

re: Geotechnical Design Summary Details
2 via Modugno - Block 14
Longfields Drive - Ottawa

to: Campanale Homes - **Christian Campanale** - Christian@campanale.com

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file: PG2119-MEMO.18

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide the geotechnical design summary details for Block 14 of the proposed residential development. The following memorandum should be read in conjunction with Paterson Memorandum PG2119-MEMO.17 Revision 1, dated October 28, 2019.

Relevant design information is presented in Table 1 - Summary of Design Details for the subject commercial building. The relevant design and inspection information includes the following:

- Section number
- Original ground surface elevation
- Proposed finished grade elevation
- Proposed USF elevation
- Maximum allowable grade raise
- Lightweight fill (LWF) recommendations
- Bearing resistance values
- Seismic site class

Grading Plan Review

Paterson reviewed the following grading plan prepared by Stantec Consulting Ltd. for the aforementioned commercial development:

- Grading Plan, Drawing Number GP-1, Longfield Station Block 14, Project 160401500, Revision 1, dated September 12, 2019 by Stantec

Based on our review of the grading plan provided, the proposed grading for the residential structure does not exceed our permissible grade raise recommendations. Table 1 attached provides a grading summary for the subject residential building based on our grading review.

Tree Planting Recommendations

The proposed development is located in an area of low to medium sensitive silty clay deposits for tree planting. Based on our knowledge of the general site area, the plasticity index is expected to be lower than 40%. It should be noted that stiff to hard silty clay crust was encountered extending from 3 to 4m below existing grade. Furthermore a well drained layer of glacial till was encountered draining the silty clay layer at depth. As such, the brown silty clay crust, below design footing level, should be considered low to medium sensitivity clay and should not be considered a sensitive marine clay.

Based on the above discussion, it is recommended that trees placed within 4.5 m from the foundation wall consist of small and medium size tree (up to 14 m in height) with shallow roots systems that extend less than 1.5m below ground surface. Trees placed greater than 5 m from the foundation wall may consist of moderate water demanding trees with roots extending to a maximum 2 m depth. It should be noted that shrubs and other small plantings are permitted near the foundation wall.

We trust that this information satisfies your immediate requirements.

Best Regards,

Paterson Group Inc.



Joey R. Villeneuve, M.A.Sc., P.Eng.



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**Table 1 - Summary of Lightweight Fill Details
Campanale Homes - Block 14 - 2 via Mondugno**

Section Numbers	Civic Addresses	Original GS Front (m)	Proposed GS Front (m)	Original GS Rear (m)	Proposed GS Rear (m)	Underside of Footing Elevation (m)	Permissible Grade Raise (m)	Exceeding Permissible Grade Raise Front (m)	Exceeding Permissible Grade Raise Rear (m)	Minimum Thickness LWF Beyond the building face (m)	Bearing Resistance Value at SLS (kPa)	Seismic Site Class
Block 14 - Unit 1	2 via Mondugno	92.79	93.74	92.86	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 2	2 via Mondugno	92.79	93.74	92.94	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 3	2 via Mondugno	92.79	93.74	93.01	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 4	2 via Mondugno	92.79	93.74	92.94	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 5	2 via Mondugno	92.79	93.74	92.86	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 6	2 via Mondugno	92.79	93.74	92.84	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 7	2 via Mondugno	92.77	93.74	92.83	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 8	2 via Mondugno	92.75	93.74	92.81	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 9	2 via Mondugno	93.70	93.74	92.81	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 10	2 via Mondugno	93.72	93.74	92.81	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit 11	2 via Mondugno	93.75	93.74	92.81	93.74	92.21	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #1	2 via Mondugno	93.70	93.95	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #2	2 via Mondugno	92.67	93.95	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #3	2 via Mondugno	92.83	93.95	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #4	2 via Mondugno	92.83	93.95	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #5	2 via Mondugno	92.95	94.18	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #6	2 via Mondugno	92.90	93.95	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #7	2 via Mondugno	94.07	94.20	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C
Block 14 - Unit #8	2 via Mondugno	93.40	93.98	n/a	n/a	91.8	2.00	n/a	n/a	n/a	100	C

Proposed grade raise information was based on the following grading plan prepared by Stantec Consulting Ltd.

- Drawing Provided by Stantec Consulting Ltd, Grading Plan, Drawing Number GP-1, Longfield Station Block 14, Project 160401500, Revision 1, dated September 12, 2019
- Original ground surface elevations refer to native ground surface excluding existing fill.