



**Longfields Campanale Block 14  
(Phase 2) Servicing Report**

Project # 160401500

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Campanale Homes

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## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT


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# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Introduction

### 1.0 INTRODUCTION

Stantec Consulting Ltd. has been retained by Campanale Homes to complete the servicing design for the proposed Block 14 Phase 2 site (previously known as 'Future Block 14', known municipally as 2 Via Modugno Avenue), part of the Longfields Development (LD) Community. Block 14 is bound by Via Modugno Avenue to the north, by Via Campanale Avenue to the south and west, and by the existing Block 14 (Phase 1) Station Building to the east.

The Block 14 Phase 2 site encompasses 0.48 ha and consists of a three-storey back-to-back townhouse block with 16 units, as well as a three-storey mixed used building with commercial space on the first floor and 12 three-bedroom apartments on the second and third floors. The back-to-back townhouse block and mixed-use building are connected on the second and third storeys by two apartment units overhanging one of the site's drive aisles. A 2-hour firewall provides separation between the back-to-back townhouse block and the mixed-use building.

The Block 14 Phase 2 site is outlined in **Figure 1** below:



**Figure 1: Development Site Key Plan**



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Introduction

### 1.1 OBJECTIVE

This Servicing Report presents a servicing arrangement free of foreseeable conflicts which uses the existing infrastructure around the site in accordance with the objectives and limitations set out by the previous background studies (outlined in **Background**).

The *Longfields Subdivision, Campanale Homes, Servicing Report*, prepared by Stantec and dated May 4, 2011, as well as the *Longfields Subdivision Block 14 Station Building Servicing Report*, prepared by Stantec and dated April 2015 have been used as the basis for the design of Block 14. Specific elements and potential development constraints to be addressed are as follows:

- Prepare a grade control plan
- Water servicing
  - Watermain servicing for the development is to be able to provide average day, maximum day, and peak hour demands (i.e. non-emergency conditions) at pressures within the acceptable range of 345 to 552 kPa (50 to 80 psi), per City of Ottawa standards.
  - Under fire flow (i.e. emergency) conditions, the water distribution system is to maintain a minimum pressure greater than 20 psi (140 kPa)
- Stormwater servicing
  - Define the major and minor conveyance systems in conjunction with the grade control plan.
  - Determine the stormwater management storage requirements based on the criteria for Block 14 as outlined in the *Longfields Subdivision Block 14 Station Building Servicing Report*.
- Sanitary servicing
  - Define and size the sanitary collection system

Grading, drainage and services for the area will be designed in accordance with the City of Ottawa guidelines.

The accompanying drawings included with this report illustrate the internal servicing layout for the site.



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Background

## 2.0 BACKGROUND

The following background studies have demonstrated the serviceability of the proposed urban lands and surrounding environs:

- *Review and Update of Serviceability Study (February 1993) for Longfields/Davidson Heights*, Erion Associates, Stanley Consulting Group Ltd., Ainley Graham and Associates, February 1998.
- *Longfields and Davidson Heights – Amendment and Update of 1993 Serviceability Study*, City of Ottawa, March 2002.
- *Servicing Report for Longfields Development City of Ottawa (Formerly City of Nepean)*, David McManus Engineering Ltd., June 2007.
- *Knollsbrook / Longfields Pedestrian Walkway, City of Nepean, Design Brief*, Stanley Consulting, July 22, 1998

The following documents were also referenced in the preparation of this servicing report:

- *City of Ottawa Sewer Design Guidelines*, Second Edition, City of Ottawa, October 2012.
- *City of Ottawa Water Distribution Design Guidelines*, First Edition, City of Ottawa, July 2010.
- *Geotechnical Investigation– Proposed Residential Development, Longfields Drive*, Paterson Group, June 10, 2010, (Report PG2119-1).
- *Longfields Subdivision, Campanale Homes – City of Ottawa: Servicing Report Revision #1*, Stantec Consulting Ltd., May 4, 2011 (1604-00850/83).
- *Campanale Homes - Longfields Development, City of Ottawa, Stormwater Management Report (Revision #1)*, Stantec Consulting Ltd., February 4, 2011 (1604-00850/83).
- *Longfields Subdivision, Block 14 Station Building, Campanale Homes – City of Ottawa: Servicing Report*, Stantec Consulting Ltd., April 7, 2015 (1604-00850/83).
- *Longfields Block 13 Commercial Plaza – Servicing and Stormwater Management Report*, Stantec Consulting Ltd., May 25, 2018 (1604-01336).

This site is zoned R4A, as defined by the City of Ottawa's Official Plan. It also falls within the Longfields-Davidson Heights storm sewershed. For more information, including development statistics, land use and density; please see the above noted reports.

No environmentally significant areas, watercourses or municipal drains were identified on this property as part of the larger scale master plans.





### 3.0 WATER SUPPLY SERVICING

#### 3.1 DOMESTIC WATER DEMAND

The proposed Block 14 Phase 2 buildings will be serviced from an existing 200 mm diameter watermain stub crossing the Block 14 lands and connecting to the 200 mm watermain on Via Campanale Avenue on the south of the site. The development consists of a three-storey back-to-back townhouse block with 16 units, as well as a three-storey mixed used building with 11 commercial units on the ground floor and 12 three-bedroom apartments on the second and third floors.

Water demand calculations were based on the 2010 City of Ottawa Water Distribution Guidelines and all subsequent technical bulletins. The estimated population count for the site is 80 persons, based on a density of 2.7 persons per back-to-back townhouse unit and 3.1 persons per three-bedroom apartment. As the types of commercial units in the mixed-use building are unknown, a commercial water demand of 28,000 L/gross ha/d was used for the 1361 m<sup>2</sup> commercial units, as per the “other commercial” land use in Table 4.2 of the Water Distribution Guidelines.

Based on the calculations found in **Appendix A.1**, the water demand for the entire site is:

- 0.37 L/s (22.2 L/min) for average day demand;
- 0.88 L/s (52.8 L/min) for maximum day demand; and
- 1.91 L/s (114.6 L/min) for peak hour demand.

#### 3.2 FIRE FLOWS

The Fire Underwriters Survey (FUS) methodology was used to determine the required fire flows for the buildings. The back-to-back townhouse block is classified as wood-frame construction without sprinklers whereas the mixed-use block is of the ordinary construction class and also without sprinklers. Where the two buildings are connected on the second and third storeys, a 2-hour firewall provides separation so that each building can be treated independently for the purpose of determining required fire flows.

The required fire flows per the FUS requirements were calculated as being 10,000 L/min (166.7 L/s) and 12,000 L/min (200 L/s) for the back-to back townhouses and the mixed-use building, respectively.

Detailed calculations are shown in **Appendix A.2**.



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Water Supply Servicing

## 3.3 HYDRAULIC ANALYSIS

Boundary conditions for the site were provided by the City. The results are summarized in the table below.

**Table 3-1: Boundary Conditions Provided by the City**

<b>Flow Scenario</b>	<b>Water Demand (L/s)</b>	<b>System Pressure (m of head)</b>	<b>System Pressure (psi)</b>
Average Day	0.4	132.3	55.1
Peak Hour	1.9	126.4	46.8
Maximum Day + Fire Flow	200.9	124.0	43.3

The boundary conditions of the site confirm that the system will maintain a residual pressure of approximately 43 psi for the current pressure zone configuration at maximum day + fire flow conditions, which is in excess of the required 20 psi (140 kPa). In addition, the normal operating pressures ranging from 55.1 psi to 46.8 psi fall within the acceptable range of 40 psi and 80 psi (276 kPa and 552 kPa).

Two hydrants currently exist adjacent to the site: the first is north of the site on Via Modugno Avenue and the second is west of the site on Via Campanale Avenue. These hydrants provide full fire-fighting coverage of the proposed buildings and parking areas, and lie within 90 m of the principal building entrances per City standards. Therefore, no additional fire hydrants are proposed for this development.

## 3.4 RESULTS

The proposed development is located in an area of the City's water distribution system that has sufficient capacity to provide both the required domestic and emergency fire flows. Based on boundary conditions as provided by City of Ottawa staff, fire flows are available for this development based on FUS guidelines and as per the City of Ottawa water distribution guidelines.



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Sanitary Servicing

## 4.0 SANITARY SERVICING

### 4.1 BACKGROUND

The majority of the site will be serviced via an existing 250 mm diameter sanitary stub that feeds first into the 250 mm sanitary sewer on Via Campanale Ave south of the site and then into the 375 mm trunk sewer on Longfields Drive. Eight (8) stacked townhouse units in the western portion of the site will drain using 4 (four) new service connections to the existing 200 mm diameter sanitary sewer running from west to east on Via Campanale Avenue. For detailed information regarding the wastewater servicing in the area, please refer to the Longfields Subdivision Servicing Report (Stantec, 2011).

### 4.2 DESIGN CRITERIA

As outlined in the City of Ottawa Sewer Design Guidelines and the MOE's Design Guidelines for Sewage Works, the following criteria were used to calculate estimated wastewater flow rates and to size the sanitary sewers:

- Minimum allowable velocity = 0.6 m/s (0.8 m/s for upstream sections)
- Maximum allowable velocity = 3.0 m/s
- Manning's roughness coefficient for all smooth walled pipes = 0.013
- Average wastewater generation = 28,000 L/ha/day (commercial)
- Average wastewater generation = 280 L/pers/day (residential)
- Peaking factor = 1.5 (commercial)
- Peaking factor = Based on Harmon's Equation (Max of 4.0) (residential)
- Extraneous flow allowance = 0.32 L/s/ha (conservative value)
- Maintenance hole spacing = 120 m
- Minimum cover = 2.5 m

### 4.3 PROPOSED SERVICING

The majority of the proposed site will be serviced by gravity sewers which will direct wastewater flows of approximately 1.0 L/s (with allowance for infiltration) to the existing 250 mm diameter sanitary stub within Block 14 which discharges to the sanitary sewer on Via Campanale Avenue. Eight (8) stacked townhouse units fronting onto Via Campanale Avenue in the western portion of the site will discharge directly to the existing 200 mm diameter sanitary sewer via four (4) new service connections.

A sanitary sewer design sheet for the proposed sewers is included in **Appendix B**.



## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Sanitary Servicing

### 4.4 LONGFIELDS DRIVE SANITARY SEWER

The report “Longfields Subdivision, Campanale Homes – City of Ottawa (Revision #1)” prepared by Stantec Consulting and submitted to the City of Ottawa on May 4, 2011 indicated that sufficient capacity exists within the EBHT and the Longfields Drive sanitary sewers to accommodate the Longfields Community development. In the original report, the proposed site and Block 14 (Station Building) were considered one block of ‘mixed use’ and accounted for a peak discharge of approximately 3.05 L/s (see **Appendix B**). The total peak flow from the previously developed Block 14 (Station Building) was 1.24 L/s. This flow in combination with the proposed peak flow from Block 14 total 2.54 L/s (1.3 + 1.24 L/s). This flow is less than the anticipated 3.05 L/s of outflow from the original Longfields Subdivision report and is therefore able to comply with the maximum allowable discharge for this area. Sanitary sewer design sheets for the proposed site are included in **Appendix B**.

### 4.5 VIA CAMPANALE AVENUE SANITARY SEWER

The capacity of the existing 200 mm diameter sanitary sewer on Via Campanale Avenue servicing the eight stacked townhouse units was evaluated by using the Longfields Subdivision Servicing Report (Stantec, 2011). The total peak flows listed for this sanitary sewer (MH 30 to MH 29) from this report were added to the peak flows generated by the eight proposed townhouse units. Free-flow analysis shows that the sanitary sewer will be operating at only about 18% capacity during peak flows once the proposed townhouse units are connected to this run.

The sanitary sewer design sheet from the Longfields Subdivision Servicing Report (Stantec, 2011) and the proposed sanitary sewer design sheet are included in **Appendix B**.



## 5.0 STORMWATER MANAGEMENT AND SERVICING

### 5.1 OBJECTIVES

The objective of this stormwater management plan is to determine the measures necessary to control the quantity/quality of stormwater released from the proposed development to criteria established by the *Longfields Subdivision Block 14 Station Building Stormwater Management Report* (Stantec, January 2014) for the region, and to provide sufficient detail for the purposes of approvals and construction.

### 5.2 SWM CRITERIA AND CONSTRAINTS

Stormwater Management (SWM) Criteria were established by combining current design practices outlined by the City of Ottawa Sewer Design Guidelines (2012), and through consultation with City of Ottawa staff. The following summarizes the criteria, with the source of each criterion indicated in brackets:

#### General

- Use of the dual drainage principle (City of Ottawa).
- Wherever feasible and practical, site-level measures should be used to reduce and control the volume and rate of runoff. (City of Ottawa).
- Water quality treatment for the proposed site is provided by the existing end-of-pipe Clarke Bellinger Environmental Facility off Leikin Drive.

#### Storm Sewer & Inlet Controls

- The proposed site is to discharge its stormwater to the existing 450 mm diameter storm sewer on the southeast side of the site via a connection to an existing catch basin maintenance hole. The 450 mm diameter storm sewer drains to the municipal 525 mm storm sewer along Campanale Avenue (City of Ottawa and Longfields Subdivision Stormwater Management Report).
- The minor system inflow for the site is to be restricted to 25.4 L/s (53 L/s/ha) (Longfields Subdivision Block 14 Station Building Stormwater Management Report).
- The 100-year stormwater HGL is to be a minimum of 0.30 m below the building foundation footing (City of Ottawa).

#### Surface Storage & Overland Flow

- Building openings to be a minimum of 0.30 m above the 100-year water level (City of Ottawa).
- Surface storage to be maximized where possible to provide a minimum of 110 m<sup>3</sup>/ha of storage (Longfields Subdivision Stormwater Management Report).
- Major system discharge from the site during the 100-year storm event is not to exceed 0.110 m<sup>3</sup>/s (Longfields Subdivision Block 14 Station Building Stormwater Management Report).
- Major system discharge from the site during the 5-year storm event not to exceed 0.069 m<sup>3</sup>/s (Longfields Subdivision Block 14 Station Building Stormwater Management Report).



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Stormwater Management and Servicing

- Maximum depth of flow under either static or dynamic conditions shall be less than 0.35 m (City of Ottawa)
- Provide adequate emergency overflow conveyance off-site (City of Ottawa)

### 5.3 STORMWATER MANAGEMENT

The Modified Rational Method was employed to assess the rate and volume of runoff generated during post-development conditions. The site was subdivided into subcatchments (subareas) tributary to stormwater controls as defined by the location of inlet control devices. A summary of subareas and runoff coefficients is provided in **Appendix C.2**, and **Drawing SD-1** indicates the stormwater management subcatchments.

#### 5.3.1 Allowable Release Rate

Based on background information, the peak post-development discharge from the subject site to the minor system is to be limited to 25.4 L/s. Additionally, peak major system overflow spill rates were identified within the model prepared within the Block 14 Stormwater Management Report for the development area (previously identified as area 'Future') during the 5 and 100-year storm events of 69 L/s and 110 L/s respectively. Peak release rates for the current site are summarized in **Table 5-1** below (see **Appendix C.3** for background report excerpts):

**Table 5-1 : Target Release Rates**

Discharge Point	Storm Event	Peak Flow Rate (L/s)
Minor System	5-Year Storm	25.4
Major System	5-Year Storm	69.0
Minor System	100-Year Storm	25.4
Major System	100-Year Storm	110.0

A time of concentration of 10 minutes was assigned for each subcatchment area based on the highly impervious nature of the site land use. C coefficient values have been increased by 25% to a maximum of 1.00 for the post-development 100-year storm event (July 1<sup>st</sup>, 1979 event) based on MTO Drainage Manual recommendations. Peak flow rates have been calculated using the rational method as follows:

$$Q = 2.78 CiA$$

Where: Q = peak flow rate, L/s

A = drainage area, ha

I = rainfall intensity, mm/hr (per Ottawa IDF curves)

C = site runoff coefficient



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Stormwater Management and Servicing

### 5.3.2 Storage Requirements

The site requires quantity control measures to meet the stormwater release criteria. The use of inlet-control devices in combination with surface storage are proposed to reduce site peak outflow to target rates.

#### 5.3.2.1 Surface Storage

It is proposed to detain stormwater within parking and access areas tributary to catch basins equipped with vortex orifice controls to reduce peak outflow from the proposed site. The catch basins will release by gravity to the proposed storm sewer outlet for the site. Should catch basin discharge orifices become blocked; flows will spill from catch basin grates overland to each of their respective parking lot entrance/exits and onto Campanale Avenue or Via Modugno Avenue ROW off of the property, and ultimately to the Longfields Drive ROW. In areas where peak inflows exceed the available maximum static storage, estimated peak overland flow rates have been identified. Maximum surface storage elevations lie well below proposed building opening elevations to ensure adequate drainage of the property.

Surface storage volumes have been estimated based on surface models created using AutoCAD for the proposed grading plan. Roof leaders are to discharge to surface and be directed to surface storage areas prior to capture via the minor system. **Table 5-2** summarizes surface storage depths and volumes within the proposed site:

**Table 5-2 : Surface Storage Volumes**

Drainage Area ID	Structure	Ponding Depth (m)	Ponding Area (m <sup>2</sup> )	Ponding Volume (m <sup>3</sup> )
STM-1	CB 1	0.30	302.2	30.2
STM-2	CB 2	0.30	619.9	62.0
STM-3	CB 3	0.30	192.3	19.2
<b>Total</b>				<b>111.4</b>

The modified rational method was employed to determine the peak volume stored in catch basins & surface storage areas. Inlet control devices were sized to fully utilize surface storage during the 100-year storm event. **Table 5-3** summarizes the estimated storm release rates and storage volumes for controlled subcatchments during the 5 and 100-Year events. Discharge curves are as provided by the manufacturer for the selected ICDs (see **Appendix C.4** for details)



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Stormwater Management and Servicing

**Table 5-3 : Peak Surface Volume and Controlled Discharge (5 and 100-Year Storm Event)**

Event	Area ID	ICD	Ponding Depth (m)	Head (m)	Qrelease (L/s)	Vstored (m <sup>3</sup> )	Qspill (L/s)
5-Year	STM-1	LMF 65	0.20	1.58	4.5	9.1	0.0
	STM-2	75mm Circular	0.26	1.57	14.0	44.7	0.0
	STM-3	LMF 60	0.05	1.41	3.9	5.9	0.0
100-Year	STM-1	LMF 65	0.30	1.68	4.7	23.4	0.0
	STM-2	75mm Circular	0.30	1.60	14.2	62.0	30.2
	STM-3	LMF 60	0.30	1.68	4.2	15.4	0.0

\*Major system flows from STM-1 have been included in inflows to CB 2 within Area STM-2.

Major system discharge from the proposed site in excess of that available for storage as noted in the Qspill column of Table 5-3 above proceeds overland via spillover point within the site parking access to the existing Via Modugno Avenue ROW, progressing to Longfields Drive, and ultimately to an existing SWM detention area within the South Nepean Park south of Longfields Drive per the Longfields Subdivision SWM report and as identified by direction of overland flow arrows on drawing SD-2 within **Appendix C.3**. Refer to report excerpts included as part of **Appendix C.3** for details.

### 5.3.2.2 Rooftop Storage

It is proposed to retain stormwater on the rooftops of the back-to-back townhome units by installing restricted flow roof drains. The following calculations assume the roof will be equipped with standard Watts Model R1100 Accuflow Roof Drains.

Watts Drainage “Accutrol” roof drain weir data has been used to calculate a practical roof release rate and detention storage volume for the rooftops. It should be noted that the “Accutrol” weir has been used as an example only, and that other products may be specified for use, provided that the total roof drain release rate is restricted to match the maximum rate of release indicated in Table 2, and that sufficient roof storage is provided to meet (or exceed) the resulting volume of detained stormwater. Proposed drain release rates have been calculated based on the Accutrol weir setting at 75% open. Storage volume and controlled release rate are summarized in **Table 5-4** below:

**Table 5-4 : Peak Roof Volume and Controlled Discharge (5 and 100-Year Storm Event)**

Design Storm	Depth (mm)	Discharge (L/s)	Volume Stored (m <sup>3</sup> )
5-Year	83	1.5	7.1
100-Year	146	1.9	16.5

### 5.3.2.3 Uncontrolled Areas

Two areas (identified as UNC-1 and UNC-2) have been designed without a surface storage component. Due to grading restrictions, these areas discharge overland uncontrolled to the adjacent Via Modugno





## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

### Stormwater Management and Servicing

Avenue and Campanale Avenue ROWs. Discharge from these areas have been considered in the major system peak discharge targets from the development. Peak discharge for uncontrolled catchments is identified in **Table 5-5** below:

**Table 5-5 : 5 and 100-Year Storm Uncontrolled Area Release Rates**

Area	Storm Event	Peak Major System Discharge (L/s)
UNC-1	5-Year	6.6
	100-Year	12.5
UNC-2	5-Year	1.0
	100-Year	2.0

### 5.3.3 Results

**Table 5-6** demonstrates that the proposed stormwater management plan provides adequate attenuation storage to meet the target peak outflow rates for the site.

**Table 5-6 : Summary of Total 5 and 100-Year Storm Event Release Rates**

Event	Peak Minor System Discharge (L/s)	Target Minor System Discharge (L/s)	Peak Major System Discharge (L/s)	Target Major System Discharge (L/s)
5-Year	23.9	25.4	7.6	69.0
100-Year	24.9	25.4	44.7	110.0

## 5.4 WATER QUALITY CONTROL

Water quality treatment for the proposed development is provided at the end-of-pipe stormwater management facility off Leikin Drive; this facility has been previously designed to accommodate the site (and overall Longfields Subdivision development) and is known as the Clarke Bellinger Environmental Facility. No additional stormwater quality treatment will be provided on-site.



### 6.0 GRADING AND DRAINAGE

The site of the proposed development has an area of 0.48 ha. The topography of the site is relatively flat with grades along the perimeter ranging from approximately 93.65 m to 94.14 m. The site currently drains from the southwest to the northeast with overland flow directed to Via Modugno Avenue. A detailed grading plan (see **Drawing GP-1**) has been created to satisfy the stormwater management requirements, adhere to permissible grade raise restrictions on the site, and satisfy the minimum cover requirements for storm sewers, sanitary sewers, and watermains.



## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Approvals

### 7.0 APPROVALS

An MECP Environmental Compliance Approval is being prepared for the storm outlet of the site, as the outlet will service two private properties (2 Via Modugno Avenue and 615 Longfields Drive) under separate ownership. The application will be processed through the City of Ottawa's Transfer of Review Program with the MECP.

An MOE Permit to Take Water (PTTW) is unlikely for the site as the majority of proposed works are above the groundwater elevations shown in the geotechnical report. The geotechnical consultant shall confirm at the time of application that a PTTW is not required.



# LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

## Geotechnical Considerations

### 8.0 GEOTECHNICAL CONSIDERATIONS

A geotechnical Investigation Report was prepared by Paterson Group on June 10, 2010 for the overall Longfields development. The report summarizes the existing soil conditions within the subject area and construction recommendations. For details which are not summarized below, please see the original Paterson report.

A subsurface investigation was conducted and concluded that the site is underlain by a stiff to very stiff silty clay layer followed by a dense glacial till. Bedrock is anticipated to lie within 3m to 10m below ground surface. Groundwater was not encountered within test pits adjacent to the subject site. Grade raise fill restrictions of 2.0m were identified for areas where silty clay is present below underside of footings as part of the geotechnical investigation. Refer to Report #PG2119-1 for additional geotechnical information.

The pavement structures for the proposed hard surface areas recommended in the report are summarized in the following two tables.

**Table 8-1: Recommended Pavement Structure for Access Lanes**

Thickness (mm)	Material Description
40	Wear Course – HL-3 or Superpave 12.5 Asphaltic Concrete
50	Binder Course – HL-8 or Superpave 19.0 Asphaltic Concrete
150	Base – OPSS Granular A Crushed Stone
450	Subbase – OPSS Granular B Type II
-	Subgrade – Either fill, in situ soil, or OPSS Granular B Type II material placed over in situ soil or fill

**Table 8-2: Recommended Pavement Structure for Car Only Parking Areas**

Thickness (mm)	Material Description
50	Wear Course – HL-3 or Superpave 12.5 Asphaltic Concrete
150	Base – OPSS Granular A Crushed Stone
300	Subbase – OPSS Granular B Type II
-	Subgrade – Either fill, in situ soil, or OPSS Granular B Type II material placed over in situ soil or fill



## **9.0 UTILITIES AND EASEMENTS**

Bell, Hydro, and Rogers services are located within the adjacent right of ways of Via Campanale Avenue and Via Modugno Avenue. The proposed site is expected to be serviced from Via Campanale Avenue. It is anticipated that existing infrastructure will be sufficient to provide a means of distribution for the proposed site. The detailed design of the required utility services will be completed by the respective utility agencies, and exact size, location, and routing of utilities will be finalized after design circulation.



## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

### Erosion/Sediment Control During Construction

## 10.0 EROSION/SEDIMENT CONTROL DURING CONSTRUCTION

In order to protect downstream water quality and prevent sediment build up in catch basins and storm sewers, erosion and sediment control measures must be implemented during construction. The following recommendations will be included in the contract documents and communicated to the Contractor.

1. Implement best management practices to provide appropriate protection of the existing and proposed drainage system and the receiving water course(s).
2. Limit the extent of the exposed soils at any given time.
3. Re-vegetate exposed areas as soon as possible.
4. Minimize the area to be cleared and grubbed.
5. Protect exposed slopes with geotextiles, geogrid, or synthetic mulches.
6. Provide sediment traps and basins during dewatering works.
7. Install sediment traps (such as SiltSack® by Terrafix) between catch basins and frames.
8. Schedule the construction works at times which avoid flooding due to seasonal rains.

The Contractor will also be required to complete inspections and guarantee the proper performance of their erosion and sediment control measures at least after every rainfall. The inspections are to include:

- Verification that water is not flowing under silt barriers.
- Cleaning and changing the sediment traps placed on catch basins.

Refer to Drawing EC-1 for the proposed location of silt fences, straw bales, and other erosion control measures.



Conclusion

### 11.0 CONCLUSION

#### 11.1 WATER SERVICING

Based on the supplied boundary conditions for existing watermains and estimated domestic and fire flow demands for the subject site, it is anticipated that the proposed servicing in this development will provide sufficient capacity to sustain the required domestic demands and emergency fire flow demands of the proposed site. Fire flows greater than those required per the FUS Guidelines are available for this development.

#### 11.2 SANITARY SERVICING

The proposed sanitary sewer network is sufficiently sized to provide gravity drainage of the site. The proposed development will be serviced by a network of gravity sewers which will direct wastewater flows to the existing 250mm dia. sanitary sewer stub that feeds first into the 250 mm sanitary sewer on Via Campanale Ave south of the site and then into the 375 mm trunk sewer on Longfields Drive. The proposed outlet has sufficient capacity to receive sanitary discharge from the site.

#### 11.3 STORMWATER MANAGEMENT

The proposed stormwater management plan is in compliance with the goals specified through consultation with the City of Ottawa. On-site surface storage and ICDs have been proposed to limit peak storm sewer inflows to downstream storm sewers to 53 L/s/ha for the development area as determined by background reports. The downstream receiving sewer has sufficient capacity to receive runoff volumes from the site based on the findings of the Longfields Subdivision Stormwater Management Report.

#### 11.4 GRADING

Grading for the site has been designed to provide an emergency overland flow route as per City requirements and reflects the recommendations made in the Geotechnical Investigation Report prepared by Paterson Group. Erosion and sediment control measures will be implemented during construction to reduce the impact on existing facilities.

#### 11.5 UTILITIES

Utility infrastructure exists within the adjacent ROWs at the boundary of the proposed site. It is anticipated that existing infrastructure will be sufficient to provide a means of distribution for the entirety of the development. Exact size, location and routing of utilities will be finalized after design circulation.



## LONGFIELDS CAMPANALE BLOCK 14 (PHASE 2) SERVICING REPORT

Conclusion

### 11.6 APPROVALS/PERMITS

An MECP Environmental Compliance Approval is being prepared for the storm outlet of the site, as the outlet will service two private properties (2 Via Modugno Avenue and 615 Longfields Drive) under separate ownership. The application will be processed through the City of Ottawa's Transfer of Review Program with the MECP. No other approval requirements from other regulatory agencies are anticipated.

An MOE Permit to Take Water (PTTW) is unlikely for the site as the majority of proposed works are above the groundwater elevations shown in the geotechnical report. The geotechnical consultant shall confirm at the time of application that a PTTW is not required

