# FUNCTIONAL SERVICING REPORT

*2669006 Ontario Inc. c/o Better Life Living*

**Type of Document:**
Final Report

**Project Name:**
4103 Palladium Way, Burlington
*OPA/ZBA Resubmission for Retirement Home Only*

**Project Number:**
ALL-00251531-A3

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**Approved By:**
Scott Passmore

**Date + Time Submitted:**
2024-11-29 Revision 5

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# 1. Introduction

EXP Services Inc. has been retained by 2669006 Ontario Inc. c/o Better Life Living ("Owner") to prepare a Functional Servicing Report (FSR) in support of an application for an Official Plan and Zoning By-Law Amendment on approximately 1.48 ha of land in the City of Burlington, Region of Halton. The subject land is municipally known as 4103 Palladium Way, located on the west side of Palladium Way, east of Walkers Line, and south and east of Highway No. 407 in the central east area of the Alton Community. Refer to Figure 1 for site location plan.

The subject lot is 14,883 square metres ($m^2$) in area, with 80.7m frontage on Palladium Way, partially occupied by a Long Term Care Facility currently under construction. The previously approved proposal includes a five-storey Long Term Care Facility containing 256 beds within 17,344.5 $m^2$ of Gross Floor Area (GFA), and a six-storey Retirement Home containing 115 units within 9,516.2 $m^2$ of GFA. A total of 236 parking spaces will be provided through 52 spaces at surface parking and 184 spaces in underground parking.

*This FSR report has been updated to incorporate changes specifically for the Retirement Home, adding two additional stories and increasing the number of residential units to 147 units for a total GFA of 12,695.94 $m^2$. It has been confirmed that no changes to the approved building footprint are proposed. Please note that the development site has already received Official Plan and Zoning By-Law Amendment and Site Plan approvals where the Owner wishes to resubmit the Official Plan and Zoning By-Law Amendment applications to address these updates to the site plan. Refer to the Owner's updated Site Plan located in Appendix A for reference.*

Finally, the objective of this FSR is to give an overview of the proposed servicing strategy for the site including outlining the required demands on the municipal system while addressing any corresponding capacity concerns.

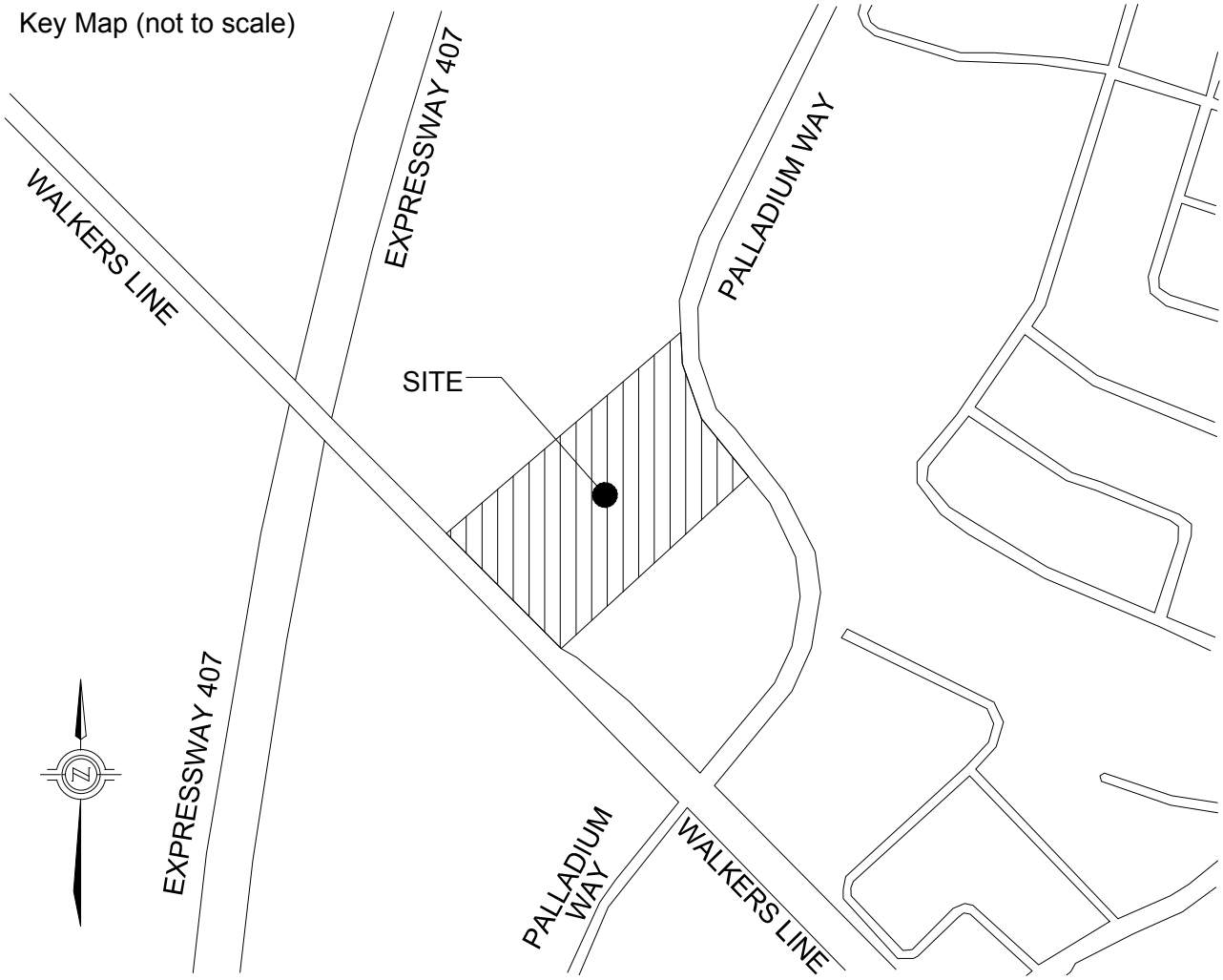
# 2. Site Characteristics

The site is located adjacent to an existing drainage channel (Appleby Creek) on the north side of the site which is regulated by Conservation Halton (CH). Through correspondence with CH planning staff, it was confirmed that the regulated allowance shall be taken as a 7.5 m setback from the north property line. Therefore, any proposed development works inside the setback are subject to review and approval by CH staff and will require a permit under O.Reg. 162/06.

The existing Highway 407 located to the north of the site is regulated by the Ministry of Transportation (MTO). At the Highway 407 and Walkers Line interchange, MTO has a permit control area radius of 395 m which encroaches a small portion of the site. Therefore, any proposed works inside this permit control area are subject to review and approval by CH staff and will required an MTO Building and Land Use permit. It was confirmed with MTO staff, that a 14m setback is to be applied from the property line along Walker's Line where any proposed works within the setback are also subject to review and approval by MTO.

The neighbouring property to the south consists of a municipal courthouse with surface parking. The courthouse site includes two driveway connections to Palladium Way. Finally, Palladium Way to the east of the site is a local road owned by the City of Burlington including municipal storm sewers and streetlights owned and operated by the City. Palladium Way also includes municipal water and sanitary sewers owned and operated by the Region of Halton, and various utilities such as hydro, gas, communications, etc.

Key Map (not to scale)




KEY PLAN
(not to scale)

| | | | | |
|---|---|---|---|---|
| exp. | Project: | 4103 PALLADIUM WAY<br>BURLINGTON, ON | | |
| | Title: | KEY PLAN | | |
| | Approved by: S.P | Date: OCT. 2019 | Project No.: ALL-00251531-A0 | |
| | Drawn by: J.L | Scale: N.T.S. | Figure no.: FIG-01 | |

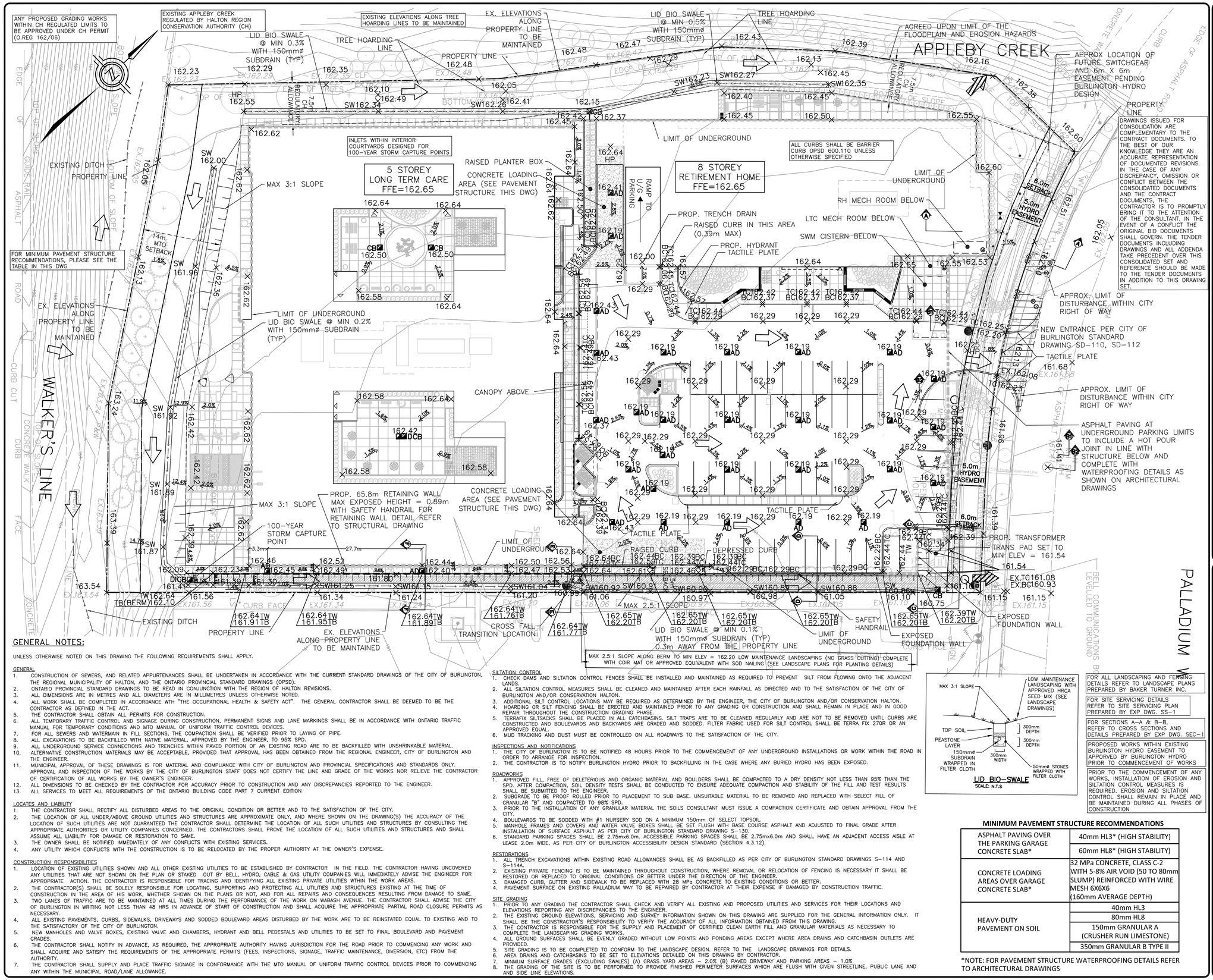
# 3. Existing Topography and Proposed Grading

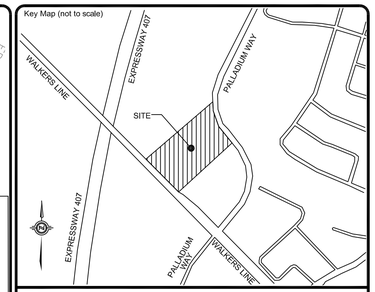
Prior to any engineering submissions and construction works began, EXP staff assessed the existing site topography within and surrounding the site. This assessment included a review of previously completed topographic surveys provided by the Owner including City's record drawing for Palladium Way. A site visit was then completed by EXP staff on November 25th, 2019 to review the existing conditions including the above ground utility furniture. Refer to the topographic survey which is included in Appendix A for reference.

After the engineering conditions for Site Plan approval were cleared on May 5, 2023, the City issued a building permit on August 10, 2023, followed by the Ministry's approval for site construction on August 18, 2023. Excavation of the site commenced on October 11, 2023. Consequently, the existing site topography has changed due to the ongoing construction of the Long Term Care Facility, including the shared underground parking structure and underground services.

The proposed grading design has remained unchanged due to no alterations in the approved building footprints, which generally maintains the existing drainage patterns for the site, while meeting City of Burlington criteria and ensuring emergency major overland flow is directed east towards Palladium Way and not to the neighbouring property to the south.

Overall, the grading design for the site is to be completed in concert with the proposed stormwater management (SWM) strategy for the site which includes a network of high and low points, an underground SWM cistern, and inlets designed to capture and attenuate the 100-year storm event. For additional grading details refer to the Preliminary Site Grading Plan on Figure 2.




## LEGEND

- PROPERTY LINE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- NEW / EXISTING WATER VALVE AND BOX
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED AREA DRAIN
- 109.42 — PROPOSED ELEVATION
- 109.42 — EXISTING ELEVATION
- 0.6% — DRAINAGE ARROW / SLOPE (MAX 3:1)
- MAJOR OVERLAND FLOW
- EMERGENCY OVERLAND FLOW (>100YR STORM)
- DISTURBED AREA WITHIN CITY RIGHT-OF-WAY
- UNDERGROUND BASEMENT LIMIT
- LID BIO SWALE
- TREE HOARDING LINE

## NOTES:

- BACKGROUND LEGAL AND TOPOGRAPHIC SURVEY PREPARED BY J.D BARNES LTD. DATED APRIL 02. 2019.
- LOCAL BENCHMARK: CUT CROSS SET ON FACE OF CURB LOCATED AT THE EASTERLY CORNER OF THE SUBJECT PROPERTY, AS SHOWN ON THE TOPOGRAPHIC SURVEY PLAN, HAVING AN ELEVATION OF 160.96m
- SITE PLAN PREPARED BY SAM ESPOSTO ARCHITECT INC.
- LANDSCAPE PLAN PREPARED BY BAKER TURNER INC

| No. | REVISIONS | Date | By | App. |
|---|---|---|---|---|
| JJ | RH UPDATE FOR ZBA | NOV 29 2024 | WK | SP |
| II | RESPONSE TO RFI 185 | NOV 14 2024 | WK | SP |
| HH | ISSUED FOR CCN #1 | NOV 11 2024 | WK | SP |
| GG | REVISED GRADING AT THE SOUTH WEST CORNER | NOV 5 2024 | RN | SP |
| EE | RETAINING WALL UPDATE | AUG 21 2024 | WK | SP |
| CC | SANITARY INSULATION UPDATE | JULY 04 2024 | WK | SP |

## GENERAL NOTES:

UNLESS OTHERWISE NOTED ON THIS DRAWING THE FOLLOWING REQUIREMENTS SHALL APPLY.

GENERAL

1. CONSTRUCTION OF SEWERS, AND RELATED APPURTENANCES SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE CURRENT STANDARD DRAWINGS OF THE CITY OF BURLINGTON, THE REGIONAL MUNICIPALITY OF HALTON, AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
2. ONTARIO PROVINCIAL STANDARD DRAWINGS TO BE READ IN CONJUNCTION WITH THE REGION OF HALTON REVISIONS.
3. ALL DIMENSIONS ARE IN METRES AND ALL DIAMETERS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
4. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH "THE OCCUPATIONAL HEALTH & SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN THE ACT.
5. THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR CONSTRUCTION.
6. ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION, PERMANENT SIGNS AND LANE MARKINGS SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL FOR TEMPORARY CONDITIONS AND MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
7. FOR ALL SEWERS AND WATERMAIN IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.
8. ALL EXCAVATIONS TO BE BACKFILLED WITH NATIVE MATERIAL, APPROVED BY THE ENGINEER, TO 95% SPD.
9. ALL UNDERGROUND SERVICE CONNECTIONS AND TRENCHES WITHIN PAVED PORTION OF AN EXISTING ROAD ARE TO BE BACKFILLED WITH UNSHRINKABLE MATERIAL.
10. ALTERNATIVE CONSTRUCTION MATERIALS MAY BE ACCEPTABLE, PROVIDED THAT APPROVAL HAS BEEN OBTAINED FROM THE REGIONAL ENGINEER, CITY OF BURLINGTON AND THE ENGINEER.
11. MUNICIPAL APPROVAL OF THESE DRAWINGS IS FOR MATERIAL AND COMPLIANCE WITH CITY OF BURLINGTON AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION OF THE WORKS BY THE CITY OF BURLINGTON STAFF DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS NOR RELIEVE THE CONTRACTOR OF CERTIFICATION OF ALL WORKS BY THE OWNER'S ENGINEER.
12. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR FOR ACCURACY PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES REPORTED TO THE ENGINEER.
13. ALL SERVICES TO MEET ALL REQUIREMENTS OF THE ONTARIO BUILDING CODE PART 7 CURRENT EDITION

LOCATES AND LIABILITY

1. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
2. THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTORS SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
3. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH EXISTING SERVICES.
4. ANY UTILITY WHICH CONFLICTS WITH THE CONSTRUCTION IS TO BE RELOCATED BY THE PROPER AUTHORITY AT THE OWNER'S EXPENSE.

CONSTRUCTION RESPONSIBILITIES

1. LOCATION OF EXISTING UTILITIES SHOWN AND ALL OTHER EXISTING UTILITIES TO BE ESTABLISHED BY CONTRACTOR IN THE FIELD. THE CONTRACTOR HAVING UNCOVERED ANY UTILITIES THAT ARE NOT SHOWN ON THE PLAN OR STAKED OUT BY BELL, HYDRO, CABLE & GAS UTILITY COMPANIES WILL IMMEDIATELY ADVISE THE ENGINEER FOR APPROPRIATE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR TRACING AND IDENTIFYING ALL EXISTING PRIVATE UTILITIES WITHIN THE WORK AREAS.
2. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
3. TWO LANES OF TRAFFIC ARE TO BE MAINTAINED AT ALL TIMES DURING THE PERFORMANCE OF THE WORK ON WABASH AVENUE. THE CONTRACTOR SHALL ADVISE THE CITY OF BURLINGTON IN WRITING NOT LESS THAN 48 HRS IN ADVANCE OF START OF CONSTRUCTION AND SHALL ACQUIRE THE APPROPRIATE PARTIAL ROAD CLOSURE PERMITS AS NECESSARY.
4. ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND SODDED BOULEVARD AREAS DISTURBED BY THE WORK ARE TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTORY OF THE CITY OF BURLINGTON.
5. NEW MANHOLES AND VALVE BOXES, EXISTING VALVE AND CHAMBERS, HYDRANT AND BELL PEDESTALS AND UTILITIES TO BE SET TO FINAL BOULEVARD AND PAVEMENT GRADES.
6. THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF THE APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC MAINTENANCE, DIVERSION, ETC) FROM THE AUTHORITY.
7. THE CONTRACTOR SHALL SUPPLY AND PLACE TRAFFIC SIGNAGE IN CONFORMANCE WITH THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PRIOR TO COMMENCING ANY WITHIN THE MUNICIPAL ROAD/LANE ALLOWANCE.

SILTATION CONTROL

1. CHECK DAMS AND SILTATION CONTROL FENCES SHALL BE INSTALLED AND MAINTAINED AS REQUIRED TO PREVENT SILT FROM FLOWING ONTO THE ADJACENT LANDS.
2. ALL SILTATION CONTROL MEASURES SHALL BE CLEANED AND MAINTAINED AFTER EACH RAINFALL AS DIRECTED AND TO THE SATISFACTION OF THE CITY OF BURLINGTON AND/OR CONSERVATION HALTON.
3. ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE ENGINEER, THE CITY OF BURLINGTON AND/OR CONSERVATION HALTON.
4. HOARDING OR SILT FENCING SHALL BE ERECTED AND MAINTAINED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL REMAIN IN PLACE AND IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION GRADING PHASE.
5. TERRAFIX SILTSACKS SHALL BE PLACED IN ALL CATCHBASINS. SILT TRAPS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL CURBS ARE CONSTRUCTED AND BOULEVARDS AND BACKYARDS ARE GRADED AND SODDED. FILTER FABRIC USED FOR SILT CONTROL SHALL BE TERRA FIX 270R OR AN APPROVED EQUAL.
6. MUD TRACKING AND DUST MUST BE CONTROLLED ON ALL ROADWAYS TO THE SATISFACTION OF THE CITY.

INSPECTIONS AND NOTIFICATIONS

1. THE CITY OF BURLINGTON IS TO BE NOTIFIED 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY UNDERGROUND INSTALLATIONS OR WORK WITHIN THE ROAD IN ORDER TO ARRANGE FOR INSPECTION.
2. THE CONTRACTOR IS TO NOTIFY BURLINGTON HYDRO PRIOR TO BACKFILLING IN THE CASE WHERE ANY BURIED HYDRO HAS BEEN EXPOSED.

ROADWORKS

1. APPROVED FILL, FREE OF DELETERIOUS AND ORGANIC MATERIAL AND BOULDERS SHALL BE COMPACTED TO A DRY DENSITY NOT LESS THAN 95% THAN THE SPD. AFTER COMPACTION, SOIL DENSITY TESTS SHALL BE CONDUCTED TO ENSURE ADEQUATE COMPACTION AND STABILITY OF THE FILL AND TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
2. SUBGRADE TO BE PROOF ROLLED PRIOR TO PLACEMENT TO SUB BASE. UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED WITH SELECT FILL OF GRANULAR "B" AND COMPACTED TO 98% SPD.
3. PRIOR TO THE INSTALLATION OF ANY GRANULAR MATERIAL THE SOILS CONSULTANT MUST ISSUE A COMPACTION CERTIFICATE AND OBTAIN APPROVAL FROM THE CITY.
4. BOULEVARDS TO BE SODDED WITH #1 NURSERY SOD ON A MINIMUM 150mm OF SELECT TOPSOIL.
5. MANHOLE FRAMES AND COVERS AND WATER VALVE BOXES SHALL BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE AFTER INSTALLATION OF SURFACE ASPHALT AS PER CITY OF BURLINGTON STANDARD DRAWING S-130.
6. STANDARD PARKING SPACES SHALL BE 2.75mx6.0m. ACCESSIBLE PARKING SPACES SHALL BE 2.75mx6.0m AND SHALL HAVE AN ADJACENT ACCESS AISLE AT LEASE 2.0m WIDE, AS PER CITY OF BURLINGTON ACCESSIBILITY DESIGN STANDARD (SECTION 4.3.12).

RESTORATIONS

1. ALL TRENCH EXCAVATIONS WITHIN EXISTING ROAD ALLOWANCES SHALL BE AS BACKFILLED AS PER CITY OF BURLINGTON STANDARD DRAWINGS S-114 AND S-114A.
2. EXISTING PRIVATE FENCING IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, WHERE REMOVAL OR RELOCATION OF FENCING IS NECESSARY IT SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITIONS OR BETTER UNDER THE DIRECTION OF THE ENGINEER.
3. DAMAGED CURB, GUTTER AND SIDEWALK TO BE REPLACED WITH 28 MPa CONCRETE TO EXISTING CONDITIONS OR BETTER.
4. PAVEMENT SURFACE ON EXISTING PALLADIUM WAY TO BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE IF DAMAGED BY CONSTRUCTION TRAFFIC.

SITE GRADING

1. PRIOR TO ANY GRADING THE CONTRACTOR SHALL CHECK AND VERIFY ALL EXISTING AND PROPOSED UTILITIES AND SERVICES FOR THEIR LOCATIONS AND ELEVATIONS REPORTING ANY DISCREPANCIES TO THE ENGINEER.
2. THE EXISTING GROUND ELEVATIONS, SERVICING AND SURVEY INFORMATION SHOWN ON THIS DRAWING ARE SUPPLIED FOR THE GENERAL INFORMATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THIS DRAWING.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND PLACEMENT OF CERTIFIED CLEAN EARTH FILL AND GRANULAR MATERIALS AS NECESSARY TO COMPLETE THE LANDSCAPING GRADING WORKS.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT LOW POINTS AND PONDING AREAS EXCEPT WHERE AREA DRAINS AND CATCHBASIN OUTLETS ARE PROVIDED.
5. SITE GRADING IS TO BE COMPLETED TO CONFORM TO THE LANDSCAPE DESIGN. REFER TO THE LANDSCAPE DRAWINGS FOR DETAILS.
6. AREA DRAINS AND CATCHBASINS TO BE SET TO ELEVATIONS DETAILED ON THIS DRAWING BY CONTRACTOR.
7. MINMUM SURFACE GRADES (EXCLUDING SWALES) (A) GRASS YARD AREAS – 2.0% (B) PAVED DRIVEWAY AND PARKING AREAS – 1.0%
8. THE GRADING OF THE SITE IS TO BE PERFORMED TO PROVIDE FINISHED PERIMETER SURFACES WHICH ARE FLUSH WITH GIVEN STREETLINE, PUBLIC LANE AND AND SIDE LINE ELEVATIONS.




LID BIO-SWALE
SCALE: N.T.S

**MINIMUM PAVEMENT STRUCTURE RECOMMENDATIONS**

| | |
|---|---|
| ASPHALT PAVING OVER THE PARKING GARAGE CONCRETE SLAB* | 40mm HL3* (HIGH STABILITY) |
| | 60mm HL8* (HIGH STABILITY) |
| CONCRETE LOADING AREAS OVER GARAGE CONCRETE SLAB* | 32 MPa CONCRETE, CLASS C-2 WITH 5-8% AIR VOID (50 TO 80mm SLUMP) REINFORCED WITH WIRE MESH 6X6X6 (160mm AVERAGE DEPTH) |
| HEAVY-DUTY PAVEMENT ON SOIL | 40mm HL3 |
| | 80mm HL8 |
| | 150mm GRANULAR A (CRUSHER RUN LIMESTONE) |
| | 350mm GRANULAR B TYPE II |

*NOTE: FOR PAVEMENT STRUCTURE WATERPROOFING DETAILS REFER TO ARCHITECTURAL DRAWINGS

FOR ALL LANDSCAPING AND FENSING DETAILS REFER TO LANDSCAPE PLANS PREPARED BY BAKER TURNER INC.

FOR SITE SERVICING DETAILS REFER TO SITE SERVICING PLAN PREPARED BY EXP DWG. SS-1

FOR SECTIONS A-A & B-B, REFER TO CROSS SECTIONS AND DETAILS PREPARED BY EXP DWG. SEC-1

PROPOSED WORKS WITHIN EXISTING BURLINGTON HYDRO EASEMENT TO APPROVED BY BURLINGTON HYDRO PRIOR TO COMMENCEMENT OF WORKS

PRIOR TO THE COMMENCEMENT OF ANY WORKS, INSTALLATION OF EROSION AND SILTATION CONTROL MEASURES IS REQUIRED. EROSION AND SILTATION CONTROL SHALL REMAIN IN PLACE AND BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER — S.W.PASSMORE — 90539925 — 2024/11/29 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — CHUEMIN PARK — 100168818 — 2024/11/29 — PROVINCE OF ONTARIO


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• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

Owner/Client:

2563067 ONTARIO INC.
C/O BETTER LIFE DEVELOPMENT

Location:

4103 PALLADIUM WAY
CITY OF BURLINGTON

Title:

SITE GRADING PLAN

| | | | |
|---|---|---|---|
| Designed By: JL | Drawn By: CP | Checked By: SP | |
| Scale: NTS | Date: SEPT 2021 | Drawing No.: | SG-1 |
| Project No.: ALL-00251531-A1 & A2 | | | |

# 4. Water Servicing

Available record drawings show that there is an existing 300 mm diameter watermain located on the west side of Palladium Way adjacent to the site, where the site is located within the Region of Halton's pressure zone B3. The City's record drawing for Palladium Way shows that there currently are not any existing water services for the site. EXP staff then reviewed City record drawing and confirmed through the site visit, that there are two existing municipal fire hydrants in vicinity of the site on Palladium Way. Refer to Appendix A for the Palladium Way record drawing and Appendix B for the Region Water Operating Map.

The site plan includes two buildings: a Long-Term Care Facility and a Retirement Home, with the Long-Term Care Facility currently under construction. The proposed water servicing design incorporates the following unchanged watermain configuration from the previously approved plan:

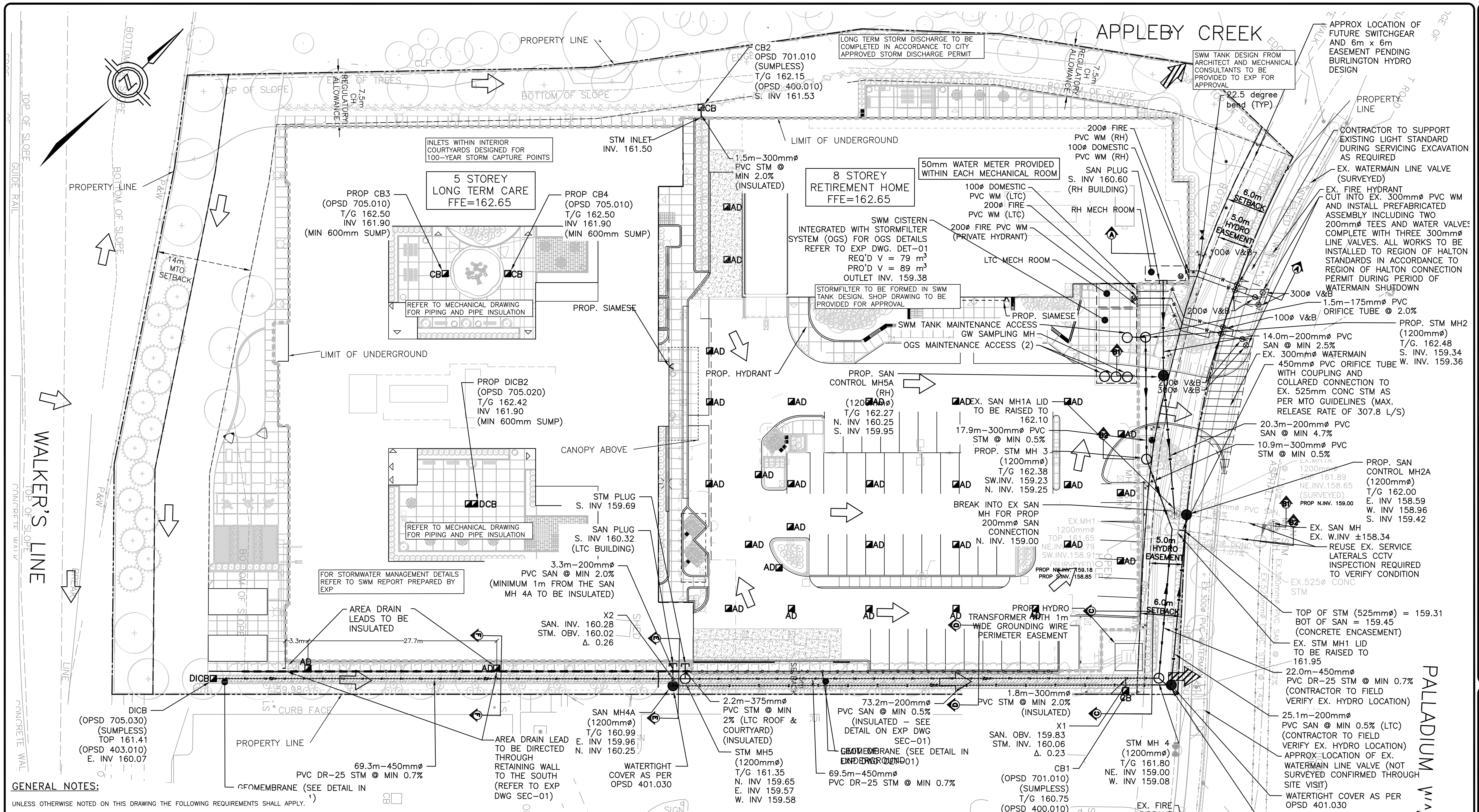
- Two (2) new private fire service connections to the existing 300 mm diameter watermain on Palladium Way for the Long Term Care Facility and Retirement Home
- Two (2) new private domestic service connections to the existing 300 mm diameter watermain on Palladium Way for the Long Term Care Facility and Retirement Home
- One (1) new private fire service connection to the existing 300 mm diameter watermain on Palladium Way for a proposed private fire hydrant within the parking lot

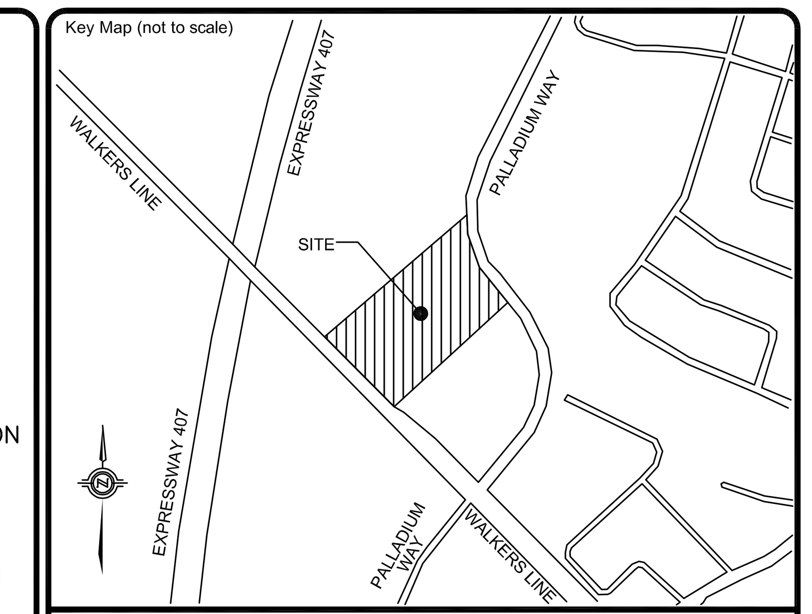
It has been confirmed by the contractor that all the above water services have not been constructed yet.

The future building plumbing designs are to be coordinated to ensure the proposed FDC connections are within 45 m of the existing or proposed fire hydrant in vicinity of the site as per OBC requirements. A proposed private fire hydrant within the parking lot is shown for additional fire protection for the site and buildings. For additional details regarding the water servicing design refer to the Preliminary Site Servicing Plan on Figure 3.

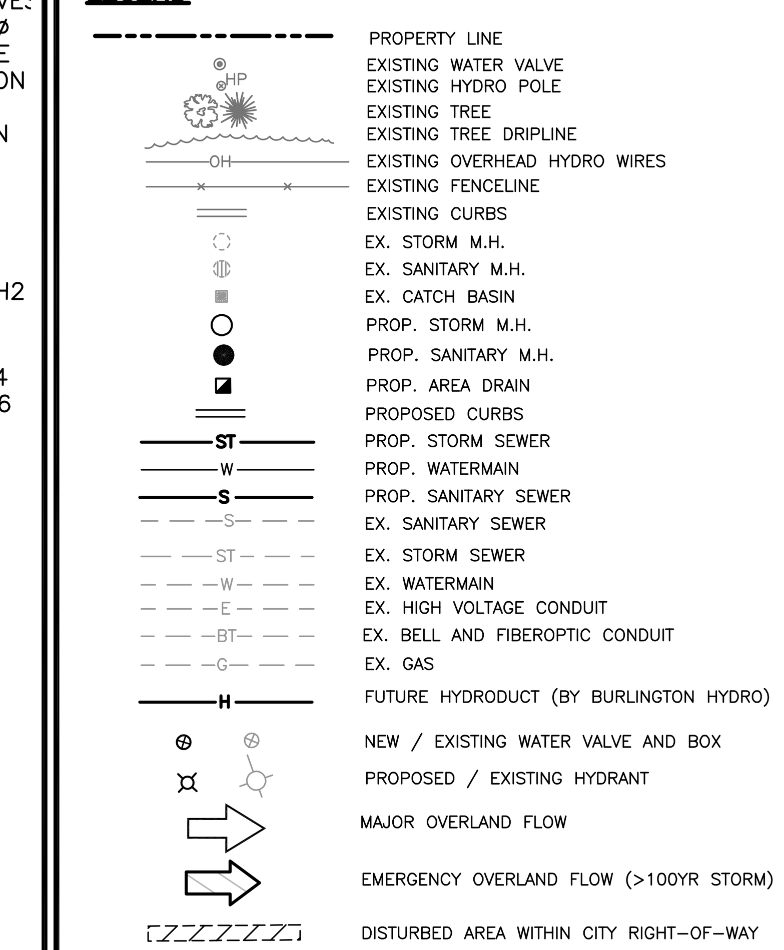
To determine the post development domestic water demand on the municipal watermain, the water consumption calculations were prepared in accordance to the Region of Halton criteria. The calculations show that under maximum day conditions, a proposed demand of 2.1 L/s should be considered for the site. Then using the Fire Underwriter's Survey, a fire demand was calculated to be in the range of 116.7 L/s, giving a maximum day plus fire demand of 118.8 L/s to be used for the purposes of reviewing required fire protection measures. Refer to an excerpt from the Water and Wastewater Usage Report for supporting calculations in Appendix B.

To verify existing flows and pressures within the municipal watermain, EXP staff coordinated a hydrant flow test on the two closest hydrants to the site location. The flow test results showed that adequate flow can be obtained to meet the maximum day plus fire demand of 118.8 L/s while still maintaining the minimum required 20 psi for the surrounding system. Refer to Appendix B for the hydrant flow test results completed on September 27, 2019.




## LEGEND




## GENERAL NOTES:

UNLESS OTHERWISE NOTED ON THIS DRAWING THE FOLLOWING REQUIREMENTS SHALL APPLY.

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7. FOR ALL SEWERS AND WATERMAIN IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.
8. ALL EXCAVATIONS TO BE BACKFILLED WITH NATIVE MATERIAL, APPROVED BY THE ENGINEER, TO 95% SPD.
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12. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR FOR ACCURACY PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES REPORTED TO THE ENGINEER.
13. ALL SERVICES TO MEET ALL REQUIREMENTS OF THE ONTARIO BUILDING CODE PART 7 CURRENT EDITION

LOCATES AND LIABILITY

1. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
2. THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTORS SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
3. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH EXISTING SERVICES.
4. ANY UTILITY WHICH CONFLICTS WITH THE CONSTRUCTION IS TO BE RELOCATED BY THE PROPER AUTHORITY AT THE OWNER'S EXPENSE.

CONSTRUCTION RESPONSIBILITIES

1. LOCATION OF EXISTING UTILITIES SHOWN AND ALL OTHER EXISTING UTILITIES TO BE ESTABLISHED BY CONTRACTOR IN THE FIELD. THE CONTRACTOR HAVING UNCOVERED ANY UTILITIES THAT ARE NOT SHOWN ON THE PLAN OR STAKED OUT BY BELL, HYDRO, CABLE & GAS UTILITY COMPANIES WILL IMMEDIATELY ADVISE THE ENGINEER FOR APPROPRIATE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR TRACING AND IDENTIFYING ALL EXISTING PRIVATE UTILITIES WTHIN THE WORK AREAS.
2. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
3. TWO LANES OF TRAFFIC ARE TO BE MAINTAINED AT ALL TIMES DURING THE PERFORMANCE OF THE WORK ON PALLADIUM WAY. THE CONTRACTOR SHALL ADVISE THE CITY OF BURLINGTON IN WRITING NOT LESS THAN 48 HRS IN ADVANCE OF START OF CONSTRUCTION AND SHALL ACQUIRE THE APPROPRIATE PARTIAL ROAD CLOSURE PERMITS AS NECESSARY.
4. ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND SODDED BOULEVARD AREAS DISTURBED BY THE WORK ARE TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTORY OF THE CITY OF BURLINGTON.
5. NEW MANHOLES AND VALVE BOXES, EXISTING VALVE AND CHAMBERS, HYDRANT AND BELL PEDESTALS AND UTILITIES TO BE SET TO FINAL BOULEVARD AND PAVEMENT GRADES.
6. THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF THE APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC MAINTENANCE, DIVERSION, ETC) FROM THE AUTHORITY.
7. THE CONTRACTOR SHALL SUPPLY AND PLACE TRAFFIC SIGNAGE IN CONFORMANCE WITH THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PRIOR TO COMMENCING ANY WITHIN THE MUNICIPAL ROAD/LANE ALLOWANCE.

SANITARY SEWERS

1. SANITARY SEWERS SHALL BE PVC. PVC PIPE IS TO BE BELL AND SPIGOT AND COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35.
2. MINIMUM BEDDING REQUIREMENTS FOR ALL SANITARY SEWER MAINS AND RELATED CONNECTIONS IN A SINGLE TRENCH SHALL BE CLASS B GRANULAR BEDDING AS PER OPSD 802.010 UNLESS OTHERWISE NOTED.
3. SANITARY SEWER MANHOLES FRAME AND COVER AS PER OPSD 401.01.
4. ALL PVC LATERALS TO BE SDR 28 AND SHALL BE ANY COLOUR EXCEPT WHITE. MINIMUM SLOPE OF LATERAL TO BE 2.0%.
5. SINGLE SERVICE CONNECTIONS TO BE MINIMUM 125mm DIA PIPE.
6. TAPPING AT EXISTING SANITARY SEWERS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
7. ALL SEWERS TO BE VIDEO INSPECTED.
8. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
9. ALL PVC SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. SANITARY SEWERS SHALL ALSO BE TESTED FOR LEAKAGE (LOW AIR PRESSURE). PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.

STORM SEWERS

1. ALL PIPES GREATER THAN 375mm DIA SHALL BE STEEL REINFORCED CONCRETE AND SHALL CONFORM TO OPSS 1820 MATERIAL SPECIFICATION.
2. ALL SEWER PIPE UP TO AND INCLUDING 375mm DIA SHALL BE PVC, BELL AND SPIGOT AND SHALL COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35.
3. MINIMUM BEDDING REQUIREMTNS FOR ALL SINGLE STORM SEWER MAINS AND ALL RELATED CONNECTIONS SHALL BE HIGH PERFORMANCE CLEAR STONE (HL-8 GRADED) AS PER CITY OF BURLINGTON STANDARD DRAWING S-188.
4. STORM SEWER MANHOLES SHALL BE IN ACCORANCE WITH OPSD 701.010 AND 703.010. FRAME AND COVER AS PER OPSD 401.01 TYPE A. FRAMES TO BE STAMPED "DANGER" AND "STORM".
5. MANHOLE TOPS SHALL BE INITIALLY SET TO BASE COURSE ASPHALT ELEVATION AND ADJUSTED TO GRADE PRIOR TO PLACEMENT OF TOP LIFT OF ASPHALT.
6. ALL TRENCH EXCAVATIONS ARE TO BE BACKFILLED WITH SELECT NATIVE MATERIAL PLACED IN MAXIMUM 200mm LIFT THICKNESS WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% SPD, UNLESS OTHERWISE SPECIFIED.
7. ALL SEWERS TO BE VIDEO INSPECTED.
8. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
9. ALL PVC SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.

WATERMAINS

1. FLEXIBLE WATERMAIN PIPE UP TO 300mm DIAMETER TO BE PVC DR-18 AND CONFORM TO A.W.W.A. C-900 WITH MECHANICAL JOINTS AS PER A.W.W.A. C-110, AND TO BE INSTALLED WITH A 10 GAUGE TRACER WIRE.
2. FLEXIBLE PIPE BEDDING TO BE OPSD 802.010 WITH COMPACTED GRANULAR B MATERIAL.
3. MINIMUM COVER TO BE 1.7m TO TOP OF PIPE.
4. DEFLECTION AT JOINTS NOT TO EXCEED 2.5 DEGREES AND SHALL BE EQUAL AT ALL JOINTS.
5. GATE VALVES AND BOXES FOR 150mm DIAMETER WATERMAINS AS PER A.W.W.A. STANDARD C-500 AND ARE TO OPEN TO THE LEFT (COUNTER CLOCKWISE).
6. HYDRANTS SHALL MEET THE REQUIREMENTS OF A.W.W.A. STANDARD C-502 AND SHALL BE SET IN ACCORDANCE WITH REGION OF HALTON, AND CITY OF BURLINGTON BUILDING DEPARTMENT STANDARDS, COMPLETE WITH STEAMER CONNECTIONS. THE 100mm STEAMER PORT SHALL FACE THE FIRE ROUTE AND SHALL BE UNOBSTRUCTED BY ANY PROPOSED LANDSCAPING.
7. ALL FITTINGS TO HAVE MECHANICAL RESTRAINTS THAT MEET UNI-B-13-92.
8. ALL TEMPORARY AND PERMANENT WATERMAIN PLUGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH OPSD 1103.01.
9. TAPPING AT EXISTING WATERMAINS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
10. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.
11. MINIMUM HORIZONTAL SEPARATION BETWEEN WATERMAINS (INCLUDING PRIVATE SERVICES) AND STORM AND SANITARY SEWERS SHALL BE 2.5m. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARNACE OF 150mm OVER AND 500mm UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.

DRAWINGS ISSUED FOR CONSOLIDATION ARE COMPLEMENTARY TO THE CONTRACT DOCUMENTS. TO THE BEST OF OUR KNOWLEDGE THEY ARE AN ACCURATE REPRESENTATION OF DOCUMENTED REVISIONS. IN THE CASE OF ANY DISCREPANCY, OMISSION OR CONFLICT BETWEEN THE CONSOLIDATED DOCUMENTS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR IS TO PROMPTLY BRING IT TO THE ATTENTION OF THE CONSULTANT. IN THE EVENT OF A CONFLICT THE ORIGINAL BID DOCUMENTS SHALL GOVERN. THE TENDER DOCUMENTS INCLUDING DRAWINGS AND ALL ADDENDA TAKE PRECEDENT OVER THIS CONSOLIDATED SET AND REFERENCE SHOULD BE MADE TO THE TENDER DOCUMENTS IN ADDITION TO THIS DRAWING SET.

LONG TERM GROUNDWATER TO BE TREATED VIA FILTER BAG SYSTEM AS PART OF THE MECHANICAL DESIGN. ALL TREATED GROUNDWATER IS TO MEET CITY OF BURLINGTON BY-LAW PARAMETERS FOR STORM SEWER DISCHARGE, WHERE A SAMPLING PORT IS TO BE MADE AVAILABLE PRIOR TO MIXING OR DISCHARGING INTO SWM CISTERN. SEE DRAWING DET-1 FOR GROUNDWATER TREATMENT SYSTEM AND SEC-2 FOR THE SAMPLING PORT LOCATIONS.

PROPOSED WORKS WITHIN EXISTING BURLINGTON HYDRO EASEMENT TO APPORVED BY BURLINGTON HYDRO PRIOR TO COMMENCEMENT OF WORKS

FOR ALL LANDSCAPING AND FENCING DETAILS REFER TO LANDSCAPE PLANS PREPARED BY BAKER TURNER INC.

FOR PROPOSED GRADING INFORMATION REFER TO SITE GRADING PLAN PREPARED BY EXP DWG. SG-1

PRIOR TO THE COMMENCEMENT OF ANY WORKS, INSTALLATION OF EROSION AND SILTATION CONTROL MEASURES IS REQUIRED. EROSION AND SILTATION CONTROL SHALL REMAIN IN PLACE AND BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION

**NOTES:**

- BACKGROUND LEGAL AND TOPOGRAPHIC SURVEY PREPARED BY J.D BARNES LTD. DATED APRIL 02, 2019.
- LOCAL BENCHMARK: CUT CROSS SET ON FACE OF CURB LOCATED AT THE EASTERLY CORNER OF THE SUBJECT PROPERTY, AS SHOWN ON THE TOPOGRAPHIC SURVEY PLAN, HAVING AN ELEVATION OF 160.96m
- SITE PLAN PREPARED BY SAM ESPOSTO ARCHITECT INC.
- LANDSCAPE PLAN PREPARED BY BAKER TURNER INC

| No. | REVISIONS | Date | By | App. |
|---|---|---|---|---|
| JJ | RH UPDATE FOR ZBA | NOV 29 2024 | WK | SP |
| II | RESPONSE TO RFI 185 | NOV 14 2024 | WK | SP |
| HH | ISSUED FOR CCN #1 | NOV 11 2024 | WK | SP |
| GG | REVISED GRADING AT THE SOUTH WEST CORNER | NOV 5 2024 | RN | SP |
| EE | RETAINING WALL UPDATE | AUG 21 2024 | WK | SP |
| CC | SANITARY INSULATION UPDATE | JULY 04 2024 | WK | SP |

LICENSED PROFESSIONAL ENGINEER S.W.PASSMORE 90539925 2024/11/29 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER CHUEMIN PARK 100168818 2024/11/29 PROVINCE OF ONTARIO

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www.exp.com

exp.

• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

Owner/Client:

2563067 ONTARIO INC.
C/O BETTER LIFE DEVELOPMENT

Location:

4103 PALLADIUM WAY
CITY OF BURLINGTON

Title:

# SITE SERVICING PLAN

| | | | | | |
|---|---|---|---|---|---|
| Designed By: | JL | Drawn By: | CP | Checked By: | SP |
| Scale: | NTS | Date: | SEPT 2021 | Drawing No.: | SS-1 |
| Project No.: | ALL-00251531-A1 & A2 | | | | |

# 5. Sanitary Servicing

Available record drawings show that there is an existing 300 mm diameter sanitary sewer on Palladium Way which flows in the southerly direction to the Skyway WWTP. The City's record drawing shows that an existing 200 mm diameter service connection has been provided to the property line adjacent to the site. Refer to Appendix A for the City's record drawing and Appendix C for the Region Wastewater Operating Map.

The site plan includes two buildings: a Long-Term Care Facility and a Retirement Home, with the Long-Term Care Facility currently under construction. The proposed sanitary servicing design incorporates the following unchanged sanitary configuration from the previously approved plan:

- Reusing the existing 200 mm diameter sanitary service connection to the existing 300 mm diameter sanitary on Palladium Way for the Retirement Home where a CCTV video inspection was conducted on March, 2023

- One (1) new private sanitary service Y-connection (with a new manhole) to the existing 200 mm diameter sanitary service lateral for the Long Term Care Facility

To avoid potential headroom constraints caused by low-hanging pipes within the underground parking structure, a dedicated sanitary sewer was designed and proposed along the south side of the site to exclusively serve the Long-Term Care Facility. It has been confirmed by the contractor that all the above sanitary services have not been constructed yet. For additional details regarding the sanitary design refer to the Site Servicing Plan on Figure 3.

EXP staff then reviewed the sanitary capacity allowances within the approved subdivision design for the site. Record drawings obtained from City and Region staff show a sanitary catchment plan from the subdivision design with a catchment area of 1.67 ha and density of 125 persons per ha. Therefore, using Region of Halton criteria, this would result in a theoretical wet peak sanitary demand of 3.19 L/s at the proposed service location. See the sanitary catchment plan located in Appendix C for reference.

The post development sanitary demand calculations were then prepared in accordance to the Region of Halton criteria for the site. Based on the selected density and the conservative peaking factor, the calculations show a proposed wet peak sanitary demand of 4.3 L/s for the site. Additional calculations were completed using OBC design criteria, which shows that the Region calculation is more conservative and recommended to be used for the Discharge report. EXP staff then consulted with Region staff and confirmed that the adequate capacity is available within the downstream municipal sanitary system for the proposed sanitary demand for the site. Refer to the Water and Wastewater Usage Report for the sanitary demand calculations in Appendix B and some of the correspondence with Region staff in Appendix C.

# 6. Storm Servicing

Available record drawings show that there is an existing 525 mm diameter storm sewer located on Palladium Way which flows in the southerly direction to the existing stormwater management (SWM) facility within Block 78 at the intersection of Dundas Street and Rotary Way. Record drawings also show that an existing 525 mm diameter storm service connection has been provided to the property line adjacent to the site. Refer to Appendix D for the Subdivision Storm Catchment Drawing.

For the proposed site servicing design, the existing storm service is to be re-used to mitigate any unnecessary excavation within the City's right of way. Similar to the existing sanitary service, a CCTV video inspection has been conducted on March 2023 to verify the condition of the storm service prior to commissioning the service. The proposed storm design also includes an underground SWM cistern for the required quantity and quality controls, and an uncontrolled storm system along the south side of the site. For additional details regarding the storm servicing design refer to the Preliminary Site Servicing Plan on Figure 3. The proposed SWM measures are outlined further in the SWM report prepared by EXP.

## 7. Groundwater

It has been confirmed with the Owner and the consultant team that the proposed groundwater management strategy is to include a permanent drainage system (PDS) where all captured groundwater is to be collected and pumped to the stormwater management facility with pre-treatment through a groundwater treatment filtration system before outletting to the municipal storm system. The Owner's hydrogeologist (EXP) provided a preliminary estimate for the long-term groundwater discharge rate to be used for design purposes in the range of 14,000 L/day or 0.16 L/s (using a safety factor of 2). EXP staff then assessed the required hydraulic lift for the groundwater pumping within the mechanical design. A groundwater peak pumping rate of 1.0 L/s was then conservatively calculated, where the treated flows are proposed to be directed through the proposed SWM Cistern including a dedicated flow meter. The details of the groundwater treatment system have been finalized through the detailed design process with the project mechanical engineer. A private water discharge agreement for the temporary groundwater discharge during construction was then obtained from the City in October 2023. The Owner will need to apply for the private water discharge agreement with City of Burlington for the proposed permanent PDS system prior to commissioning.

## 8. Utilities

Through correspondence with the active utility agencies in the area, all the required utilities are located within the Palladium Way right-of-way adjacent to the site. Based on the nature of the proposed development and estimated load demands, utility staff have not indicated any issues with providing the necessary utility service for the development to date.

# 9. Conclusions

In summary, our findings outlined in this FSR report demonstrate that the proposed development can be adequately serviced where the results can be summarized as follows:

- Water servicing can be provided with three new fire connections and two new diameter domestic connections to the existing 300 mm diameter watermain located on the west side of Palladium Way.
- Adequate fire protection can be provided based on the required maximum day plus fire flow demand and the observed hydrant flow testing results.
- Sanitary servicing can be provided by re-using the existing 200 mm diameter service stub (pending results of CCTV inspection) and a new private sanitary y-connection to the existing 200mm diameter service stub before outletting to the existing 300 mm diameter municipal sanitary system on Palladium Way.
- Sanitary capacity is available for the proposed development based on the allowances made through the subdivision and municipal sanitary sewer design and correspondence with Region of Halton staff.
- Storm servicing can be provided by re-using the existing 525 mm diameter storm service (pending results of CCTV inspection) which is connected to the existing 525 mm diameter storm sewer on Palladium Way including the proposed SWM control measures outlined in the SWM Report prepared by EXP.
- Groundwater management can be addressed with proposed foundation drains pumped through the proposed SWM cistern with pre-treatment from the proposed groundwater filtration system.
- The required utilities can be provided to service the site based on the correspondence with utility agency staff.
- Following changes to the Retirement Home, it has been confirmed that the domestic water plus fire demand remains at 118.8 L/s, and the peak sanitary demand remains at 4.31 L/s, with no changes on the previously approved configurations.

Sincerely,

EXP Services Inc.

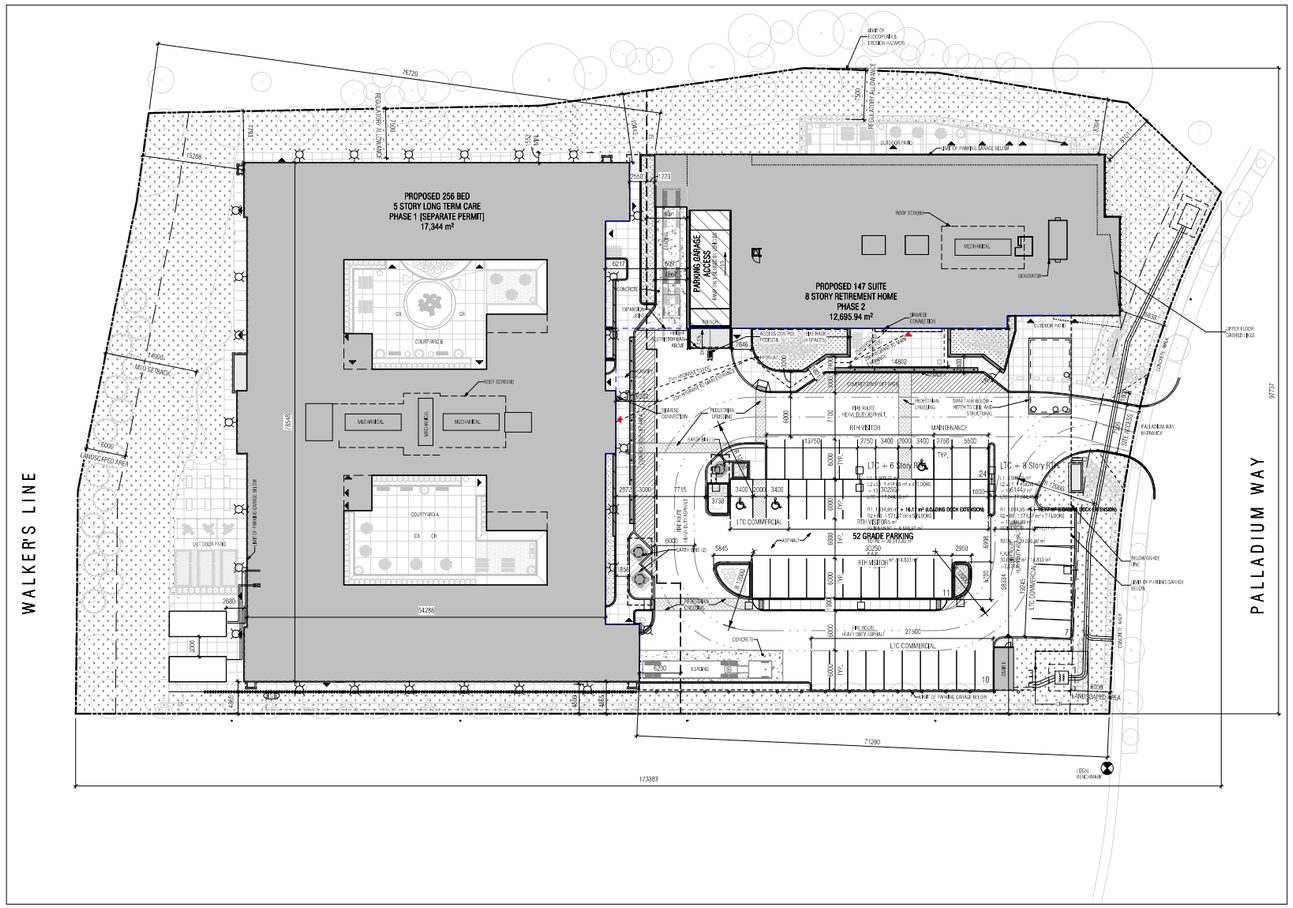



Scott W. Passmore, P.Eng.
Vice President, Land Development




Steve Park, P.Eng.
Project Manager, Land Development

# Appendix A – Site Plan and Topographic Survey




1 A100 SITE PLAN
1 : 300




2 A100 LOCATION MAP - NTS
1 : 50

## SITE STATISTICS

| | REQUIREMENTS | PROPOSED | CONFORMS TO MUNICIPAL BY-LAW |
|---|---|---|---|
| ZONING DESIGNATION | BUSINESS CORRIDOR, EMPLOYMENT ZONE, BC1+305 | BUSINESS CORRIDOR, EMPLOYMENT ZONE, BC1-459 | YES |
| MINIMUM LOT AREA | 0.4 Ha | OVERALL SITE = 14,822 m² (1.48 HECTARES) | YES |
| MINIMUM LOT FRONTAGE | 45 m | 85.7 m | YES |
| MINIMUM LOT WIDTH | 45 m | 97.2 m | YES |
| MINIMUM LOT DEPTH | N/A | 173.4 m | YES |
| MINIMUM LOT COVERAGE | N/A | 35% (USING BUILDING AREA) | YES |
| BUILDING AREA | N/A | LTC: 5,189 m² RETIREMENT: 1,694.25 m² TOTAL: 6,883.49 m² | YES |
| MAXIMUM GROSS FLOOR AREA | LT: 3,588.76 m² LT+2: 7,455.68 m² x 4 FLOORS = 13,834.72 m² LTC = 17,344.5 m² LT: 1,811.26 m² LT+2: 1,364.28 m² x 5 FLOORS = 7,874.01 m² RETIREMENT = 9,575.27 m² TOTAL = 26,995.7 m² F.A.R. 26,995 m² / 14,822 m² = 1.82 ± | LT: 3,588.76 m² LT +2: 7,455.68 m² x 4 FLOORS = 13,834.72 m² LTC = 17,344.5 m² RT: 1,694.25 m² RT+1: 1,737.67 m² x 7 FLOORS = 13,820.99 m² RETIREMENT = 12,695.34 m² TOTAL = 30,540.44 m² F.A.R. 30,540.44 m² / 14,822 m² = 2.23 ± | NO |
| MAXIMUM LOT COVERAGE | N/A | 35% (USING BUILDING AREA) | YES |
| MINIMUM YARD REQUIREMENTS | FRONT YARD (E) = 6m + 9m REAR YARD (W) = 14m SIDE YARD (S) = 4.2m SIDE YARD (N) = 7.2m | LTC FRONT YARD (E) = 71.2m REAR YARD (W) = 15.2m SIDE YARD (S) = 4.8m SIDE YARD (N) = 7.2m+ RETIREMENT FRONT YARD (E) = 6.2m REAR YARD (W) = 76.7m SIDE YARD (S) = 16.3m SIDE YARD (N) = 5.2m | YES |
| MAXIMUM BUILDING HEIGHT | LTC: 5 STOREYS RETIREMENT: 8 STOREYS | LTC: 5 STOREYS RETIREMENT: 8 STOREYS | NO |
| MINIMUM LANDSCAPED OPEN SPACE | 20% OF LOT AREA | 23% OF LOT AREA | YES |
| MINIMUM LANDSCAPED BUFFER | 6m ABUTTING A STREET (GREATER THAN 26m (MAX 20m WALKWAY) | 6m ABUTTING A STREET (CONSISTING OVER 26M (ABUTTING PALLADIUM WAY) MAX 20m WALKWAY WITH BUFFER | YES |
| PARKING | MIN RATE = 3.75/1k + 6 m *LTC: 5.25/1k x 256 BEDS = 90 **RETIREMENT: (0.5 UNIT + 0.25 MEDITOR) = 0.85 x 147 UNITS = 125 TOTAL PARKING SPACES = 215 *SMALL CAR (2.6m x 5.5m) = 8 **PARKING STALL (2.6m x 5.5m) = 43 *DARK CAR/SPRED (2.6m x 5.5m) = 4 TOTAL = 260 REQUIRED | MIN RATE = 2.73/1k + 6m 52 AT GRADE 164 UNDERGROUND PARKING AT GRADE PARKING • 30 REGULAR INDOOR SPOTS • 3 MAINTENANCE SPOTS • 19 COMMERCIAL PARKING GARAGE • 164 LTC & RTH RESIDENTS • 52 COMMERCIAL TOTAL 236 SPACES PROVIDED | NO |
| DESIGNATED BARRIER FREE PARKING SPACES | TYPE A (3.4m WIDE + 2m ACCESS) MIN 4 REQ'D TYPE B (2.75m WIDE + 2m ACCESS) MIN 3 REQ'D | 4 TYPE A PROVIDED (WAS ACCESSIBLE) 3 TYPE B PROVIDED TOTAL 7 BF SPACES PROVIDED WITH 2000 ACCESS AISLES | YES |
| MIN. DRIVING LANE WIDTH | 6m | 6m | YES |
| MIN. DRIVING LANE WIDTH | 6m | 6m | YES |
| MIN. NO OF LOADING SPACES | N/A | 2 LOADING SPACES PROVIDED | YES |
| MIN. NO OF BICYCLE PARKING SPACES | 4 SPACES REQ'D | 8 SPACES PROVIDED | YES |

## GENERAL NOTES :

1. ALL WORK INVOLVED IN THE CONSTRUCTION, RELOCATION, REPAIR OF MUNICIPAL SERVICES FOR THE PROJECT SHALL BE TO THE SATISFACTION OF THE DIRECTOR OF PLANNING, PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT.

2. ANY AND ALL DEAD AND DAMP TREE ANCHORAGES SHALL BE DISABLED TO THE SATISFACTION OF THE CITY TREE DEPARTMENT AND AT THE EXPENSE OF THE OWNER.

3. MAIN SUMMARY DIMENSIONS AT THE PROPERTY LINE BOUNDARIES ARE PLUS OR MINUS 0.3 m UNLESS OTHERWISE STATED.

4. ALL SIDEWALKS FROM THE PROPERTY LINES FOR THE FIRST 0.3 m SHALL BE WITHIN 0.5 MAXIMUM DRIVER, THEREAFTER, ALL SIDEWALKS SHALL BE WITHIN 2.0% MAXIMUM SLOPES.

5. THE APPROVAL OF THESE PLANS DOES NOT EXEMPT THE OWNER'S SCHEDULE CONNECTION FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS APPROVALS AND/OR AGREEMENTS REQUIRED TO COMPLETE A DEVELOPMENT PROJECT, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING: BUILDING PERMIT, SEWER AND WATER PERMITS, ROAD CUT PERMITS, RELOCATION OF SERVICES, APPROVAL FOR MTO, ENCROACHMENT AGREEMENTS AT MUNICIPAL COMMITTEE OF ADJUSTMENT.

6. ARRANGEMENT ACCESSES MUST BE REMOVED AND THE CURB AND BOULEVARD RESTORED WITH SOD AT THE OWNER'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC AND ENGINEERING SECTION (SECTION, PUBLIC WORKS DEPARTMENT).

7. FOR REQUIRED TRIANGLES AT THE VEHICULAR ACCESS POINTS, THE FOLLOWING NOTE TO BE PROVIDED: "5 METRE BY 5 METRE REQUIRED TRIANGULAR AREA OF LAND MEASURED ALONG BOTH LOT LINES FROM THEIR POINT OF INTERSECTION TO BE KEPT CLEAR OF ANY OBJECTS OR MATERIALS HIGHER THAN 0.75 METRES ABOVE THE CORRESPONDING PERPENDICULAR ELEVATION OF THE ADJACENT STREET."

8. ALL SPACE SHALL CONFORM TO ZBL 05-200, AS AMENDED.

9. ALL FENCES SHALL COMPLY TO FENCE BY-LAW 10-142.

10. "CAUTION: NOTWITHSTANDING CURRENT SURFACE CONDITIONS, THE PROPERTY HAS BEEN DETERMINED TO BE AN AREA OF ARCHAEOLOGICAL POTENTIAL. ALTHOUGH AN ARCHAEOLOGICAL ASSESSMENT IS NOT REQUIRED BY MINISTRY POLICY, THE PROPONENT IS CAUTIONED THAT DURING DEVELOPMENT ACTIVITIES, SHOULD ARTIFACTS OR FEATURES BE DISCOVERED, ALL MATERIALS MUST BE KEPT ON THE PROPERTY. THE MINISTRY OF HERITAGE, SPORT, TOURISM AND CULTURE INDUSTRIES (MHSTCI) SHOULD BE NOTIFIED IMMEDIATELY (416-314-7143) IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION. THE PROPONENT, SHOULD ARCHAEOLOGICAL REMAINS BE ENCOUNTERED DURING DEVELOPMENT OR GRADING WORK STOP, AND CONTACT THE MINISTRY OF GOVERNMENT AND CONSUMER SERVICES (MGCS) AND THE MHSTCI IN ORDER THAT THE CULTURAL HERITAGE VALUE OR INTEREST OF THE DISCOVERY MAY BE ASSESSED."

## NOTES:

1. BUILDING WILL SHALL BE A MINIMUM OF 4.3m WIDE THROUGHOUT THE SITE UNLESS OTHERWISE NOTED.
2. A MINIMUM PARKING SPACE SIZE SHALL BE 2.75m X 5.5m WITH AN OVERALL WIDTH OF 6m.
3. THE ROUTE SHALL HAVE A MINIMUM CENTERLINE TURNING RADIUS OF 12m
4. ALL PEDESTRIAN SIDEWALKS TO HAVE A SLOPE NO GREATER THAN 5%.
5. BOH PARKING ARE PROVIDED FOR ALL BOHS ON SITE, INCLUDING CONSTRUCTION OR DEVELOPMENT BOHS.
6. BARRIER FREE PARKING POST & SIGNAGE TO COMPLY WITH MUNICIPALITY ACCESSIBILITY DESIGN STANDARDS
7. ACCESSIBILITY PAVEMENT MARKING TO COMPLY WITH MUNICIPALITY ACCESSIBILITY DESIGN STANDARDS
8. DURABLE TRAFFIC PAINT TO BE USED FOR ALL PAVEMENT MARKINGS
9. PROVIDE TACTILE WARNING SURFACE INDICATOR AT CURB, COMPLY WITH MUNICIPALITY ACCESSIBILITY DESIGN STANDARDS, TACTILE WARNING STRIP AND DETECTABLE SURFACE. DETECTABLE WARNING SYSTEM, COLOUR TBD, TRUNCATED DOME PATTERN AS PER ACA (ADEA STANDARDS), OR APPROVED EQUAL
10. GAS METER LOCATION, REFER TO MECHANICAL DRAWINGS
11. DIRECTIONAL SIGNAGE REQUIRED
12. LIGHT FIXTURE LOCATIONS, REFER TO LANDSCAPE DRAWINGS
13. BENCH LOCATIONS, REFER TO LANDSCAPE DRAWINGS
14. FIRE ACCESS ROUTE SIGN GRAPHICS TO COMPLY WITH MUNICIPALITY AND FIRE DEPARTMENT STANDARDS.
15. BUILDING DOWNSPOUTS, REFER TO STRUCTURAL DRAWINGS, COORDINATE INSTALLATION AND CONCRETE PAD
16. STORM WATER, REFER TO CIVIL DRAWINGS
17. TRANSFORMER ON CONCRETE PAD, REFER TO ELECTRICAL DRAWINGS
18. EXTERIOR LIGHT STANDARD, REFER TO ELECTRICAL FOR CONCRETE BASE
19. FOR FUTURE ELECTRIC VEHICLE CHARGING STATION, REFER TO ELECTRICAL DRAWINGS
20. WATER LINE TO BE INSTALLED BEFORE GAS LINE, TO BE COORDINATED BY OC

## SITE LEGEND:

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY LINE |
| | NEW CONTINUOUS CONCRETE CURB |
| | NEW LANDSCAPE SETBACK |
| | BUILDING FOOTPRINT |
| | LANDSCAPING, SEE LANDSCAPING DRAWINGS FOR DETAILS. |
| | TACTILE WARNING STRIP ON ASPHALT OR CONCRETE PLACED, DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH SURROUNDING SURFACES, EITHER LIGHT OR DARK THAN THE ADJACENT SURFACE OR APPLIED FINISH. |
| | M/F PARKING POINT |
| | BF PARKING ACCESS AISLE |
| | PEDESTRIAN CROSSWALK |
| | SNOW STORAGE |
| | PRIMARY BUILDING ACCESS LOCATION |
| | SECONDARY BUILDING ACCESS LOCATION |
| | BOLLARD, SEE LANDSCAPE DRAWINGS FOR DETAILS. |
| | FIRE ROUTE. |
| | BICYCLE RACK, SEE LANDSCAPE DRAWINGS FOR DETAILS |
| | BARRIER FREE ACCESSIBLE PARKING STALL, COMPLETE WITH ACCESSIBLE PARKING SIGNAGE AT THE END OF EACH STALL. |
| | ONE WAY SIGNAGE |
| | "FIRE ROUTE" SIGNAGE. |
| | AREA DRAIN (AS PER CIVIL) |
| CB | CATCH BASIN (AS PER CIVIL) |
| | MACHINE SLAB DRAIN (REFER TO STRUCTURAL) |
| | CONCRETE SLAB SLOPES (REFER TO STRUCTURAL) |
| | AREA LIGHT - OUTDOOR POLE |
| | WALL SCONCE - EXTERIOR WALL |
| | DOWNLIGHT - EXTERIOR RECESSED |
| | **PLANTER / SEATING WALL**<br>• SEATING WALL (SWW) 450MM WIDE / 350MM HIGH<br>• PLANTER WALL 350MM WIDE / 350MM HIGH<br>• PLANTER/PLANTER WALLS: 2200MM WIDE / HEIGHT TO BE COORDINATED WITH GRADING AS REQUIRED BY PLANTING DEPTH<br>ALL PLANTER WALLS TO BE COORDINATED WITH STRUCTURAL, GRADING AND LANDSCAPING |

**NO DRAWING DIVISION SHALL BE VIEWED INDEPENDENTLY. CONTRACTOR AND ALL SUB CONTRACTORS TO REVIEW AND BE FAMILIAR WITH ENTIRE DRAWING SET.**

REVISIONS

| No. | For | Date |
|---|---|---|
| | | |

| No. | For | Date |
|---|---|---|

Issue Table

Note
CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK. DO NOT SCALE DRAWINGS.

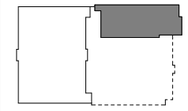
CONTRACTORS AND SUBCONTRACTORS SHALL USE THE DRAWING IN CONJUNCTION WITH OTHER DISCIPLINARY ENGINEER DRAWINGS AND TENANT FIT-UP DRAWINGS.

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PRELIMINARY



Design Sign-Off

PRINT NAME:

CLIENT SIGNATURE:

DATE:

ARCHITECT SIGNATURE:

DATE:

Seal:

North Arrow:


Architect:
SAM ESPOSTO | ARCHITECT INC.
548 UPPER JAMES ST, HAMILTON, ON, L9C 2Y4
T. 905.383.7500 F. 905.383.5700

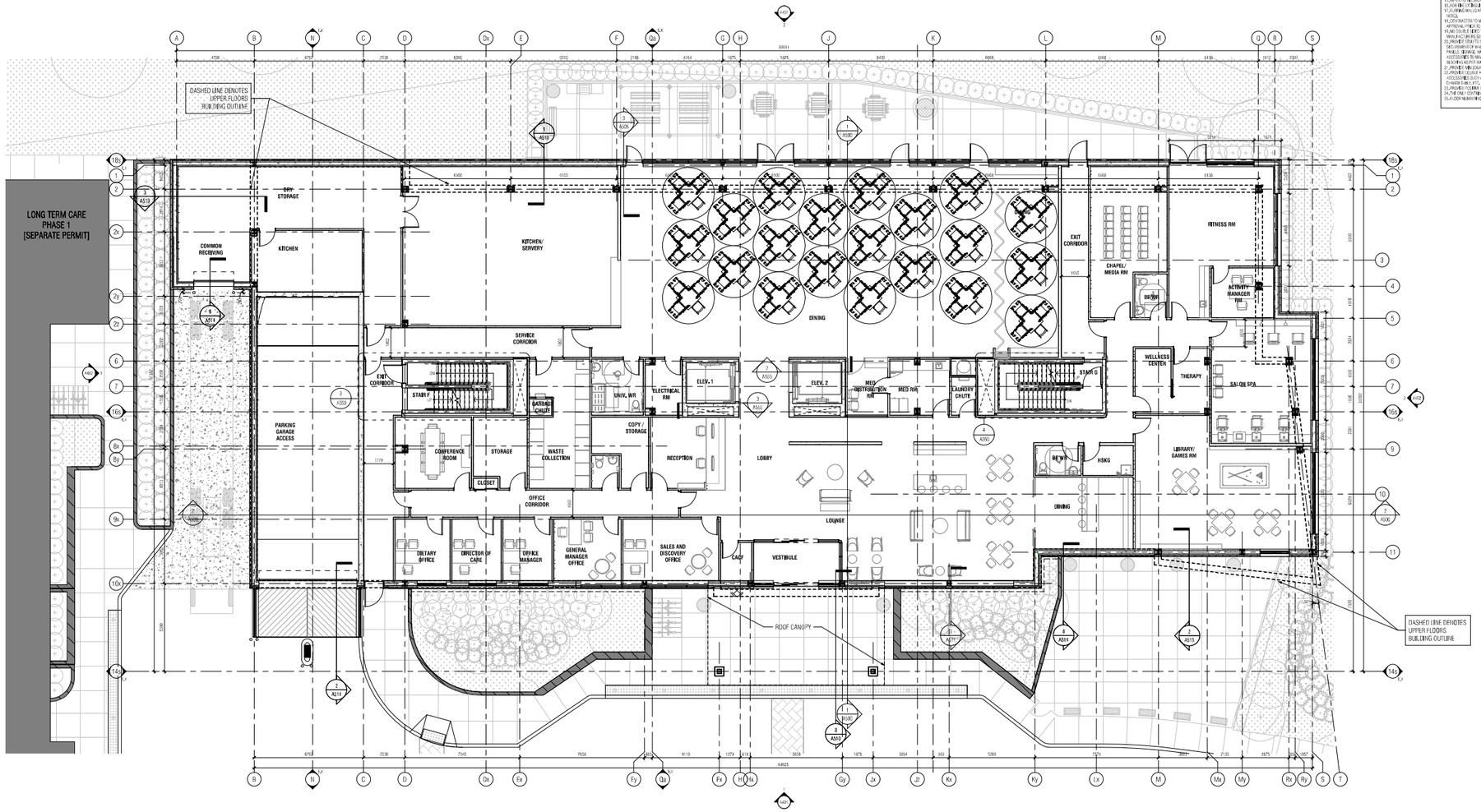

Owner:

Project:
PROPOSED RETIREMENT HOME - BETTER LIFE MAPLE VILLA
4103 PALLADIUM WAY

Drawing Title:
SITE PLAN

| | | | |
|---|---|---|---|
| DRAWN By: | HN | SCALE: | As indicated |
| Checked By: | MS | Rev Date: | 2023.09.18 |
| Project Date: | 2023.09.18 | | |
| Project No.: | 23008 | | |

Drawing No.: A100
Sheet version:




1 A202 GROUND FLOOR PLAN

1 : 100

GENERAL NOTES:

1. ALL DIMENSIONS CONSTRUCTION PLANS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS.
2. DIMENSIONS UNLESS OTHERWISE NOTED ARE AND ASHRAE IN DEPTH OF WINDOW AND TO SHEETROCK FACE OF CONCRETE/MASONRY.
3. CONTRACTOR SHALL PROTECT EXISTING FINISHES FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND MAKE GOOD ANY SURFACES AFFECTED BY DEMOLITION AND/OR CONSTRUCTION.
4. CONTRACTOR TO CORE SLAB FOR FLOOR RECESSED FLOOR BOXES. REFER TO ELECTRICAL DRAWINGS FOR TYPE OF UNITS. CONTRACTOR TO SCAN SLAB AS REQUIRED AND CONFIRM FINAL LOCATIONS FOR FLOOR BOX WITH CONSULTANT FOR COORDINATION IN FURNITURE PLACEMENT.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL MILLWORK, CASEWORK AND MILLWORK FOR REVIEW AND APPROVAL BY OWNER PRIOR TO PROCEEDING WITH FABRICATION OF THESE ITEMS.
6. SIGNAGE / IDENTIFICATION DRAWINGS SHALL BE INSTALLED CONSULTANT BEHIND ALL POWER, VOICE, AND DATA OUTLETS AND OTHER DEVICES RECESSED INTO PARTITIONS.
7. COORDINATE ALL BASE TYPES WITH GWB CONSTRUCTION, REFER TO ROOM FINISH SCHEDULE AND DRAWINGS.
8. ALL PARTITIONS SCHEDULED TO RECEIVE RESILIENT BASE ARE TO BE COMPLETELY FINISHED SMOOTH TO THE SLAB.
9. CONTRACTOR SHALL REFER TO ROOM FINISH SCHEDULE AND FINISH SPECIFICATIONS FOR ALL BASE TYPES AND HEIGHTS.
10. UNLESS NOTED OTHERWISE, DOOR LOCATIONS SHALL BE 50mm FROM FACE OF WALL TO DISTANCE OF DOOR OPENING AND DOOR LEAF THICKNESS.
11. WHERE NEW DIFFERENCES OCCUR, EITHER FLUSH OR DUE TO VARIATION OF SLAB, PACK ANY DIFFERENCE BETWEEN STRUCTURE OR ROOF AND PARTITIONS WITH FIRE STOPPING MATERIAL. PACK AROUND PENETRATIONS THROUGH FIRE SEPARATIONS WITH FIRE STOPPING MATERIAL.
12. AT RECESSED PANELS AND SOLID TIMBER FIRE SEPARATIONS, MARRY IN THE CONTINUITY OF THE RESILIENT BASE SKIRTING AS PER THE EQUIPMENT.
13. WRAP PLUMBING PIPES WITH NON-COMBUSTIBLE INSULATION TO AVOID SLIGHT TRANSMISSION.
14. WHERE PARTITIONS ARE WITHIN TENANCIES, MEDIA, STOP AT FLOOR AND CEILING TRADE AS REQUIRED TO ENSURE TELEPHONE AND CONDITION ON THE EXPOSED FACE.
15. REFER TO ENLARGED PLANS FOR FURTHER INFORMATION ON ALL MEDIA DETAILS.
16. FOR FIRE AND INSULATION CLEARANCES, REFER TO ALL MECHANICAL DRAWINGS.
17. FLOORING WITH LEAD LINING TO BE BUTT JOINTED AND TAPED AT THE JOINTS AS POSSIBLE UNLESS OTHERWISE NOTED.
18. COORDINATE TO MARK OUT ALL THERMOSTAT AND DIMMING LOCATIONS ON SITE FOR DESIGNER APPROVAL PRIOR TO INSTALLATION.
19. USE DOUBLE SIDED TAPE FOR DOWELS (GUARD) OR DOOR PLATES, ONLY IN ABSENT OR AS PER MANUFACTURERS RECOMMENDATIONS.
20. PROVIDE SOLID TO STUD SOLIDITY WOOD BLOCKING WHERE PARTITIONS ASSEMBLIES AS INDICATED FOR SECURITY OF WALL MOUNTED ITEMS SUCH AS BUT NOT LIMITED TO WALL MOUNTED EQUIPMENT, PANELS, TELEPHONE, WHITEBOARDS, BRACKETS AND ACCESSORIES, ETC. TO CONFIRM LOCATIONS, AREAS AND EXTENTS OF BLOCKING WITH ARCHITECTURAL DRAWINGS. CONTRACTOR UNLESS OTHERWISE NOTED INSTALL BLOCKING AS PER MANUFACTURERS INSTRUCTIONS.
21. PROVIDE MIN 20GA SHEET METAL FOR ALL TOILET ACCESSORIES MOUNTED IN GWB PARTITIONS.
22. PROVIDE DOUBLE HEAVY TS GARAGE DOOR, SEALED TO LIP OF STRUCTURE WITH BUILDING BY FOLD DOWN ACCESSORIES SUCH AS BUT NOT LIMITED TO FOLD DOWN GRAB BARS, FOLD DOWN SHOWER SEAT, ADULT CHANGE TABLE ETC.
23. PROVIDE FLOORS DRAINAGE TO ALL FLOOR FINISHES.
24. THE ONLY CONTRACTS USE AND ARE NOT REQUIRED WHERE ARE THE TWO RAN ON THE SECOND FLOOR
25. FLOOR MARKETING SHALL COMPLY TO OBC 3.8.3.9

NO DRAWING DIVISION SHALL BE VIEWED INDEPENDENTLY. CONTRACTOR AND ALL SUB CONTRACTORS TO REVIEW AND BE FAMILIAR WITH ENTIRE DRAWING SET.

REVISIONS

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| 1 | ISSUED FOR COORDINATION | 2024.04.01 |
| No. Revision | For | Date |

Issue Table

Note
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PRELIMINARY

Design Sign-Off

PRINT NAME:

CLIENT SIGNATURE:

DATE:

ARCHITECT SIGNATURE:

DATE:

Seal:

North Arrow:

Architect:
SAM ESPOSTO | ARCHITECT INC.
548 UPPER JAMES ST. HAMILTON, ON. L9C 2Y4
T. 905.383.7500 F. 905.383.5700

Owner:

Project:
PROPOSED RETIREMENT HOME - BETTER LIFE MAPLE VILLA

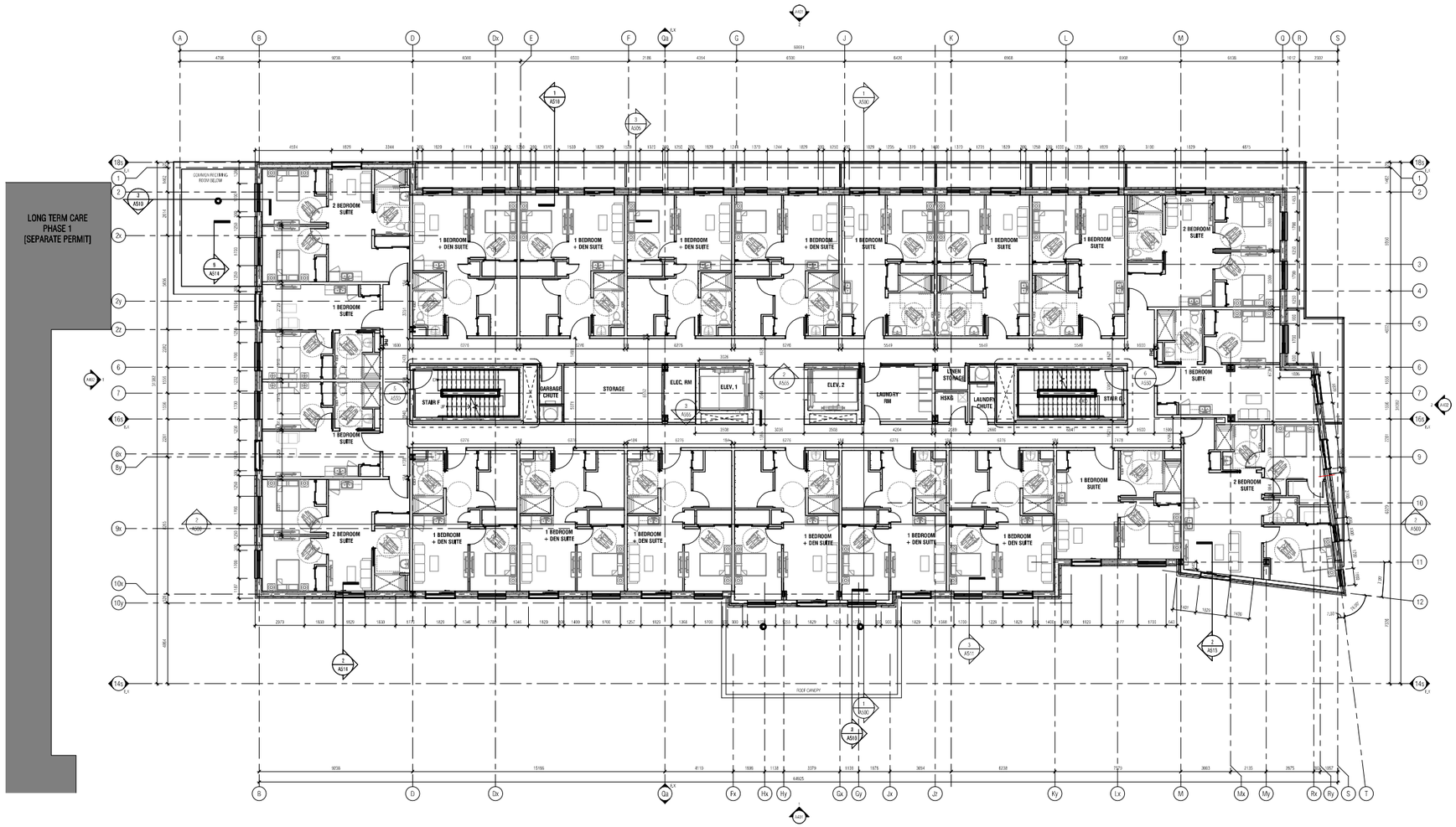
4103 PALLADIUM WAY

Drawing Title:
GROUND FLOOR PLAN

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| Drawn By: | HN | SCALE: | As indicated |
| Checked By: | MS | Plot Date: | 2023.09.18 |
| Project Date: | 2023.09.18 | | |
| Project No. | 23008 | | |

Drawing No.: A202

Sheet version: 1




1 A203 SECOND FLOOR
1 : 100

## GENERAL NOTES:

1. ALL DIMENSIONS CONSTRUCTION PLANS TO BE READ IN CONJUNCTION WITH FINISHED PLANS.
2. DIMENSIONS UNLESS OTHERWISE NOTED ARE AND ASSHOWN ON DRAWING TO CENTRE LINE OF CONCRETE WINDOW.
3. CONTRACTOR SHALL PROTECT EXISTING FINISHES FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND MAKE GOOD ANY SURFACES AFFECTED BY DEMOLITION AND/OR CONSTRUCTION.
4. CONTRACTOR TO CORE SLAB FOR FLOOR RECESSED FLOOR BOXES. REFER TO ELECTRICAL DRAWINGS FOR TYPE OF UNITS. CONTRACTOR TO SCAN SLAB AS REQUIRED AND CONFIRM FINAL LOCATIONS FOR FLOOR BOX WITH CONSULTANT FOR COORDINATION IN FURNITURE PLACEMENT.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL MILLWORK TO CLIENT AND ARCHITECT FOR REVIEW AND APPROVAL BY CONSULTANTS AS REQUIRED BEFORE FABRICATION OF ITEMS AND ASSEMBLY.
6. SOUND ATTENUATION BLANKETS SHALL BE INSTALLED CONTINUOUSLY BEHIND ALL POWER, VOICE, AND DATA OUTLETS AND OTHER DEVICES RECESSED INTO PARTITIONS.
7. COORDINATE ALL BASE TYPES WITH BMS CONSTRUCTION, REFER TO ROOM FINISH SCHEDULE AND DRAWINGS.
8. ALL PARTITIONS SCHEDULED TO RECEIVE RESILIENT BASE, ARE TO BE COMPLETELY FINISHED SMOOTH TO THE FLOOR.
9. CONTRACTOR SHALL REFER TO ROOM FINISH SCHEDULE AND FINISH SPECIFICATIONS FOR ALL BASE TYPES AND HEIGHTS.
10. UNLESS NOTED OTHERWISE, DOOR LOCATIONS SHALL BE 50mm FROM FACE OF WALL TO DISTANCE OF DOOR FRAME AND DOOR LEAF THICKNESS.
11. WHERE ANY DIFFERENCE OCCURS, EXISTING CONDITIONS VS. LOCATION OF SLAB, FACE, ANY DIFFERENCE BETWEEN STRUCTURE OR ROOF, AND PARTITIONS MEN THEY STOPPING MATERIAL, PACK AROUND PENETRATIONS THROUGH THEY DIFFERENCES WITH THEY STOPPING MATERIAL.
12. ALL PRECISED PANELS AND EQUIPMENT FIRE SEPARATIONS, WARRANT THE CONTINUITY OF THE RESILIENT TEST SEPARATIONS AND THE COMPARTIVE.
13. WRAP PLUMBING PIPES WITH NON-COMBUSTIBLE INSULATION TO AVOID SECURITY TRANSMISSIONS.
14. WHERE PARTITIONS OR WIRING THROUGH METAL STUFF THE FLOOR AND CEILING TRADES AS REQUIRED TO ENSURE TELEVISION EYE CONDITION OF THE EXPOSED FACE.
15. REFER TO ENLARGED PLANS FOR FURTHER DETAILING INFORMATION.
16. PLAN TYPE INSULATION CARRIED AS INDICATED ON MECHANICAL DRAWINGS.
17. FLOORING WITH CLEARZONE COLOURED ANCHOR TO BE SUPPLIED AND INSTALLED AS POSSIBLE UNLESS OTHERWISE NOTED.
18. CONTRACTOR TO MARK OUT ALL THERMOSTAT AND DIMMING LOCATIONS ON SITE FOR DESIGNER APPROVAL PRIOR TO INSTALLATION.
19. ADD DOUBLE WIDTH TAPE FOR DOOR FLOOR GUARDS OR DOOR PLATES, ONLY IN ARCHITECT OR AS PER MANUFACTURERS OUR RECOMMENDATIONS.
20. PROVIDE STRUCTURAL SOLID PLYWOOD BLOCKING WHERE PARTITIONS ASSEMBLIES AS INDICATED FOR SECURE FIXING OF WALL MOUNTED FIXTURES SUCH AS HEATING UNITS, TOILET ACCESSORIES MOUNTED ON PARTITIONS, PANELS, TELEPHONE, WHITEBOARDS, BRACKETS AND ACCESSORIES, ETC. TO CONFIRM ALL LOCATIONS, HEIGHTS AND SIZES OF BLOCKING WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS UNLESS OTHERWISE NOTED INSTALL BLOCKING AS PER MANUFACTURERS INSTRUCTIONS.
21. PROVIDE MIN 20GA SHEET METAL FOR ALL TOILET ACCESSORIES MOUNTED ON GWB PARTITIONS.
22. PROVIDE DOUBLE HEAVY 16 GAUGE (STEEL STUDS TO LEVEL OF STRUCTURE WITH BLOCKING BY FLOOR DOWN ACCESSORIES SUCH AS BUT NOT LIMITED TO FOLD DOWN GRAB BARS, FOLD DOWN SHOWER SEAT, ADULT CHANGE TABLE, ETC.
23. PROVIDE FLOORING DRAWINGS TO ALL FLOOR FINISHES.
24. THE ONLY CONTINUOUS CUT AND FLAT SEALS PRODUCTS ARE THE TWO PAIR ON THE SECOND FLOOR
25. FLOOR NUMBERING SHALL COMPLY TO OBC 3.4.6.9

**NO DRAWING DIVISION SHALL BE VIEWED INDEPENDENTLY. CONTRACTOR AND ALL SUB CONTRACTORS TO REVIEW AND BE FAMILIAR WITH ENTIRE DRAWING SET.**

### REVISIONS

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| 1 | ISSUED FOR COORDINATION | 2024.04.01 |

### Issue Table

| No. Revision | For | Date |
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PRINT NAME:

CLIENT SIGNATURE:

DATE:

ARCHITECT SIGNATURE:

DATE:

Seal:

North Arrow:

Architect:
SAM ESPOSTO | ARCHITECT INC.
548 UPPER JAMES ST, HAMILTON, ON, L9C 2Y4
T. 905.383.7500 F. 905.383.5700

Owner:

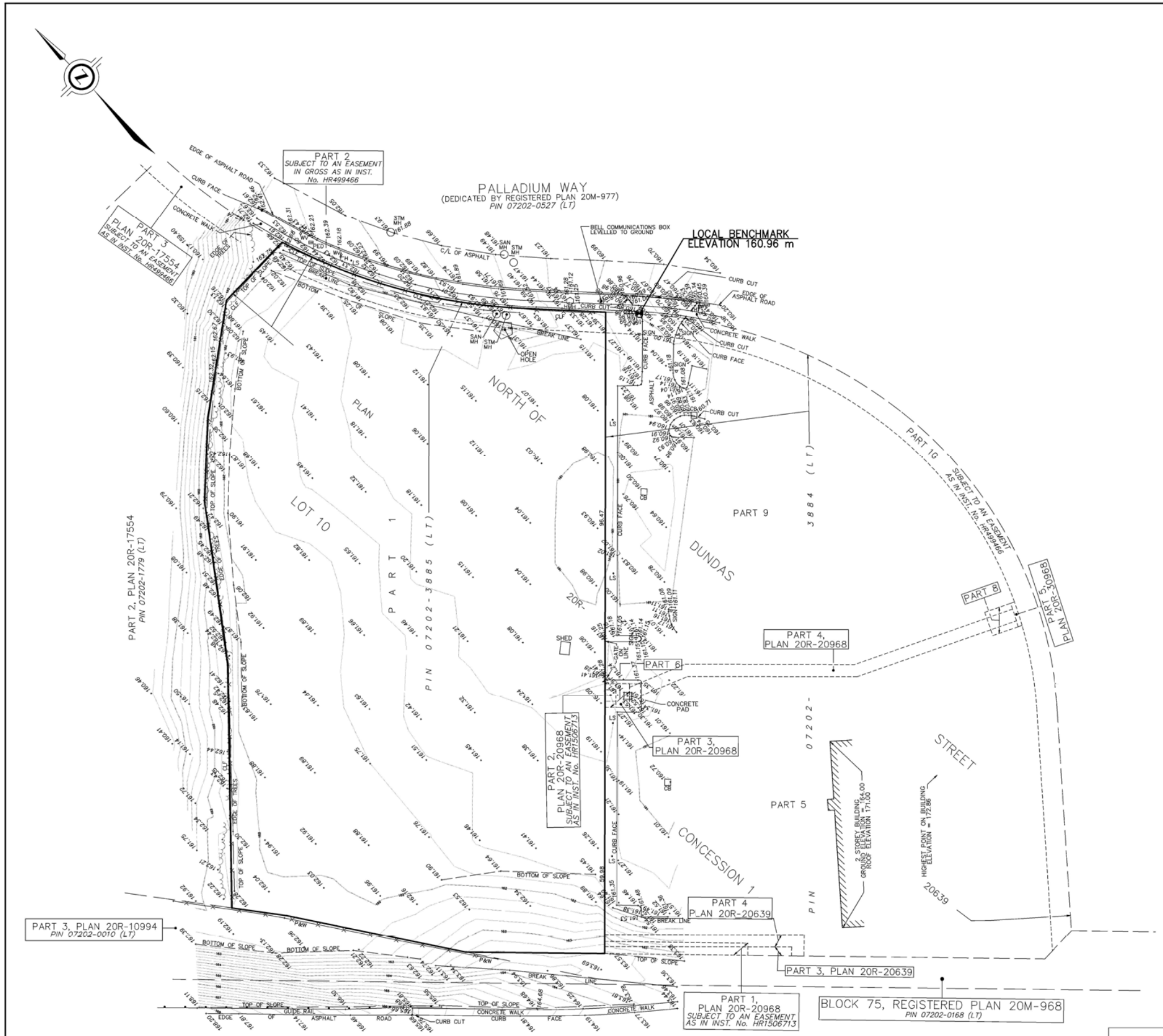
Project:
PROPOSED RETIREMENT HOME – BETTER LIFE MAPLE VILLA

4103 PALLADIUM WAY

Drawing Title:
SECOND FLOOR PLAN

| | | | |
|---|---|---|---|
| DRAWN By: | HN | SCALE: | As indicated |
| Checked By: | MS | Plot Date: | 2023.09.18 |
| Project Date: | 2023.09.18 | | |
| Project No.: | 23008 | | |

Drawing No.: A203
Sheet version: 1




SKETCH SHOWING TOPOGRAPHIC INFORMATION AT

# No. 4103 PALLADIUM WAY

## CITY OF BURLINGTON

REGIONAL MUNICIPALITY OF HALTON

SCALE 1 : 500

10 0 10 20 30 metres

J. D. BARNES LIMITED

© COPYRIGHT

**METRIC** DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

### TOPOGRAPHIC LEGEND

| | | |
|---|---|---|
| INST | DENOTES | INSTRUMENT |
| No. | DENOTES | NUMBER |
| CLF | DENOTES | CHAIN LINK FENCE |
| P&W | DENOTES | POST & WIRE FENCE |
| LB | DENOTES | LOCAL BENCHMARK |
| CB | DENOTES | CATCHBASIN |
| HMH | DENOTES | HYDRO MANHOLE |
| SAN MH | DENOTES | SANITARY MANHOLE |
| STM MH | DENOTES | STORM MANHOLE |
| LS | DENOTES | LIGHT STANDARD |
| PED | DENOTES | TELEPHONE PEDESTAL |
| FH | DENOTES | FIRE HYDRANT |
| WV | DENOTES | WATER VALVE |
| | DENOTES | EDGE OF TREES |

### ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF BURLINGTON BENCH MARK No. 450 HAVING A PUBLISHED ELEVATION OF 152.35 METRES.

### LOCAL BENCHMARK

CUT CROSS SET ON FACE OF CURB LOCATED AT THE EASTERLY CORNER OF THE SUBJECT PROPERTY, AS SHOWN ON THE FACE OF THE PLAN, HAVING AN ELEVATION OF 160.96 METRES.

### CAUTION

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THE RELATIVE ELEVATIONS AGREE WITH THE INFORMATION SHOWN ON THIS PLAN.

PRIMARY CONTOURS ARE AT THE 1.00m INTERVALS.
SECONDARY CONTOURS ARE AT THE 0.25m INTERVALS.

THIS IS NOT AN ORIGINAL COPY UNLESS EMBOSSED WITH SEAL

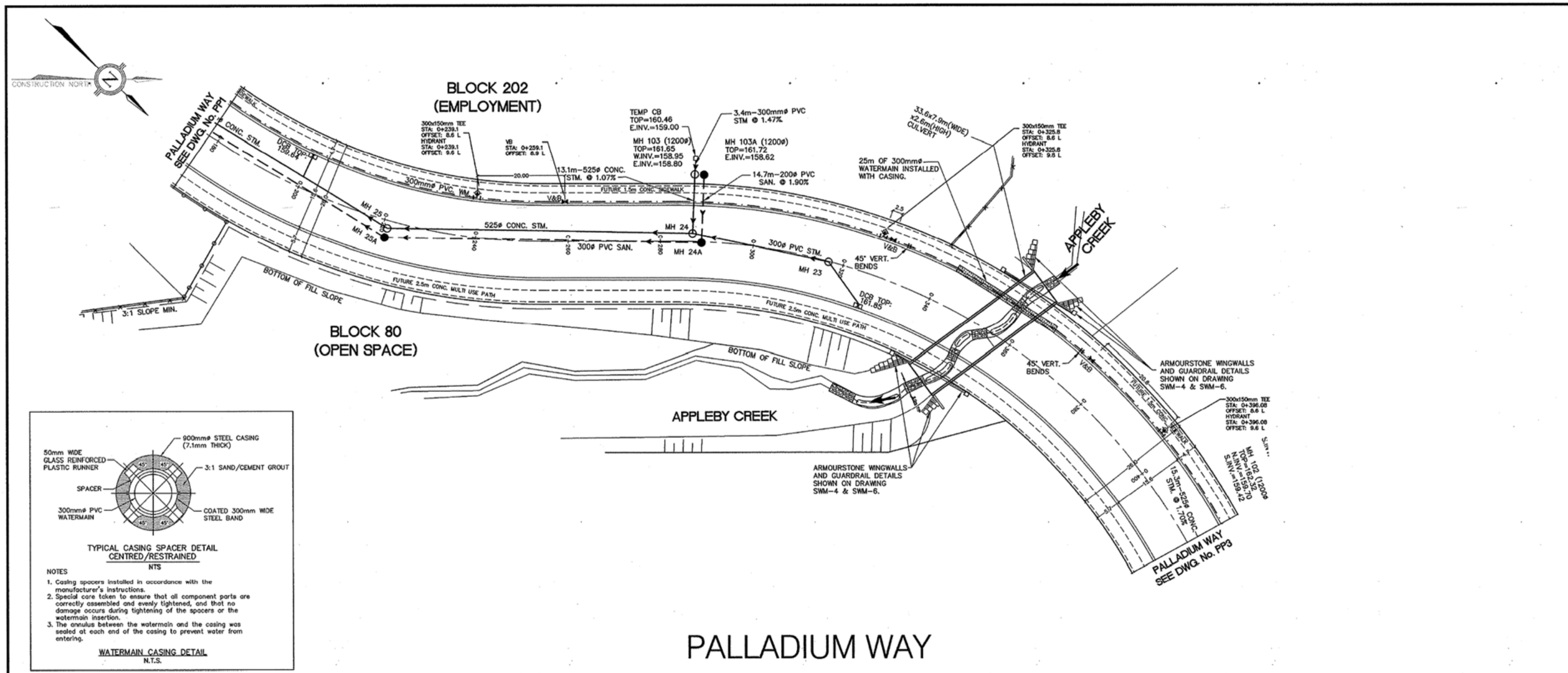
FIELD WORK WAS COMPLETED ON THE 26th DAY OF MARCH, 2019.

J.D.BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
401 WHEELABRATOR WAY, SUITE A, MILTON, ON L9T 3C1
T: (905) 875-9955 F: (905) 875-9956 www.jdbarnes.com

| DRAWN BY: | CHECKED BY: | REFERENCE NO.: |
|---|---|---|
| CB | YZ | 19-30-355-00 |

FILE: C:\19-30-355\00\Drawing\19-30-355-00-TOPO.dgn DATED: 04/02/2019

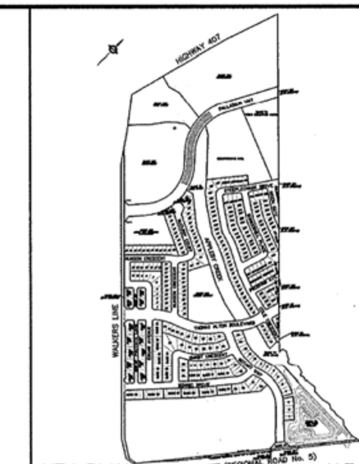
PLOTTED: 4/5/2019




TYPICAL CASING SPACER DETAIL
CENTRED/RESTRAINED
NTS

NOTES
1. Casing spacers installed in accordance with the manufacturer's instructions.
2. Special care taken to ensure that all component parts are correctly assembled and evenly tightened, and that no damage occurs during tightening of the spacers or the watermain insertion.
3. The annulus between the watermain and the casing was sealed at each end of the casing to prevent water from entering.

WATERMAIN CASING DETAIL
N.T.S.




KEY PLAN N.T.S.

LEGEND

- CATCH BASIN
- DOUBLE CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- VALVE CHAMBER
- CMB CANADA POST COMMUNITY MAILBOX
- H&V HYDRANT AND VALVE
- VB VALVE & BOX
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- DOUBLE SANITARY SERVICE CONNECTIONS
- DOUBLE STORM SERVICE CONNECTIONS
- SINGLE SANITARY SERVICE CONNECTION
- SINGLE STORM SERVICE CONNECTION
- WATERMAIN SERVICE CONNECTION
- METAL DECORATIVE FENCE
- 1.8m HT. WOOD PRIVACY FENCE
- 2.4m HT. WOOD ACOUSTIC FENCE
- 1.5m HT. CHAIN LINK FENCE (BLACK VINYL)

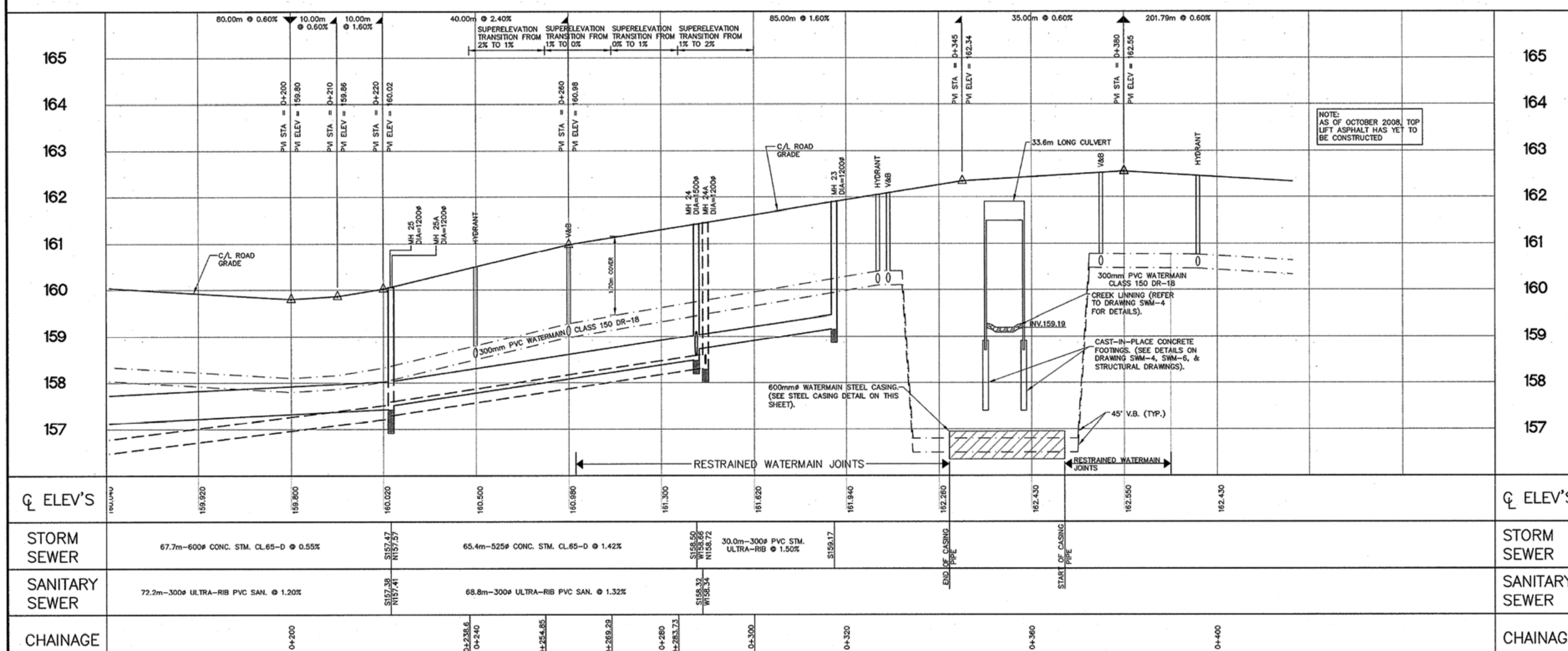
BENCHMARK

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF BURLINGTON BENCH MARKS No.267 No.449 & No.451 HAVING A PUBLISHED ELEVATIONS OF 152.247 METRES, 152.849 METRES AND 152.608 METRES RESPECTIVELY.

IN ADDITION TO THE ABOVE BENCHMARKS WHICH ARE LOCATED ON THE SOUTH END OF CONCRETE BOX CULVERTS ON DUNDAS STREET, TEMPORARY BENCH MARKS AS SHOWN ON THE FACE OF THE PLAN ARE LISTED BELOW:

| TEMP. BENCH MARK | ELEVATION | LOCATION |
|---|---|---|
| HCM 043991588 | 154.855m | SOUTHEAST CURB AT HWY 5 & WALKERS |
| HCM 043991589 | 160.505m | WEST SIDE WALKERS LINE |
| PK NAIL 0001 | 173.800m | PK NAIL SET IN EAST SIDE OF WALKERS LINE OVERPASS OVER 407 CENTRELINE |

# PALLADIUM WAY




B- 10613

| No. | DATE | BY | REVISIONS |
|---|---|---|---|
| | OCT 27/08 | R.A | AS CONSTRUCTED |

| | | | | |
|---|---|---|---|---|
| DESIGN | S.A. | CHECKED | R.A. | DATE |
| DRAWN | A.D.D. | CHECKED | R.A. | |

SCALE HORZ. 1:500 VERT 1:50 (0m 5m 10m 15m)

REFERENCES:

FIELD NOTES:

APPROVALS

MUNICIPAL
ORIGINAL SIGNED BY TOM – EICHENBAUM
DIRECTOR OF ENGINEERING
AUG 16/2005
DATE

REGIONAL
DESIGN OF SANITARY SERVICES, WATER SERVICES AND ROAD WORKS APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS AND SPECIFICATIONS AND LOCATIONAL APPROVAL FROM THE AREA MUNICIPALITY.
ORIGINAL SIGNED BY J. KISNERIS AUG 19/2005
PLANNING AND PUBLIC WORKS DEPARTMENT DATE

STAMP
LICENSED PROFESSIONAL ENGINEER
R. D. ALDERSON
10/27/08
PROVINCE OF ONTARIO

CONSULTANT
counterpoint ENGINEERING
COUNTERPOINT ENGINEERING INC.
8395 JANE STREET, SUITE 100
VAUGHAN, ONTARIO, L4K 5Y2
PHONE 905.326.1404
FAX 905.326.1405

THE REGIONAL MUNICIPALITY OF HALTON

CITY OF Burlington

TITLE
## PALLADIUM WAY
FROM
200m EAST OF WALKERS LINE to
400m EAST
BURLINGTON

MUN. B- 10613

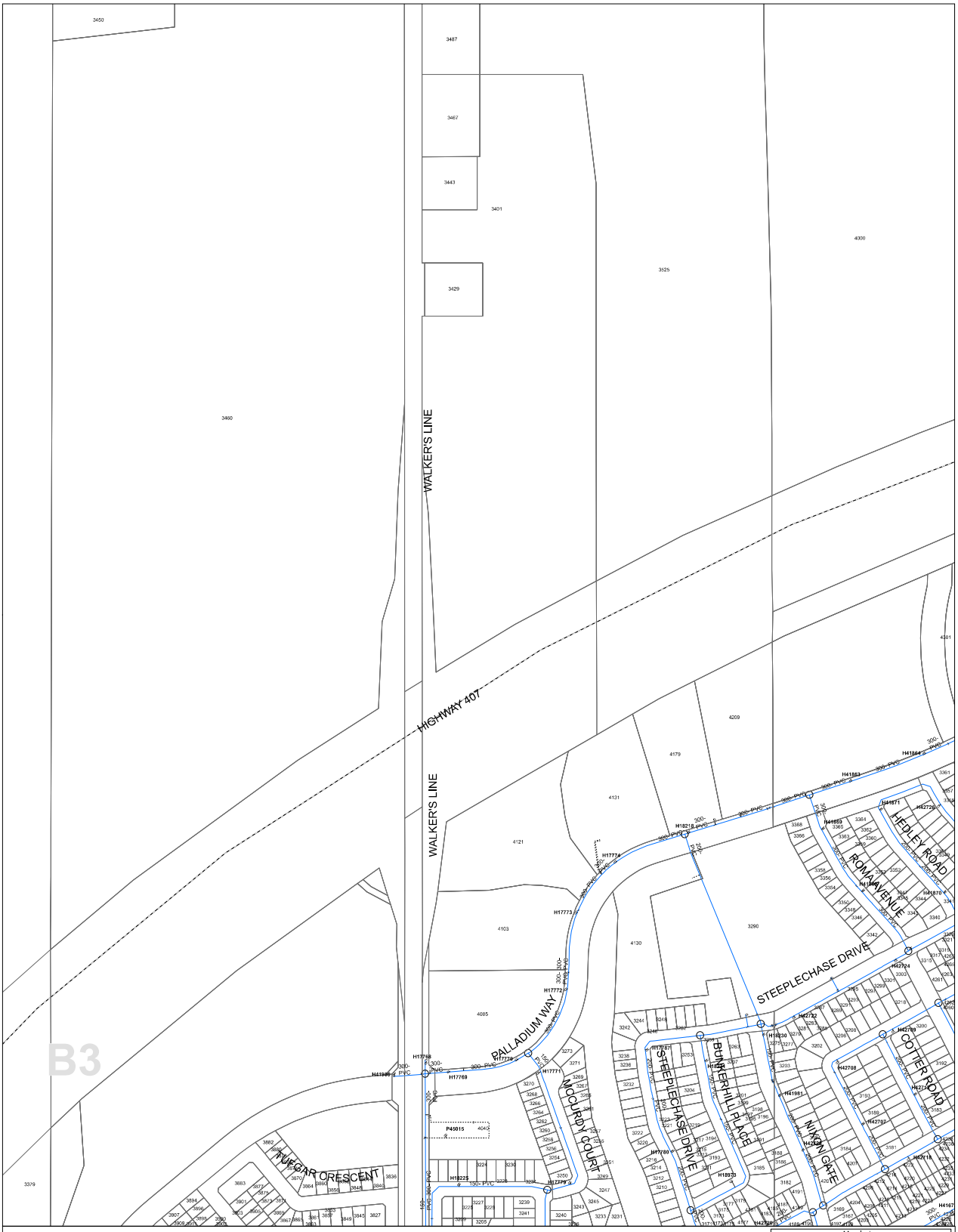
REGIONAL FILE NO.
DB-0581 (Phase 1)
• DB-0591 (Phase 2)

CONTRACT NO. 03110

SHEET PP2

24T-04003/B

# Appendix B – Water Calculations and Background Documents




REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

# WATER OPERATING MAPS

## TOWN OF BURLINGTON

**Protection Valve Type**
- Air Release
- Check
- Pressure Reducing
- Surge
- Vacuum

**Control Valve**
- Valve In Chamber
- System
- Zone Isolation, No ByPass
- Zone Isolation, With ByPass

**Fittings**
- Cap
- Cross
- Reducer
- Sleeve
- Tee
- Tapping Sleeve

**System Structure**
- Booster Station
- Intake
- Municipal Well
- Reservoir
- Tank
- Water Purification Plant

**Other**
- In Service Watermain
- Proposed Watermain
- Private Watermain/Service Lead
- System Meter
- Hydrant
- Chamber
- Pressure Zone
- Municipal Boundary

Map Index

Grid Number: 157C
Print Date: Oct 26, 2018

0 25 50 100 150 200 Meters

REGIONAL MUNICIPALITY OF HALTON IT'S EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.
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October 25th, 2022 Project No. ALL-00251531-A3

John Kisneris, Development Project Manager
Region of Halton
1151 Bronte Road
Oakville, ON L6M 3L1

| | |
|---|---|
| Project: | 4103 Palladium Way (2563067 Ontario Inc. c/o Better Life Development) |
| Subject: | Water and Wastewater Usage Report – Revision for Retirement Home |

---

Dear Mr Kisneris:

We are pleased to provide the proposed water and wastewater demands for the proposed development located at 4103 Palladium Way in the City of Burlington.

The site is approx. 1.5 ha in area where the proposed development consists of a five-storey Long Term Care Facility containing 256 beds (128 single occupant rooms and 64 double occupant rooms) within 17,344 $m^2$ of Gross Floor Area (GFA), and a eight-storey Retirement Home containing 147single bedroom units within 12,695.94 $m^2$ of GFA. Maximum staff present during a typical 8-hour shift is approx. 100 persons for both buildings.

*This report has been updated to incorporate site plan changes specially for the Retirement Home, adding two additional stories and increasing the number of residential units. Please note that the development site has already received Zoning By-Law Amendment and Site Plan approvals where the Owner wishes to resubmit the Zoning By-Law Amendment application to address these updates to the site plan.*

The proposed water and wastewater demand have been calculated in accordance to the Region of Halton criteria outlined in the Water and Wastewater Linear Design Manual (dated April 2019 Version 4.0) and the Ontario Building Code.

**Water:**

Using Table 2-1 and after discussing with Region staff, the equivalent population density of 200 person per hectare was assumed to be appropriate for the type of development and using the entire site area. Therefore, the equivalent population is calculated as follows:

Equivalent Density: 200 persons per ha x 1.5 ha = 300 persons
Total Equivalent Population = 300 persons

220 Commerce Valley Drive West, Suite 110, Markham, ON L3T 0A8, Canada
T: +1.905.695.3217 • www.exp.com

EXP Services Inc.
220 Commerce Valley Drive W., Suite 110
Markham, ON
L3T 0A8

Using Section 2.4.2, and the demand of 275 L/cap/day the average daily demand was calculated as follows:

Average Day Demand: 275 L/cap/day x 300 persons = 82,500 L/day
Gives an Average Day Water Demand = **0.95 L/s**

A peaking factor of 2.25 was then deemed appropriate as outlined in Section 2.4.2, which gives the following calculation for the maximum daily demand:

Maximum Day Demand = 2.25 x 0.95 L/s

For a Maximum Day Water Demand = **2.14 L/s**

**Wastewater:**

As per Section 3.2.1, the design wastewater flow is calculated as follows:

Wet Peak Wastewater Flow = (Average Dry Weather Flow) * (Average Peak Flow Factor)
+ (Inflow/Infiltration Allowance)

Considering the equivalent population calculated previously for the water demand and using Table 3-2, the following average dry weather flow was calculated:

Average Dry Weather Flow: 275 L/cap/day x 300 persons = 82,500 L/cap/day
Gives an Average Dry Weather Flow = 0.95 L/s

Using Section 3.2.3 for peaking factors and the corresponding land use and populations,

Keeping $K_{av}$ = 1.0 as conservative approach (residential)
Peaking Factor: $M = 1.0*(1 + 14/(4 + (0.300)^{1/2}))$
Gives a Peaking Factor: M = 4.08
Therefore, the Average Peak Wastewater Flow = 4.08 x 0.95 L/s = 3.88 L/s

Using Section 3.2.4 for applying the allowance for infiltration of 0.286 L/ha/s,

Gives an Inflow/Infiltration Allowance: 0.286 L/s/ha x 1.50 ha = 0.43 L/s

Therefore, the Wet Peak Sanitary Design Flow = 3.88 L/s + 0.43 L/s = **4.31 L/s**

An additional check on the sanitary demand was calculated using the OBC where Table 8.2.1.3.B shows the following demands:

Long Term Care: 450 Litres per bed = 450 L x 256 = 115,200 L/day
Retirement Home: 275 Litres per person = 275 L x 147 = 40,425L/day

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Markham, ON
L3T 0A8

Sanitary Demand using OBC = 115,200 L/day + 40,425L/day = 155,625 L/day or 1.80 L/s

Therefore, we recommend the higher demand of **4.31 L/s** from using the Region of Halton criteria be used for the proposed wet peak sanitary design flow for the site.

We trust this information meets your requirements. As always, should you have any questions or comments, please do not hesitate to contact the undersigned directly.

Sincerely,

EXP Services Inc.



Scott W. Passmore, P.Eng.
Vice President, Land Development

cc. Kim Harrison – Better Life Development
Steve Park, Roshawn Nunes - EXP

## Steve Park

**From:** Kisneris, John <John.Kisneris@halton.ca>
**Sent:** Monday, May 3, 2021 10:35 AM
**To:** Scott Passmore
**Subject:** RE: 4103 Palladium Way

exp. CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Scott. As you have requested, the Region performed a new preliminary capacity analysis, this time for a long term care home and retirement home, based on the preliminary site plan statistics that you have provided. Please be advised that the Region has no capacity concerns. Thanks.

---

**From:** Scott Passmore <Scott.Passmore@exp.com>
**Sent:** Thursday, April 29, 2021 4:44 PM
**To:** Kisneris, John <John.Kisneris@halton.ca>
**Subject:** RE: 4103 Palladium Way

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Hi John, this is your friendly neighbourhood consultant just checking in again. Do you have any update on this inquiry? Thanks,

**Scott Passmore, P.Eng.**
EXP | Vice President, Land Development, Central Canada E&E
t : +1.905.695.3217, 3697 | m : +1.905.512.7542 | e : scott.passmore@exp.com

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---

**From:** Kisneris, John <John.Kisneris@halton.ca>
**Sent:** Tuesday, April 20, 2021 9:14 AM
**To:** Scott Passmore <Scott.Passmore@exp.com>
**Subject:** RE: 4103 Palladium Way

exp. CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Scott. I have been informed that they need a few more days, hopefully by the end of this week.

---

**From:** Scott Passmore <Scott.Passmore@exp.com>
**Sent:** Monday, April 19, 2021 11:37 AM
**To:** Kisneris, John <John.Kisneris@halton.ca>
**Subject:** RE: 4103 Palladium Way

## Steve Park

**From:** Scott Passmore
**Sent:** Wednesday, December 8, 2021 11:32 AM
**To:** Steve Park
**Subject:** FW: 4103 Palladium Way


**Scott Passmore, P.Eng.**
EXP | Vice President, Land Development, Central Canada E&E
t : +1.905.695.3217, 3697 | m : +1.905.512.7542 | e : scott.passmore@exp.com
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**From:** Scott Passmore
**Sent:** Tuesday, March 23, 2021 4:00 PM
**To:** Kisneris, John <John.Kisneris@halton.ca>
**Subject:** RE: 4103 Palladium Way

Hi John,
As per our recent conversations, the Owner is contemplating an expanded development which would include both a long term care and retirement home component. The design concepts are very preliminary at this point, but we would like to understand if the Region anticipates any issues with the increased sanitary flow from the site. So please note that this information is draft and somewhat of a worst case scenario in terms of demands. Here are some of the available statistics in response to your request:

Land area – 1.48 ha
Types of buildings – Long Term Care and Retirement Home
Number of units / bedrooms – Long Term Care: 256 beds, Retirement Home: 120 units (1 bedroom)
Number of persons per LTC room – 128 rooms will be single occupant; 64 rooms are anticipated to be double occupant
Number of staff per 8 hour shift – Maximum staff present during a typical shift is 100 persons for both buildings
Other separate and distinct quantifiable building area uses (if applicable). There may be commercial spaces as well but very minimal and negligible in terms of sanitary flows

If you are able to assist with an assessment of the downstream municipal sanitary system to accommodate the flows, that would be appreciated. As always, timing is of the essence for the Owner so if you have any questions please feel free to contact me anytime.

Thanks very much,


**Scott Passmore, P.Eng.**
EXP | Vice President, Land Development, Central Canada E&E
t : +1.905.695.3217, 3697 | m : +1.905.512.7542 | e : scott.passmore@exp.com
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**From:** Kisneris, John <John.Kisneris@halton.ca>
**Sent:** Thursday, March 4, 2021 4:13 PM
**To:** Scott Passmore <Scott.Passmore@exp.com>
**Subject:** 4103 Palladium Way

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Scott. I have consulted internally about your methodology inquiry. You would like to know whether the development can be accommodated, should your estimated sanitary flow exceed the old subdivision design block's flow.

Can you please provide preliminary site plan statistics for the prospective development, exampled by the total number of residents and total number of employees on site proposed for this development. The Region will then perform a preliminary capacity analysis. I understand that the development has changed from strictly a long term care facility.

An example of some common site plan statistics are: land area of property , types of buildings , number of units , number of bedrooms , number of beds LTC , number of persons per LTC room , number of staff total and per building , number of staff total per building per 8 hour shift , other separate and distinct quantifiable building area uses (if applicable).

Please then total the number of residents, and also the total number of employees proposed for this development.

**John Kisneris**
**Development Project Manager**
Planning Services
Legislative & Planning Services
**Halton Region**
905-825-6000, ext. 7742 | 1-866-442-5866

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**Domestic Water Demand Calculations**

PROJECT: **Palladium Way**
PROJECT No: **ALL-00251531-A3**
CREATED BY: **R.N**
CHECKED BY **S.P**

**Average Day**

*Halton Water Wastewater Linear Design Manual - Design Factors page 5*

Per Capita Demand = 275 L/caps/d 0.00318287 L/cap/s

*Halton Water Wastewater Linear Design Manual - Equivalent Population Density demand page 4*

| **Type of Development** | **Population Density** | |
|---|---|---|
| Long Term Care/Retirement home | 200 | Person/ha |
| Area | 1.5 | ha |
| Population total = | 300 | People |

1 **Average Day Demand = 0.95 L/s**

*Halton Water Wastewater Linear Design Manual - Max Daily Demand Peaking Factor page 5*

| | |
|---|---|
| Maximum Daily Demand Peaking Factor | 2.25 |

2 **Max Daily Demand 2.14 L/s**

3 | **Max Daily + Fire Flow** | **118.8** | **L/s** | *hydrant test projects 205 L/s @ 20psi

**Fire Flow Calculation**
Long Term Care

PROJECT: **Palladium Way**
PROJECT No: **ALL-00251531-A3**
CREATED BY: **R.N**
CHECKED BY **S.P**

*Fire Underwriters Survey 1999 Water Supply for Public Fire Protection - Page 17*

**1** **Estimate of the required fire flow for a given area can be determined by the formula:** $F = 220C\sqrt{A}$

Where F = required fire flow in litres/minute
C = coefficient related to the type of construction
A = total floor area in square meters

| | |
|---|---|
| For fire-resistive construction: C = | 0.6 |
| Total area : A = | 6,000 m² |

| | | |
|---|---|---|
| Therefore F = 220 x 0.8 x (4405)½ = | **10,225** | **L/m** |

*Fire Underwriters Survey 1999 Water Supply for Public Fire Protection - Page 18*

**2** **Reduction for fire hazard**

| | | |
|---|---|---|
| Non-combustible | 25% | |
| | **7,668.51** | **L/m** |

**3** **Reduction for Sprinkler protection**

| | | |
|---|---|---|
| Sprinkler | 30% | |
| Fully Supervised system | 10% | |
| | **3,067** | **L/m** |

**4** **Addition for Structures exposed within 45m**

| | | |
|---|---|---|
| 3.1m to 10m | 20% | |
| | **1,534** | **L/m** |

**5** **Total Estimated Fire flow** **6,135 L/m**

| | | |
|---|---|---|
| **The estimated fire flow is approx.** | **7,000** | **L/m** |
| | **116.7** | **L/s** |

# JACKSON WATERWORKS

Telephone: 905.229.3176
Toll Free: 800.734.5732
email: jww@bellnet.ca
Website: www.jacksonwaterworks.ca

## Invoice

Invoice To

EXP
220 Commerce Valley Drive West, Suite 110
Markham, ON L3T 0A8

| Date | Invoice # |
|---|---|
| 9/27/2019 | 9722 |

| P.O. No. | Terms |
|---|---|
| email | Net 30 |

| Description of Work | Qty | Rate | Amount |
|---|---|---|---|
| For fire hydrant flow testing at 4103 Palladium Way in Burlington, all in accordance with our quotation and reports submitted electronically to the Engineer. | | | |
| Engineer: EXP<br>Accounts Payable: Kim Harrison<br>Phone: 647-808-3955<br>email: kharrison@blretirement.com<br>Work Date: 26 September 2019 | | | |
| Each Test, Labour. | 1 | 325.00 | 325.00 |
| Each Test, Service Truck. | 1 | 25.00 | 25.00 |
| Each Test, Flow Testing Equipment. | 1 | 25.00 | 25.00 |
| Each Test, Analysis, Calculations & Plotting. | 1 | 50.00 | 50.00 |
| Each Test, Municipal Fees & Disbursements. | 1 | 0.00 | 0.00 |
| HST (ON) on sales | | 13.00% | 55.25 |

HST No. 838616928

**Subtotal** CAD 425.00
**HST** CAD 55.25

**Total** **CAD 480.25**

**18% annual finance charge will be applied to invoices unpaid after 30 days from date of invoice.**

**7104 Canborough Road, Dunnville, ON N1A 2W1**

JACKSON WATERWORKS

Telephone: 905.229.3176
Toll Free: 800.734.5732
email: jww@bellnet.ca
Website: www.jacksonwaterworks.ca

Mr. Steve Park
**EXP.**
220 Commerce Valley Drive West, Suite 110
Markham Ontario **L3T 0A8**

**27 September 2019**

Jackson Waterworks has recently completed fire hydrant flow testing at 4103 Palladium Way in Burlington.

We define the Test Hydrants as the ones being flowed, and the Base Hydrant as the one where static and residual pressures are recorded. Wherever possible, we inspect the secondary valve for the Test Hydrants to make sure it is in the fully open position. Likewise, we count the number of turns needed to open the Test Hydrants (to make sure it is opening completely).

The secondary valve for the Test Hydrant was found to be fully open at the time of the test.

Testing was completed in accordance with NFPA 291 guidelines.

There were no irregularities to report.

Trusting this meets with your approval, we are...

Yours truly,



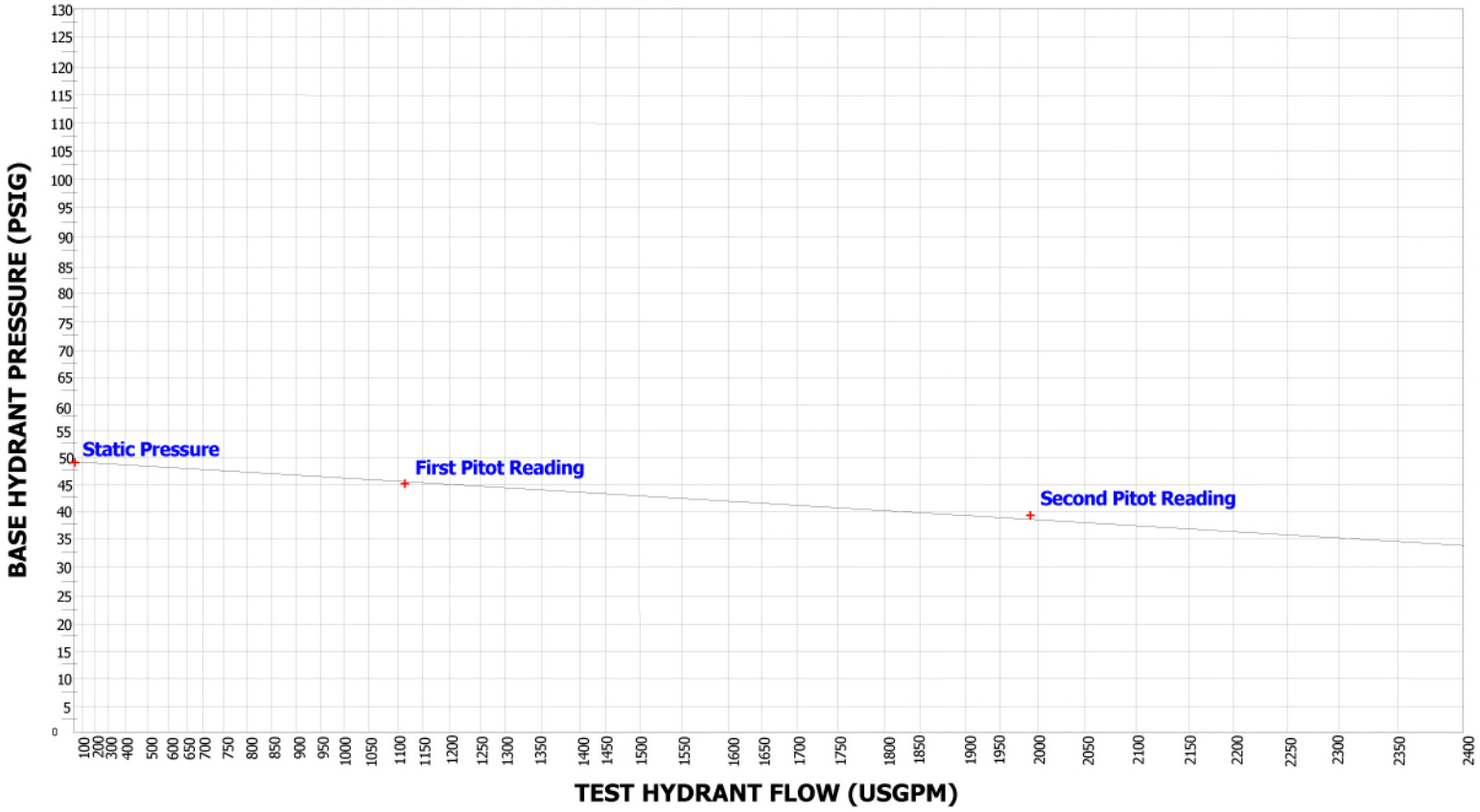
Mark Schmidt
Jackson Waterworks

JACKSON WATERWORKS

Telephone: 905.229.3176
Toll Free: 800.734.5732
email: jww@bellnet.ca
Website: www.jacksonwaterworks.ca

## FIRE HYDRANT FLOW TEST RESULTS

**TEST #1 of 1**




| No. of Ports Open | Port Dia. (in) | Pitot Reading (psig) | Pitot Conversion (usgpm) Conversion Factor = 0 | Residual Pressure (psig) |
|---|---|---|---|---|
| 1 | 2.50 | 44 | 1113 | 45 |
| 2 | 2.50 | 35/35 | 1986 | 39 |
| 3 | 2.50 | | | |
| 4 | 2.50 | | | |
| THEORETICAL FLOW @ 20psi | | | 3244 | |

| | |
|---|---|
| **Test Date** | 26 September 2019 |
| **Test Time** | 12:15pm |
| **Pipe Diameter (in)** | 12 |
| **Static Pressure (psig)** | 49 |
| **Secondary Valve Position** | Fully Open |

| Site Information | | |
|---|---|---|
| **Site Name or Developer Name** | Better Life Retirement | **Engineer/Architect**: EXP |
| **Site Address/Municipality** | 4103 Palladium Way, Burlington | **Test Hydrant Make & Model:** Canada Valve Century |
| **Location of Test Hydrant(s)** | Between 4103 & 4121 Palladium Way | |
| **Location of Base Hydrant** | 4131 Palladium Way | |
| **Comments** | Testing has been completed in accordance with NFPA-291 guidelines wherever and whenever possible and practical. Conversion factors for pitot tube readings may have been used depending on hose nozzle internal design and installation profile. Refer to attached cover letter for additional information. | |
| **Verified By** | Mark Schmidt | |

7104 Canborough Road, Dunnville, ON N1A 2W1

# APPLICATION FOR APPROVAL OF DISCHARGE INTO A REGION SEWAGE WORKS, DISCHARGER INFORMATION REPORT – SHORT VERSION AND COMPLETE DICHARGER INFORMATION REPORT

The Regional Municipality of Halton (Halton Region) By-Law 02-03, *to Prohibit, Regulate and Control Discharge into Bodies of Waters within Regional Boundaries or into the Regional Sanitary Sewers, Storm Sewers, Sanitary Sewage Works and all Tributary Sewer Systems* regulates and controls all Institutional, Commercial, Industrial (ICI) and multi-residential discharges into Halton Regions sewage works.

Under Section 7 of Halton Region By-Law 02-03, an Application for Approval of Discharge into a Region Sewage Works and a Discharger Information Report – Short Version must be submitted to the Industrial Waste Group acting under authority from the Commissioner's Office **prior to any discharge of sewage, storm water, cooling water, uncontaminated water or any combination thereof, to Halton Region sewage works**.

The Complete Discharger Information Report is also required for discharges which:

- May have a significant impact on Halton Regions sewage works; and
- May require an Overstrength Discharge Agreement (ODA), Restrictive Discharge Agreement (RDA), or Sanitary Discharge Agreement (SDA) with the Region; or
- Where the Industrial Waste Group has request the form.

This form hereby serves as the Application for Approval of Discharge into a Region Sewage Works, Discharger Information Report – Short Version and Complete Discharger Information Report under By-Law 02-03. This form may also be used by dischargers to provide updated discharger information.

No regional approval is considered given without a written decision from the Industrial Waste Group on behalf of the Commissioner's office. It is the responsibility of the person owning or operating an ICI or multi-residential premises within Halton Region to ensure required documentation is completed and submitted to Halton Region for evaluation.

Once approved, dischargers are also required to provide written notification to Halton Region of any changes to information submitted under 7(1) within **30 days**.

All completed forms, together with all supporting required documentation should be submitted both electronically and by mail as indicated below:

| **By Email:** | **By Mail:** |
|---|---|
| **IndustrialWaste@Halton.ca** | **Attn: Industrial Waste Group**<br>**Public Works -Office of the Commissioner**<br>Regional Municipality of Halton<br>1151 Bronte Road, Oakville, Ontario L6M 3L1 |

## Section 1 – Applicant Details

**Registered Name of Business:** 2669006 Ontario Inc.

**Premises Address:** 4103 Palladium Way, Burlington, ON

**Authorized Representative(s):** Kimberly Harrison-McMillan

**Municipality:** Richmond Hill **Postal Code:** L4C 9M3

**Telephone:** 647-808-3955 **Fax/Email:** kharrison@blretirement.com

**Is the Registered Name of Business the property owner?** ☒ Yes ☐ No

**If no, please provide property owner information below:**

## Section 2 – Industry Details

**Description of processes or services rendered:**
Long-Term-Care home and Retirement Home including medical office, retail/phamarcy, and day care

**Number of Employees:**
**Plant:**
**Office:**
**Total:** 100

**Warehouse/Shipping:**
**Other (specify):** 100

**Hours of Operation:**
**Hours per day:** 8
**Days per week :** 7

**Shifts/day:** 2

**Description of the Process(es) used in the Manufacturing or Service:**

**Include characteristics such as Batch (how many per period), Continuous, or Both (explanation to be provided), Seasonal Production Cycles, Specific Clean-up Period and Clean-up Activities**

No processing as required with the proposed uses, only periodic clean-up activities

## Section 3 – Premises Services

**Identify the water sources at the Premises:**

☒ Municipal Water ☐ Grey Water (Rain Water Re-Use)
☐ Groundwater/ Private Well ☐ Unsure

**For Municipal Water sources, identify water service at the Premises**

☐ Shared Service ☒ Multiple Services ☐ Individual Service

If Multiple Services selected, list number of services: 2

**Identify water consumption at the Premises:**

| Supply Source: | Usage per Day: | Check One: | |
|---|---|---|---|
| ☒ Municipal Supply | 82 m3/d | ☒Estimated | ☐Measured |
| ☐ Surface Water | m3/d | ☐Estimated | ☐Measured |
| ☐ Ground Water * | m3/d | ☐Estimated | ☐Measured |
| ☐ Other Sources * * | m3/d | ☐Estimated | ☐Measured |

**Is water pre-treated at the Premises?**

☐ Yes ☒ No ☐ Unsure

**If applicable, describe the water treatment at the Premises:**

N/A

**Are there any sanitary monitoring manholes at the Premises?**
(Generally located on the private sanitary sewer line at the property line)

☒ Yes ☐ No ☐ Unsure

If yes, indicate the number of monitoring manholes: 2

**Are the Sanitary Manholes shared with other Premises?**

☐ Yes ☒ No ☐ Unsure

**Reference:**
As per Section 14 of the Halton Region By-Law 02-03 all commercial, institutional or industrial premisess, or multi-residential buildings with one or more connection to the sewage works shall install and maintain in good repair a suitable monitoring manhole in each connection.

**Are there any storm monitoring manholes at the Premises?**

☒ Yes ☐ No ☐ Unsure

If yes, indicate the quantity: 1

**Are the Storm Manholes shared with other Premises?**

☐ Yes ☒ No ☐ Unsure

**Are there Site Drainage Plans available for the Premises?**

☒ Yes ☐ No ☐ Unsure

If yes, Halton Region may request copies of the Site Drainage Plans to assess the quality of the discharges against Halton Region By-Law 02-03 requirements.

## Section 4 – Compliance Programs and Agreements

**Identify any current Agreements or Compliance programs with Halton Region:**

- ☐ Overstrength Discharge Agreement (ODA)
- ☐ Restrictive Discharge Agreement (RDA)
- ☐ Sanitary Discharge Agreement (SDA)
- ☐ Compliance Program

**Has the premises previously held an ODA, RDA, SDA agreement or maintained a compliance program with Halton Region?**

☐ Yes ☒ No ☐ Unsure

If yes, indicate the Agreement/ Program #:

**Identify any active programs addressing discharges to the sewage works:**

- ☐ Pollution Prevention Plans
- ☐ Best Management Plans
- ☐ Environmental Management System
- ☐ Quality Management System
- ☐ Other Programs/ Practices

If yes to any above, Halton Region may request details of the programs in place addressing discharges to the sewage works.

**Identify any municipal, provincial or federal approvals related to emissions or discharges at the Premises:**

- ☐ Environmental Compliance Approval (ECA)
- ☐ Environmental Activity and Sector Registry (EASR)
- ☐ Permit to Take Water (PTTW)
- ☐ Pesticide Licence and Permit
- ☐ Municipal drinking water system – licensing, registration and permits
- ☐ Renewable Energy Approvals (REA)
- ☐ Certificate of Approval (COA)
- ☐ Other (Specify):

If yes to any above, Halton Region may request copies of the selected approvals.

Does the Property title contain a Certificate of Property Use (CPU)?

☐ Yes ☒ No ☐ Unsure

If yes, list the CPU # :

## Section 5 - Discharges

**Identify and quantify discharges which will enter the Halton Region sewage works from the Premises:**

| | **Sanitary Sewer Discharge (m3* per day)** | **Storm Sewer Discharge (m3* per day)** |
|---|---|---|
| ☒ Sanitary (Toilets, Sinks, Showers)** | 82 | |
| ☐ Contact Cooling Water | | |
| ☐ Non-contact Cooling Water *** | | |
| ☐ Process Wastewater | | |
| ☐ Wash Water | | |
| ☐ Other | | |

**If other selected, please specify and describe source:**

**Note:**
***1000 litres (L) = 1 cubic metre ($m^3$) = 220 imperial gallons = 264 US gallons

****To estimate sanitary use per employee, use 75 L/person/day. Refer to Table 8.2.1.3.B of the Building Code Act, 1992, SO. 1992, c.23 for additional sanitary consumption considerations.

*****Non-contact cooling is water which does not come into contact with any processes and must be discharged to the storm sewer. In accordance with Halton Region By-Law 02-03, discharge of non-contact cooling water to the sanitary sewer or combined sewer is prohibited unless expressly authorized in writing by the Commissioner of Public Works.

**If available, provide a characterization and volume of discharges from the Premises:**

☐ Daily: ☐ m3 ☐ L ☐ Gal
☐ Weekly: ☐ m3 ☐ L ☐ Gal
☐ Batch: ☐ m3 ☐ L ☐ Gal
☐ Continuous: ☐ m3 ☐ L ☐ Gal
☐ Other: ☐ m3 ☐ L ☐ Gal

**If Other selected, please specify and describe source:**

**Are there floor drains at the Premises?** ☒ Yes ☐ No ☐ Unsure

**Are wastewater discharge flows monitored?** ☐ Yes ☒ No ☐ Unsure

**If yes, describe how wastewater discharge flows are monitored:**

**If applicable, describe the wastewater discharge flow meter make, serial number and last calibration date:**

**Does the Premises maintain information related to the 24 hour profile of the flow rate discharged from the Premises for both average and high discharges?**

☐ Yes ☒ No ☐ Unsure

If yes to above, Halton Region may request to review the discharge profiles.

**Does the Premises have any pre-treatment systems to address discharges to Halton Regions sewer system?**

☐ Yes ☒ No ☐ Unsure

**If yes, identify all wastewater treatment systems at the Premises:**

| | | |
|---|---|---|
| ☐ pH Adjustment | ☐ Filter | ☐ Equalization Tank |
| ☐ Solids Interceptor | ☐ Dissolved Air Flotation | ☐ Biological Treatment |
| ☐ Sand Interceptor | ☐ Settling Pit | ☐ Ion Exchange |
| ☐ OG Interceptor | ☐ Weir | ☐ Reverse Osmosis |
| ☐ Ultra Filtration | ☐ Chemical Treatment | ☐ Offsite Treatment |
| ☐ Other (Specify): | | |

**If applicable, please include the following as an attachment:**

- Flow diagram of your treatment process
- Justification of the treatment system
- Design Criteria
- Type and quantity of treatment chemicals used
- Maintenance and work procedures related to the treatment operation

**Does monitoring of wastewater discharges quality occur at the Premises?**

☐ Yes ☒ No ☐ Unsure

**If yes, please provide existing data on quality of the discharges from the Premises by completing the Parameter Information Table Below:**

| CONTAMINANT | BY-LAW LIMIT - | AVERAGE CONCENTRATION (mg/L) | SOURCE OF CONTAMINANT |
|---|---|---|---|
| BIOCHEMICAL OXYGEN DEMAND | 300 mg/L | | |
| CYANIDE | 2 mg/L | | |
| FLUORIDE | 10 mg/L | | |
| TOTAL KJELDAHL NITROGEN | 100 mg/L | | |
| OIL AND GREASE – ANIMAL/VEGETABLE | 150 mg/L | | |
| OIL AND GREASE – MINERAL/SYNTHETIC | 15 mg/L | | |
| PHENOLIC COMPOUNDS (4AAP) | 1.0 mg/L | | |
| PHOSPHORUS (TOTAL) | 10 mg/L | | |
| SUSPENDED SOLIDS (TOTAL) | 350 mg/L | | |
| SULPHATE | 1500 mg/L | | |
| ALUMINUM (TOTAL) | 50 mg/L | | |
| ANTIMONY (TOTAL) | 5 mg/L | | |
| ARSENIC (TOTAL) | 1.0 mg/L | | |
| BERYLLIUM (TOTAL) | 5 mg/L | | |
| CADMIUM (TOTAL) | 1.0 mg/L | | |
| CHROMIUM (TOTAL) | 3 mg/L | | |
| COBALT (TOTAL) | 5 mg/L | | |
| COPPER (TOTAL) | 3 mg/L | | |
| IRON (TOTAL) | 50 mg/L | | |
| LEAD (TOTAL) | 3 mg/L | | |
| MANGANESE (TOTAL) | 5 mg/L | | |
| MERCURY (TOTAL) | 0.05 mg/L | | |
| MOLYBDENUM (TOTAL) | 5 mg/L | | |
| NICKEL (TOTAL) | 3 mg/L | | |
| SELNIUM (TOTAL) | 5 mg/L | | |
| SILVER (TOTAL) | 5 mg/L | | |
| TIN (TOTAL) | 5 mg/L | | |
| TITANIUM (TOTAL) | 5 mg/L | | |
| ZINC (TOTAL) | 3 mg/L | | |
| BENZENE | 0.01 mg/L | | |
| CHLOROFORM | 0.04 mg/L | | |
| 1,4 – DICHOLOROBENZENE | 0.08 mg/L | | |
| ETHYLBENZENE | 0.16 mg/L | | |
| METHYLENE CHLORIDE | 2.0 mg/L | | |
| NAPHTHALENE | 0.14 mg/L | | |
| TETRACHLOROETHYLENE | 1.0 mg/L | | |
| TOLUENE | 0.016 mg/L | | |
| TRICHLOROETHYLENE | 0.4 mg/L | | |
| PH | 6 - 10 | | |
| TEMPERATURE | >60˚C | | |
| FOAM | - | | |
| DYE(S) COLOURS | - | | |

**Laboratory certificates of analysis may also be provided as an attachment and/or Halton Region may request to review the analysis records onsite.**

**Does the premises divert purchased water from the Region Sewer System?**

☐ Yes ☒ No ☐ Unsure

If yes, check the following that apply and briefly describe:

Estimated %

☐ Contained in products
☐ Cooling water
☐ Lagoon/Leaching Field
☐ Lost in process

## Section 6 – Hazardous Waste Handling and Disposal

**Does the Premises handle any hazardous liquids or chemicals for commercial/industrial use on site?**

☐ Yes ☒ No ☐ Unsure

**If yes, provide the following Ministry of the Environment, Conservation and Parks (MECP) Ontario Regulation 347 Information:**

**Generator Number:**
**Active Waste Classes Registered:**
**Waste Disposal Company:**
**Frequency of Hazardous Waste Removal:**

**Does the Premises generate any liquid waste?**

☒ Yes ☐ No ☐ Unsure

**Is there secondary containment of chemicals for storage and/or delivery in case of spills?**

☐ Yes ☒ No ☐ Unsure

**Does the Premises have either above or below ground storage tanks?**

☐ Yes ☒ No ☐ Unsure

**Does the Premises have a spill response procedure?**

☐ Yes ☐ No ☒ Unsure

If yes, Halton Region may request copies of the spill response procedure.

## Section 7 - Attachments

**Attach any supporting documentation which may be useful for Halton Region to evaluate your application (e.g. drainage plans, plumbing plans, laboratory analysis)**

**List all attachments included in this submission:**

Refer to all the servicing plans provided in the EXP's Functional Servicing Report

☐ Check if this application contains NO attachments

## Section 8 – Statement of Applicant

I, the undersigned, hereby acknowledge that the information requested as part of this form is collected for the purpose of evaluating applications for approval under Section 7 of Halton Region By-law 02-03. I declare that to the best of my knowledge the information contained herein in support of this application is complete and accurate. I also acknowledge that in accordance with Section 15 of By-law 02-03 the information collected as part of this application may be made available to the public in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

Name and Title (Print): Kim Harrison-McMillan
Director, Planning & Development

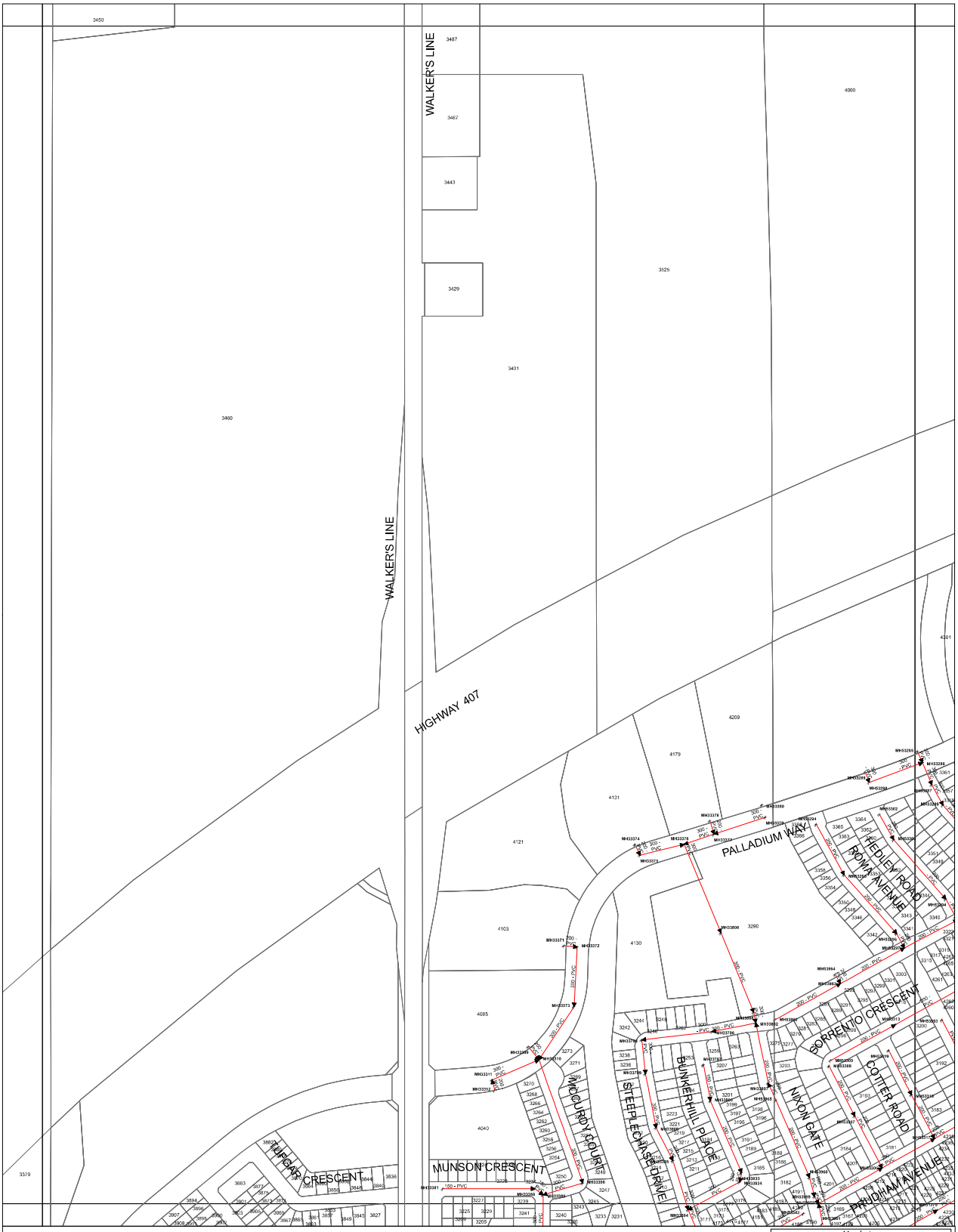
Signature: X  Date: March 10, 2023

**Halton Region Use Only**

Reviewed:
Signature: X Date: Click or tap to enter a date.

☐ Comments (attach) ☐ Approval Sent Date: Click or tap to enter a date.

# Appendix C – Sanitary Calculations and Background Documents




Halton REGION

REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

# SANITARY OPERATING MAPS

## TOWN OF BURLINGTON

REGIONAL MUNICIPALITY OF HALTON IT'S EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.
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**Sewer Types**

- Treated Discharge Sewer
- Untreated Discharge Sewer
- ForceMain
- Proposed ForceMain
- Gravity Sewer (In Service)
- Gravity Sewer (Out of Service)
- Proposed Gravity Sewer

**Maintenance Hole Types**

- K Maintenance Hole
- J Chamber

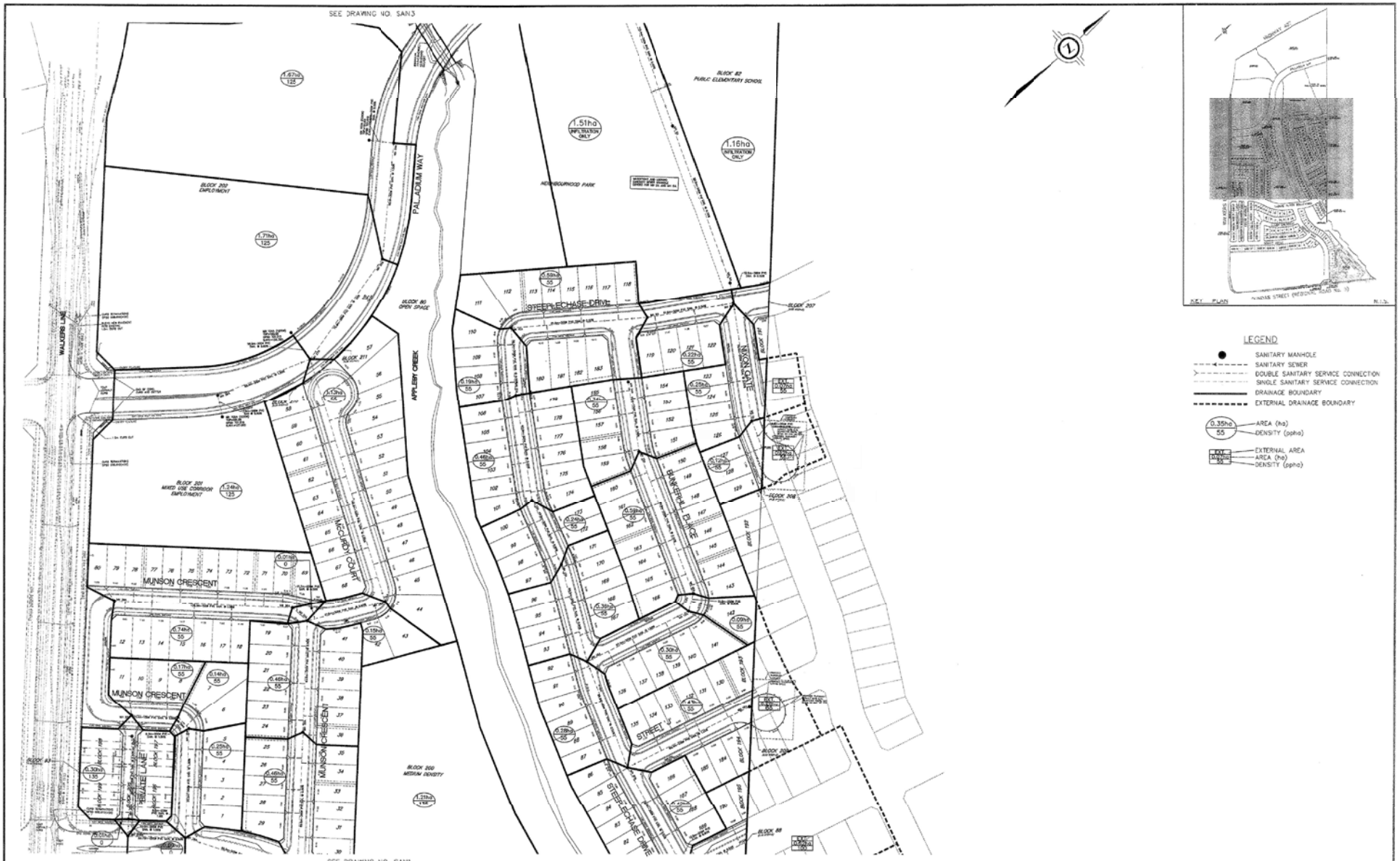
**Major System Facilities**

- E Wastewater Storage Tank
- G Wastewater Treatment Plant
- B Pumping Station
- Municipal Boundary

0 25 50 100 150 200 Meters

Map Index

Grid Number: 157C
Print Date: Oct 17, 2018




BENCHMARK

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF BURLINGTON BENCH MARKS No.267 [illegible] NORTH AMERICAN DATUM OF 1927 (CGVD28) VERTICAL CONTROL SERIES AND 1928 CGVD28 VERTICAL CONTROL SERIES RESPECTIVELY.

IN ADDITION TO THE ABOVE BENCHMARKS WHICH ARE LOCATED ON THE SOUTH END OF CONCRETE BOX CULVERTS ON DUNDAS STREET, TEMPORARY BENCH MARKS AS SHOWN ON THE FACE OF THE PLAN ARE LISTED BELOW:

| TEMP. BENCH MARK | ELEVATION | LOCATION |
|---|---|---|
| HDB 043891588 | 154.855m | SOUTHEAST CURB AT HWY 5 & WALKERS |
| HDB 043891589 | 160.329m | WEST SIDE WALKERS LINE |
| TM MAR 0807 | 173.850m | TM NAIL SET IN EAST SIDE OF WALKERS LINE OVERPASS OVER 407 CENTRELINE |

CONSULTANT

counterpoint ENGINEERING

8555 Jane St., Unit 2, Vaughan, ON L4K 5N9 Phone 905.326.1404 Fax 905.326.1405

STAMP

R. D. ALDERSON — 100033683 — August 11, 2005 — PROVINCE OF ONTARIO

APPROVALS

MUNICIPAL

DIRECTOR OF ENGINEERING — DATE

REGIONAL

DESIGN OF SANITARY SERVICES, WATER SERVICES AND ROAD WORKS APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS AND SPECIFICATIONS AND LOCATIONAL APPROVAL FROM THE AREA MUNICIPALITY.

John Kinsey Aug. 19, 2005

PLANNING AND PUBLIC WORKS DEPARTMENT — DATE

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| 6 | AUG11/05 | R.A. | ISSUED FOR CONSTRUCTION |
| 5 | JUL14/05 | R.A. | ISSUED FOR THIRD SUBMISSION |
| 4 | JUL5/05 | R.A. | REVISED AS PER ADDENDUM COMMENTS TO 2nd SUBMISSION |
| 3 | MAY18/05 | R.A. | ISSUED FOR SECOND SUBMISSION |
| 2 | APR15/05 | R.A. | ISSUED FOR TENDER |
| 1 | MAR28/05 | R.A. | ISSUED FOR FIRST SUBMISSION |

| | | | |
|---|---|---|---|
| DESIGN | S.A. | CHECKED | R.A. |
| DRAWN | J.Y. | CHECKED | |
| REFERENCES: 03110 | | | |
| FIELD NOTES: | | | |

DATE: APRIL 2005

SCALE: 1:1000

THE REGIONAL MUNICIPALITY OF HALTON

CITY OF Burlington

Engineering Department

TITLE

MATTAMY (RICHARDSON) LIMITED

PLAN OF SUBDIVISION

SANITARY DRAINAGE AREAS

| MUNICIPAL DRAWING NO. | REGIONAL FILE NO. |
|---|---|
| MX-03-04_10 | DB-0581 (Phase 1) DB-0591 (Phase 2) |
| CONTRACT NO. 03110 | SHEET SAN2 |

3T-04003/B

**Sanitary Flow Calculations**

PROJECT: **Palladium Way**
PROJECT No: **ALL-00251531-A3**
CREATED BY: **R.N**
CHECKED BY **S.P**

**Average Day**

Per Capita Demand = 275 L/caps/d 0.00318287 L/cap/s

| **Type of Development** | **Population Density** | |
|---|---|---|
| Long Term Care/Retirement home | 200 | Person/ha |

*refer to approved water and wastewater letter in appendix B

Area 1.48 ha
Population total = 296 People
**Flow** **0.94 L/s**

1 | **Average Day Demand =** | **0.94** | **L/s**

*Halton Water Wastewater Linear Design Manual - Peak Wastewater Flow Factor page 22*
Peak Factor = 1+(14/(4+(P/1000)^1/2))

2 | **Peaking Factor** | **4.08** |

*Halton Water Wastewater Linear Design Manual - page 21*

Infiltration allowance 0.286 L/s/ha
Total Area 1.5 ha

3 | **Infiltration** | **0.429** | **L/s**

*Halton Water Wastewater Linear Design Manual - page 19*

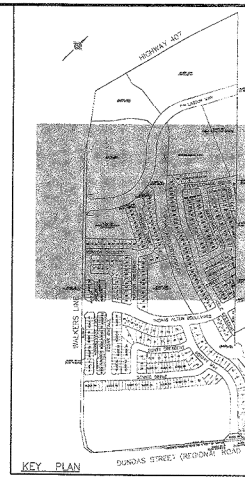
Design Flow = average dry weather flow x peaking factor + infiltration allowance

4 | **Design Flow =** | **4.3** | **L/s**

# Appendix D – Storm Background Documents




KEY PLAN




LEGEND

- CATCH BASIN
- DOUBLE CATCH BASIN
- STORM MANHOLE
- STORM SEWER
- DOUBLE STORM SERVICE CON
- SINGLE STORM SERVICE CO
- DRAINAGE BOUNDARY
- A=0.35 C=0.30 — DRAINAGE AREA (ha) / RUNOFF COEFFICIENT
- OVERLAND FLOW ROUTE

NOTE:
ALL LOTS WITH BASEMENTS, WITHIN PHASE 1 (SOUTH OF THO
BLVD.) AND ALONG BUNKERHILL PLACE WITHIN PHASE 2, WILL
WITH SUMP PUMPS AND CHECK VALVES DUE TO HYDRAULIC G
ABOVE THE PROPOSED FOOTING ELEVATION.

ALL OTHER LOTS IN PHASE 2 (NORTH OF THOMAS ALTON BLV
BY GRAVITY STORM SERVICE CONNECTION.

BENCHMARK

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF BURLINGTON BENCH MARKS No.267 No.449 & No.451 HAVING A PUBLISHED ELEVATIONS OF 152.247 METRES, 152.849 METRES AND 152.808 METRES RESPECTIVELY.

IN ADDITION TO THE ABOVE BENCHMARKS WHICH ARE LOCATED ON THE SOUTH END OF CONCRETE BOX CULVERTS ON MUNDAYS STREET, TEMPORARY BENCH MARKS AS SHOWN ON THE FACE OF THE PLAN ARE LISTED BELOW:

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| PK NAIL 0001 | 173.805m | PK NAIL SET IN EAST SIDE OF WALKERS LINE OVERPASS OVER 407 CENTRELINE |

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8555 Jane St., Unit 2, Vaughan, ON L4K 5N9 Phone 905.326.1404 Fax 905.326.1405

STAMP

LICENSED PROFESSIONAL ENGINEER R.D. ALDERSON Aug 11/05 PROVINCE OF ONTARIO

APPROVALS

MUNICIPAL

DIRECTOR OF ENGINEERING — DATE: Aug. 16/05

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| | | | | |
|---|---|---|---|---|
| DESIGN | S.A. | CHECKED | R.A. | DATE APRIL 2005 |
| DRAWN | J.Y. | CHECKED | | SCALE: 1:1000 |
| REFERENCES: 03110 | | | | |
| FIELD NOTES: | | | | |

THE REGIONAL MUNICIPALITY OF HALTON

CITY OF Burlington

Engineering Department

TITLE

MATTAMY (RICHARDSON) L
PLAN OF SUBDIVISION
STORM DRAINAGE PLA

| MUNICIPAL DRAWING NO. | REGIONAL FILE NO. |
|---|---|
| MX-03-04_07 | DB-0581 (<br>DB-0591 ( |
| CONTRACT NO. 03110 | SHEET |

# End Document