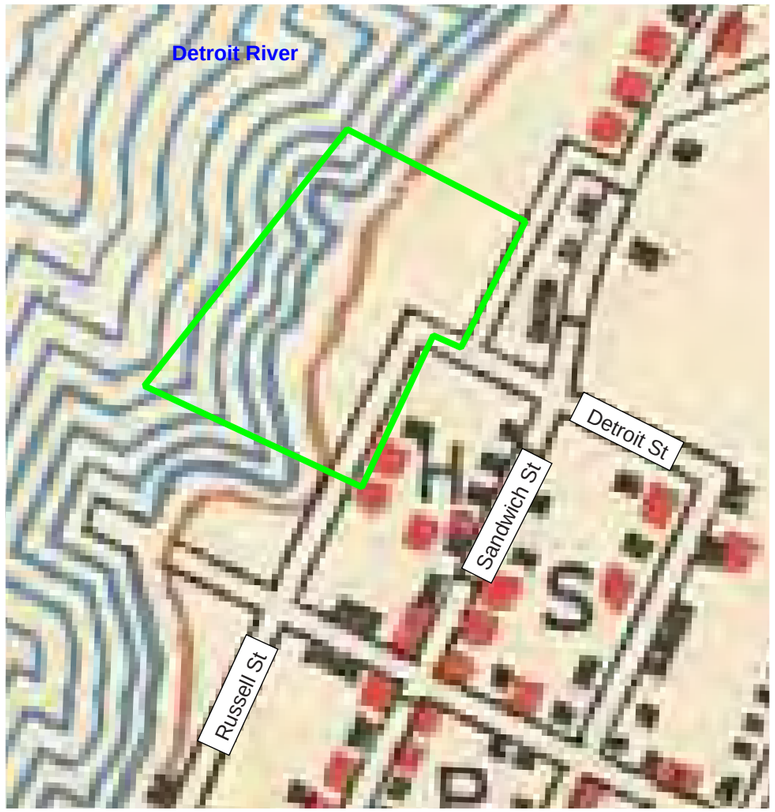


Figure 3.2.4a: 1913 NTS Map, Sheet 40J06, showing the Detroit Street Outfall. Scale 1:63,360

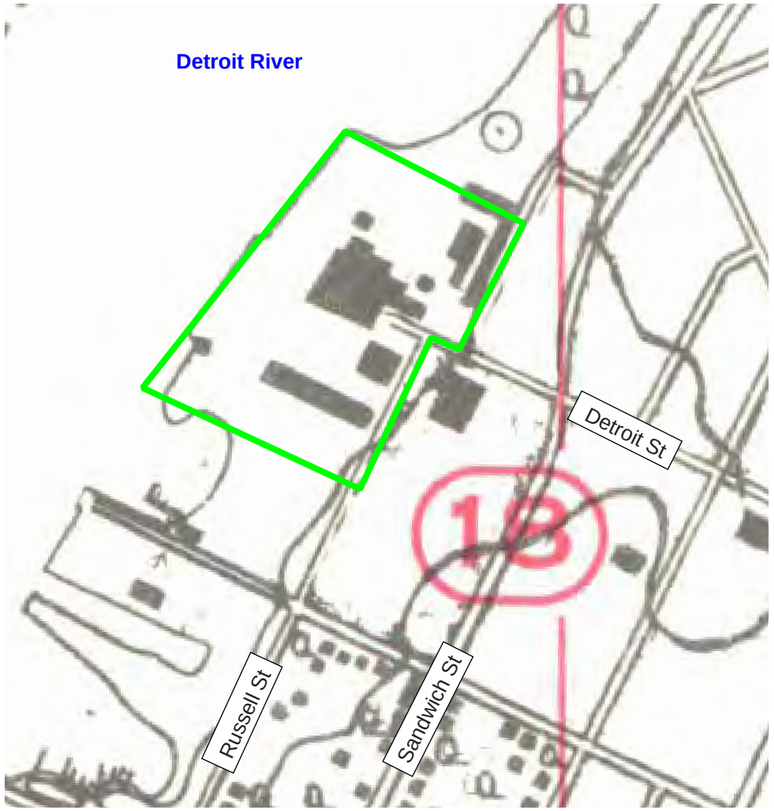


Figure 3.2.4b: 1961 NTS Map, Sheet 40J06a, showing the Detroit Street Outfall. Scale 1:25,000

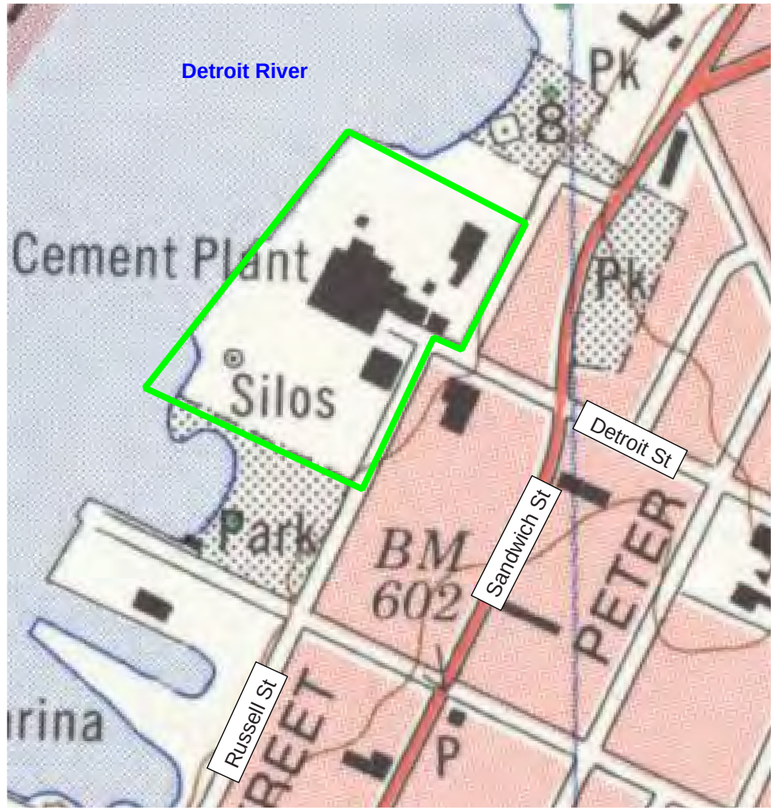


Figure 3.2.4c: 1975 NTS Map, Sheet 40J06a, showing the Detroit Street Outfall. Scale 1:25,000

FAC
Date: 15/05/20
Designer: RM

KEY

Study Area: Proposed Detroit Street Outfall

N

Scale
0 250 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.2.4: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2), Superceded NTS Maps of the Study Area, 1913, 1961, 1975

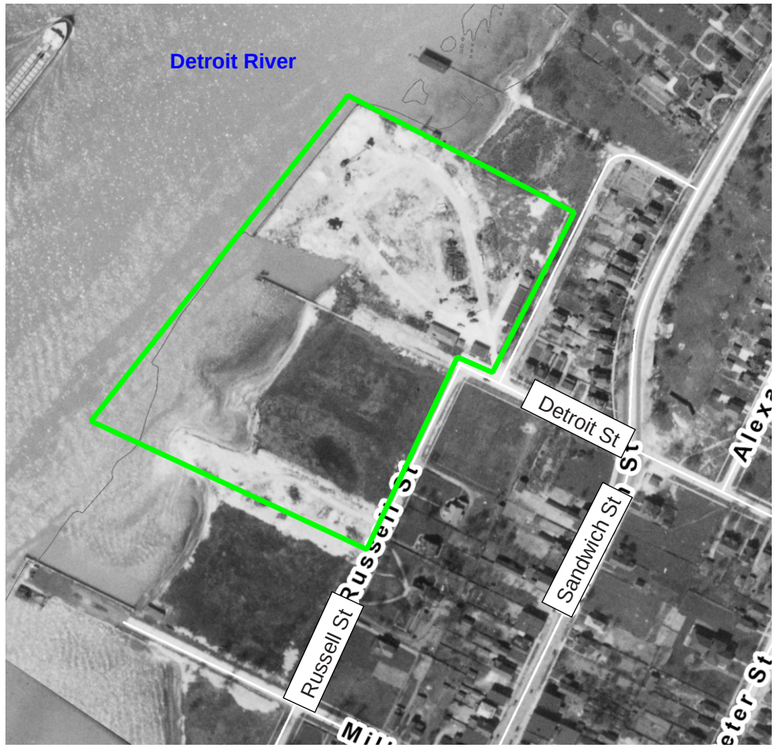


Figure 3.2.5a: 1931 Aerial Showing the Detroit St. Outfall Study Area. Note the street names & centrelines reflect the current configuration.
(Source: Historical Aerial Photographs, ERCA Public Interactive Mapping)

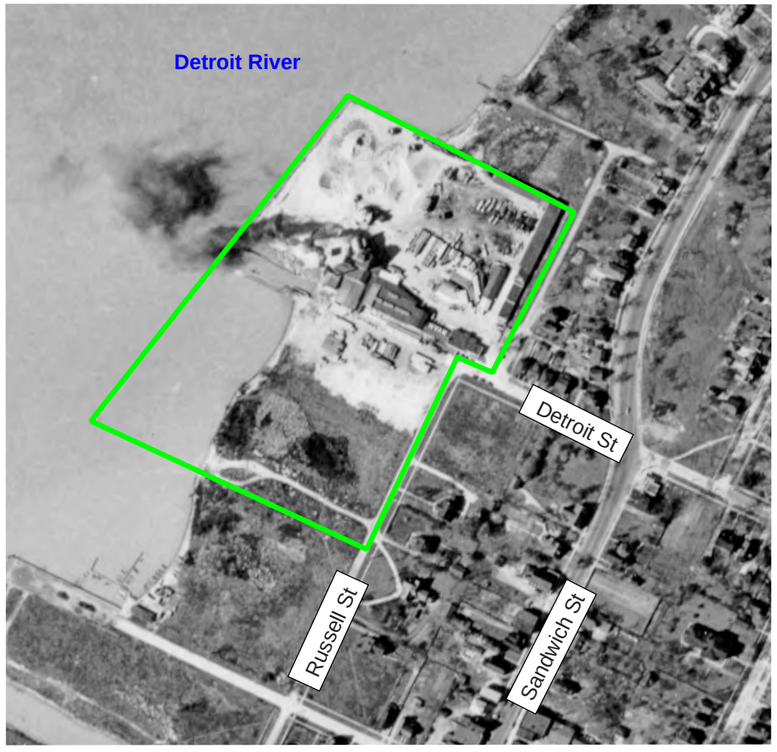


Figure 3.2.5b: 1949 Aerial Showing the Detroit St. Outfall Study Area
(Source: DTE Aerial Photo, Wayne State University. HA4-84)

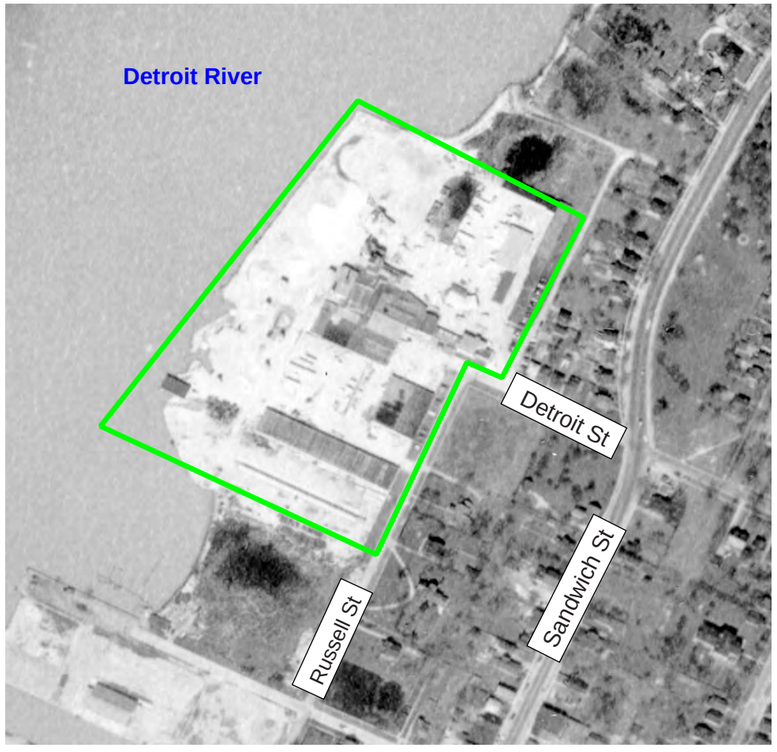


Figure 3.2.5c: 1956 Aerial Showing the Detroit St. Outfall Study Area
(Source: DTE Aerial Photo, Wayne State University. GA-1-80)

FAC
Date: 15/05/20
Designer: RM

KEY

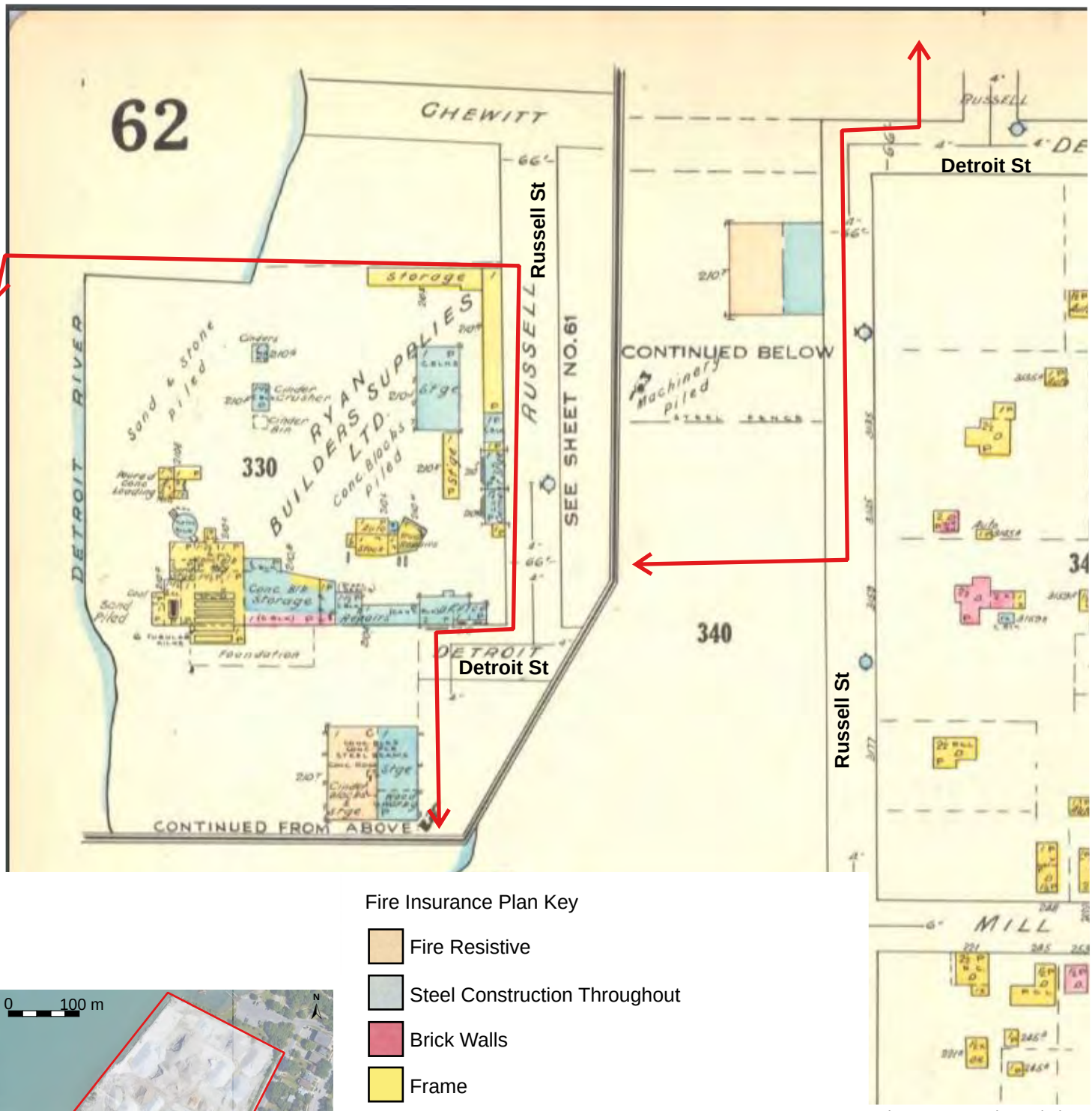
Study Area: Proposed Detroit Street Outfall

N

Scale
0 250 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

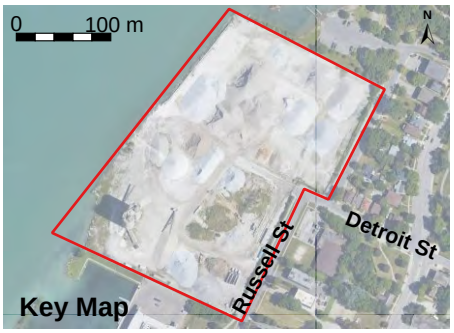
Figure 3.2.5: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2), Historic Aerials of the Study Area, 1931, 1949, 1956



Fire Insurance Plan Key

- Fire Resistive
- Steel Construction Throughout
- Brick Walls
- Frame
- Stone
- 2 Way Hydrant
- 2 Way Hydrant and Steamer Conn.

Fire Insurance Plan, Windsor
1952, Volume 1, Page 62
Underwriters Survey Bureau



Base Image: Google Earth 2017

FAC

Date: 15/05/20
Designer: RM

KEY

Study Area Boundary:
Detroit Street Outfall

Scale
0 100 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.2.6: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2) Study Area on the 1952 Fire Insurance Plan

Plate 3.2-1: Detroit St. Outfall - Looking NW across the Russell and Detroit Street intersection towards the West Windsor Docks entrance gate (Photo P1010479).

Plate 3.2-2: Detroit St. Outfall - Looking through the main gate for the West Windsor Docks. Note the silos in the background; facing SW (Photo P1010483).

Plate 3.2-3: Detroit St. Outfall - Looking north towards the Study Area along Russell Street, north of Detroit Street. Note the large aggregate piles (Photo P1010482).

Satellite Imagery: Google Earth 2017

Plate 3.2-4: Detroit St. Outfall - Looking NW towards the southern end of the Study Area from Russell St. and across Mill Park (Photo P1010485).

Plate 3.2-5: Detroit St. Outfall - Looking SW at the northeastern end of the Study Area from adjacent McKee Park parking lot. Note the aggregate piles continue to this fenceline (Photo P1010489).

FAC
Date: 11/08/20
Designer: RM

KEY

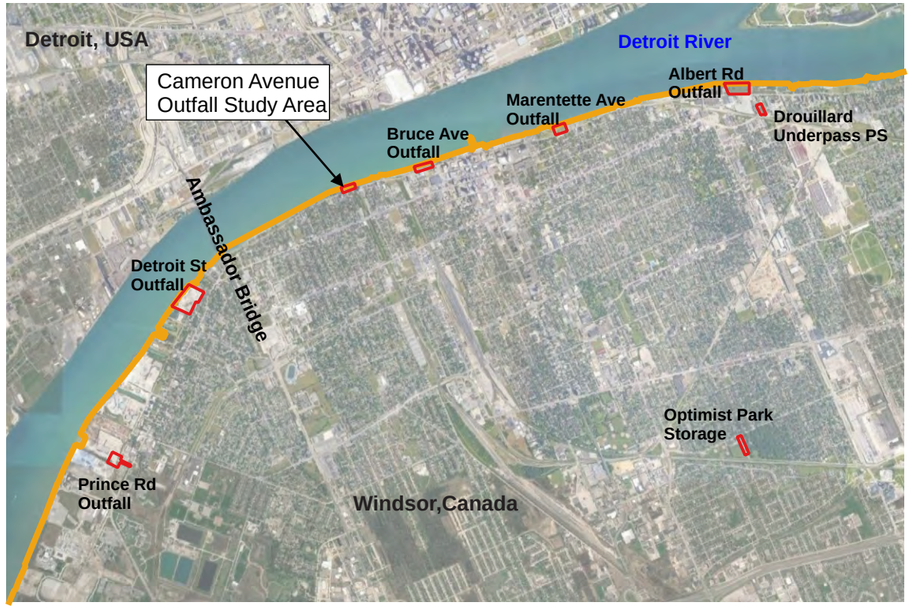
- Study Area Boundary
- High Potential - Stage 2 Recommended
- No Potential - No Further Work (Infilled marsh, made-land, extensive disturbance)
- Water (marine assessment required)
- Original Shoreline (Land Record Office)
- Original Shoreline (Iredell, 1797)
- Edge of Marsh (Iredell, 1797)
- Structures, 1952 Fire Insurance Plan
- Extant Storm Sewer*
- Extant Sanitary Sewer*
- Extant Combined Sewer*
- 1 Photo Plate Location & Direction

Scale 0 50 m

*City of Windsor Interactive Mapping

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

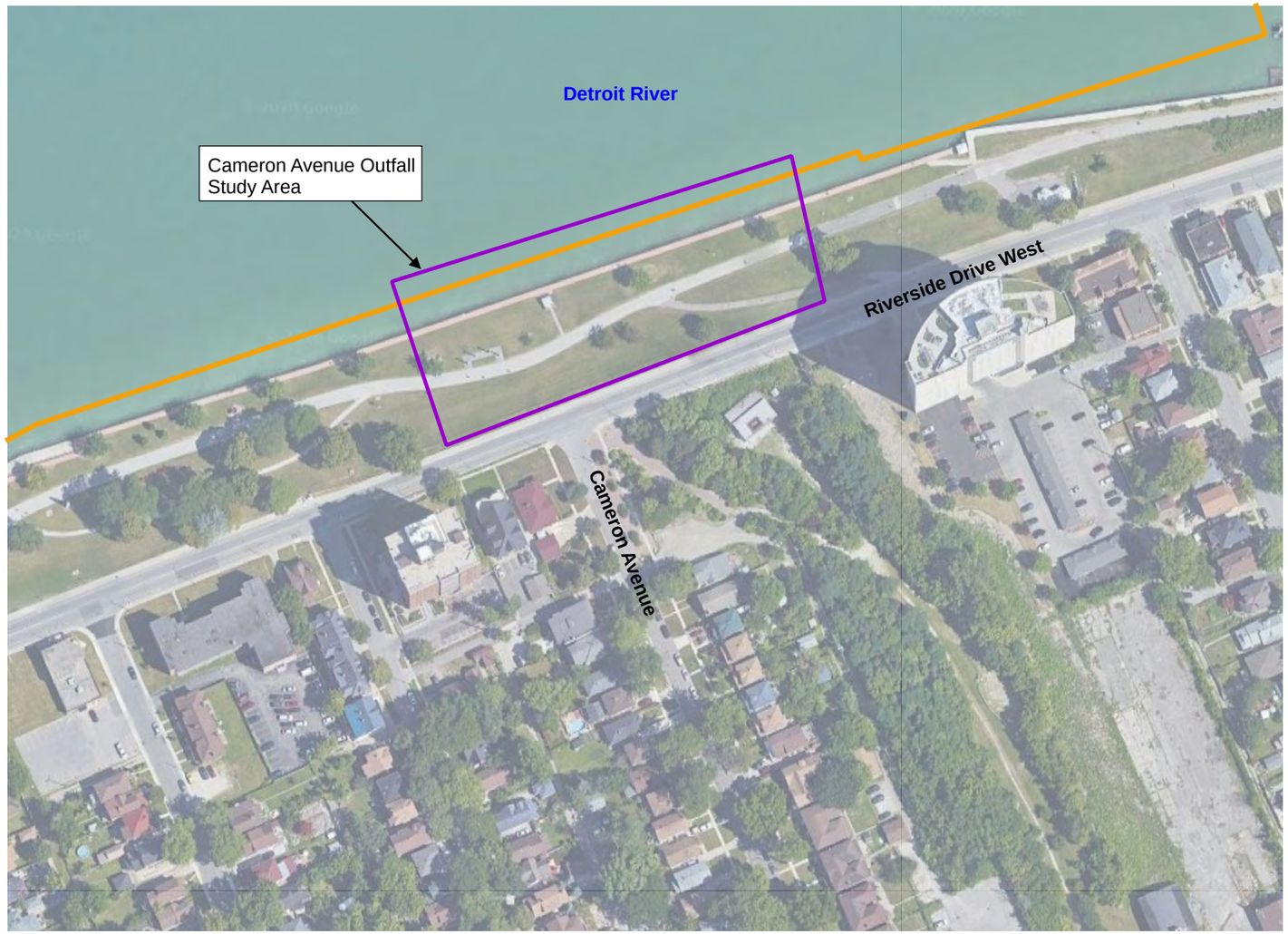
Figure 3.2.7: Detroit Street, Proposed Storm Sewer Outfall Upgrades (STM-C2), Archaeological Potential and Recommendations



Key Map Showing Cameron Outfall Study Area
in context with the other Central Windsor Proposed Solutions

Scale 0 1 km

N



Satellite imagery: Google Earth 2017

Scale 0 100 m

FAC
Date: 18/04/20
Designer: RM

KEY

- City of Windsor Boundary
- Study Area Boundary: Proposed Cameron Avenue Outfall (Close up)
- Proposed Solution Locations - Central Windsor (Key Map)

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.3.1: Cameron Avenue, Proposed New Storm Sewer Outfall (STM-C3), Aerial View of the Study Area

Google Earth Imagery 2007

Key

Original Canada Southern Railroad Station in this approximate locale

High potential - archaeological testing required for future construction projects

No potential - extensive disturbance

Extant tunnel

Proposed tunnel

N

Scale

0 50 m

FAC

Date: 18/05/20

Designer: RM

KEY

Proposed Cameron Avenue Outfall Study Area

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.3.2: Cameron Avenue, Proposed New Storm Sewer Outfall (STM-C3), Study Area Overlaid on the Previous Continental Rail Gateway Project Recommendations (from FAC 2012: Figure 20)

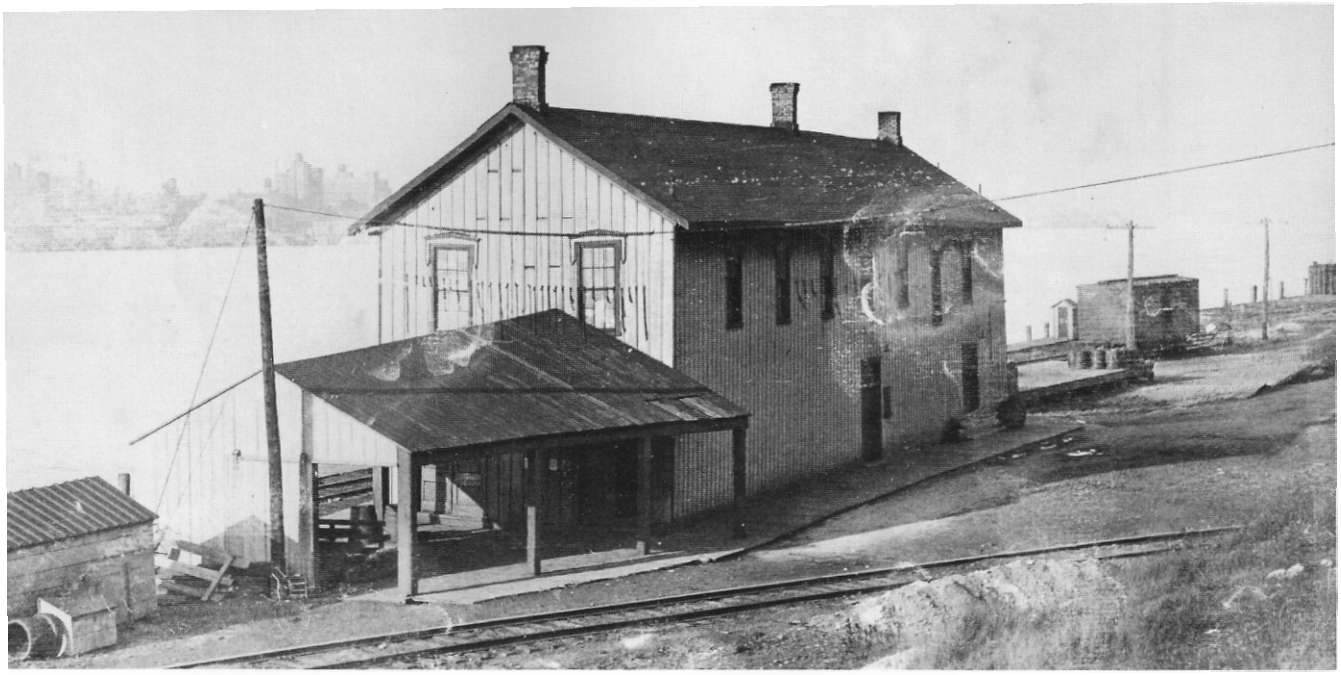


Figure 3.3.3a: Canada Southern Railway Station, Windsor; adjacent to the ferry slip on Cameron Avenue (Tennant 1991:130).

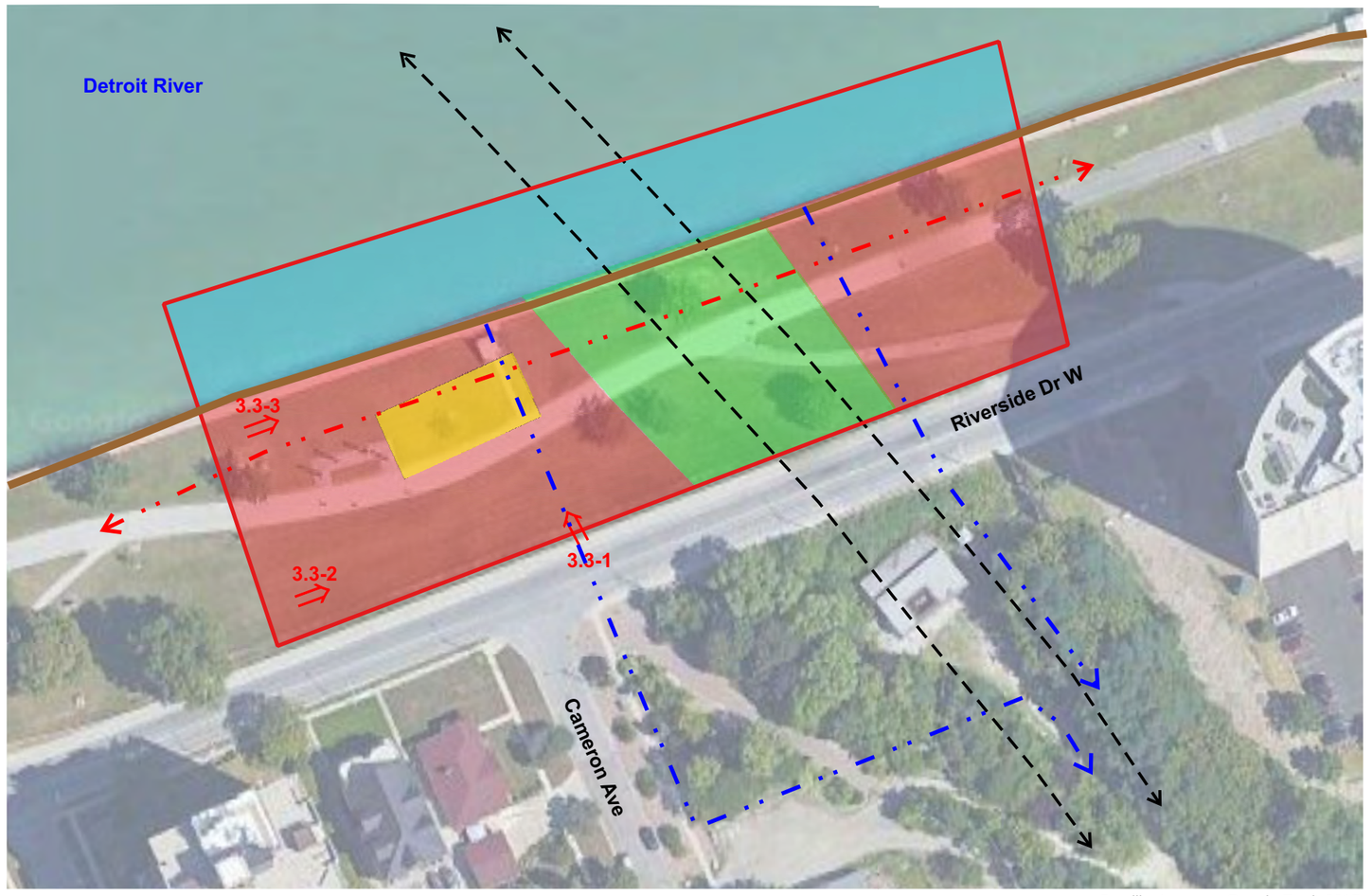
Figure 3.3.3b: Tunnel construction, cut and box mthod, with tunnel section in foreground and steep banks on the right, Windsor side. From Hiram Walker Museum Collection (Tennant 1991:124).

FAC Date: 18/05/20 Designer: RM		CITY OF WINDSOR SEWER MASTER PLAN Archaeological Stage 1: Background Study Figure 3.3.3: Cameron Avenue, Proposed New Storm Sewer Outfall (STM-C3), Historic Photographs of the Canada Southern Railway Station & the Michigan Central Rail Tunnel Construction

Plate 3.3-1: Cameron Ave. Outfall - Looking NNW across the Study Area towards the Detroit River (Photo P1010493).

Plate 3.3-2: Cameron Ave. Outfall - looking across the top of slope adjacent to Riverside Drive West; facing NE (Photo 1010497).

Plate 3.3-3: Cameron Ave. Outfall - Looking NE across the lower plateau and trail by the Detroit River (Photo P1010502).



Satellite Imagery: Google Earth 2017

FAC
Date: 11/08/20
Designer: RM

KEY
- Study Area Boundary
- High Potential - Stage 2 Recommended (FAC 2012 & Current Report)
- No Potential - No Further Work Recommended (extensive disturbance) (FAC 2012)
- Water (marine assessment required)
- Original Canada Southern Railroad Station (approximate location)
- Extant Railway Tunnel
- Original shoreline (approximate)
- Extant Storm Sewer*
- Extant Sanitary Sewer*

*City of Windsor Interactive Mapping

⇐1 Photo Plate Location & Direction

N

Scale
0 50 m

CITY OF WINDSOR SEWER MASTER PLAN
Archaeological Stage 1: Background Study

Figure 3.3.4: Cameron Avenue, Proposed New Storm Sewer Outfall (STM-C3), Archaeological Potential and Recommendations