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Engineers, Planners & Landscape Architects

June 12, 2020

City of Ottawa
Planning and Growth Management Department
Development Review (Urban Services - West) Branch
Infrastructure Approvals Division
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1

Attention: **Mark Young, MCIP, RPP**
Planner

Justin Armstrong, E.I.T.
Engineering Intern

Reference: **2112 Bel-Air Drive**
Conceptual Site Servicing and Stormwater Management Report (Addendum)
Novatech File No.: 119000 / City Files: D07-16-19-0032 and D02-02-19-0142

The following addendum is to be enclosed with the 2112 Bel-Air Drive, Conceptual Site Servicing and Stormwater Management Report, dated December 6, 2019.

This addendum highlights the revisions made to the proposed development at 2112 Bel-Air Drive and the impacts to the proposed servicing. The addendum also addresses the Engineering Peer Review comments dated February 19, 2020 to advance Draft Plan approval.

Should you have any questions, or require additional information, please contact me.

Yours truly,

NOVATECH

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Project Manager | Land Development

/bs

cc: Eric Lalande, Rideau Valley Conservation Authority
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1.0 INTRODUCTION

This addendum highlights the revisions made to the proposed development at 2112 Bel-Air Drive (Subject Site) and the impacts to the proposed servicing. The addendum is to be enclosed and read in conjunction with the 2112 Bel-Air Drive, Conceptual Site Servicing and Stormwater Management Report (Serv&SWM Report), dated December 6, 2019.

As part of the previous submission, the Subject Site was to comprise of 25 row townhome units; this has since been revised to 27 row townhome units. The following addendum summarizes the impacts to the proposed servicing.

As mentioned above, this addendum addresses the Engineering Peer Review comments dated February 19, 2020.

2.0 REFERENCES AND SUPPORTING DOCUMENTS

As part of the detailed design the geotechnical study will be revised to provide recommendations on; the required widths of proposed easements, tree planting, and the suitability of StormTech chambers.

3.0 SERVICING AND GRADING

The proposed servicing and grading have been updated to reflect the revisions made to the Subject Site. Refer to **Figure 3.1** – Proposed Servicing Layout Plan and **Figure 3.2** – Macro Grading, Erosion and Sediment Control Plan.

4.0 STORM SEWER SYSTEM AND STORMWATER MANAGEMENT

As the changes to the private road and rear yard runoff coefficients and drainage areas, due to the proposed revisions to the Subject Site, are minor; these changes will not cause a significant increase in flow to the proposed storm sewers.

Further to the Serv&SWM Report, and to ensure minimal impact to the NCC Lands as well as the rear yards of the homes along Field Street, the following is now being proposed:

- The 375mm by-pass sewer will convey the frequent storm events up to and including the 25-year event from the external area (Area B01);
- An overland flow swale will convey flows greater than the 25-year event (ie. 50-year, 100-year, and stress test events) from the external area (Area B01);
- Although it appears that the majority of the rear yards of the homes along Field Street are being directed to Field Street, the external area (Area B01) will be revised to include half of the rear yard areas to account for additional flows in the event rear yards are regraded in the future. The proposed by-pass sewer/overland flow swale will be sized accordingly.

CONNECT TO EXISTING SAN

PROPOSED SANITARY RELOCATION

NCC LANDS

6m WIDE EASEMENT

300mmØ SAN

EXISTING SANITARY TO BE ABANDONED

250mmØ STM

Bel-Air Drive

225mmØ SAN

450mmØ STM

150mmØ WM

200mmØ SAN

375mmØ STM

Private Road

HYD1

HYD2

HYD3

HYD-EX

CONNECT TO EXISTING SAN

EXISTING CULVERTS TO BE ABANDONED

CONNECT TO EXISTING STM

CONNECT TO EXISTING STM

CONNECT TO EXISTING WM

6m WIDE EASEMENT

6m WIDE EASEMENT

EXTERNAL DRAINAGE AREA OVERLAND FLOW SWALE/ BY-PASS SEWER ROUTING

NCC LANDS

LEGEND

- EXISTING WATERMAIN
- EXISTING HYDRANT
- PROPOSED WATERMAIN
- PROPOSED 50mmØ WATERMAIN
- PROPOSED HYDRANT
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING CULVERT
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- EXISTING DITCH
- STORMTECH CHAMBERS

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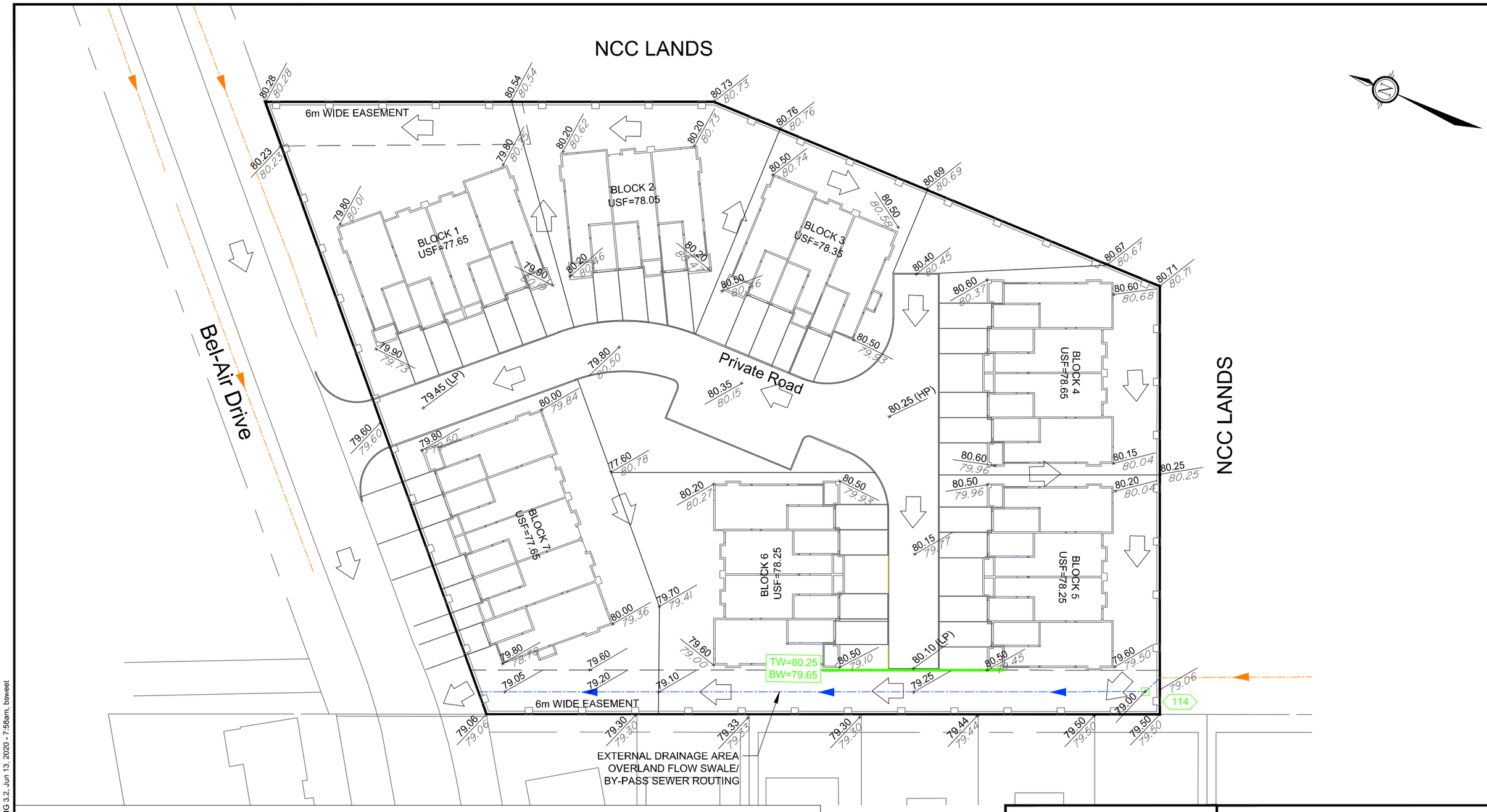
CITY OF OTTAWA
2112 BEL-AIR DRIVE

PROPOSED SERVICING LAYOUT PLAN

SCALE 1 : 500 (0, 5m, 10m, 20m)

DATE JUNE 2020 | JOB 119000 | FIGURE 3.1



LEGEND

- EMERGENCY OVERLAND FLOW
- 88.10 / 84.00 — PROPOSED ELEVATION / *EXISTING ELEVATION*
- 88.10 (HP) — PROPOSED HIGH POINT
- 88.10 (LP) — PROPOSED LOW POINT
- PROPERTY BOUNDARY
- SILT FENCE
- *EXISTING DITCH*
- PROPOSED OVERLAND FLOW SWALE
- PROPOSED RETAINING WALL

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CITY OF OTTAWA
2112 BEL-AIR DRIVE

MACRO GRADING, EROSION AND SEDIMENT CONTROL PLAN

SCALE 1 : 500 (0, 5m, 10m, 20m)
DATE JUNE 2020 | JOB 119000 | FIGURE 3.2

Development Impact and Next Steps

Based on the above, the proposed storm sewers within the private road and the existing storm sewers within Bel-Air Drive will not be impacted by the proposed revisions to the Subject Site.

As part of the detailed design, an assessment of the hydraulic grade line within the proposed and existing storm sewers will be completed to ensure adequate freeboard to the underside of footings. In addition, the storm sewer design sheets will be updated to reflect the approved Draft Plan and the stormwater management strategy will be refined and further detailed.

5.0 SANITARY SEWER SYSTEM

The proposed revisions to the Subject Site will result in a marginal increase in the sanitary demands due to the increase in the number of units. Below you will find calculations of the sanitary demands from the previous and revised layouts for comparison. Refer to Section 5.3, Table 5.1 of the Serv&SWM Report for the sanitary sewer design parameters.

Previous layout (25 row townhome units):

Total Population = 25 units x 2.7 persons/unit = 67.5 persons

Total Average Flows = 280 L/day/person x 67.5 persons = 18,900 L/day = 0.22 L/s

Total Peaked Flows = 4.0 x 0.8 x 0.22 L/s = 0.70 L/s

Revised layout (27 row townhome units):

Total Population = 27 units x 2.7 persons/unit = 72.9 persons

Total Average Flows = 280 L/day/person x 72.9 people = 20,412 L/day = 0.24 L/s

Total Peaked Flows = 4.0 x 0.8 x 0.24 L/s = 0.76 L/s

Given that the proposed revisions do not affect the total drainage area, the extraneous flows have been excluded from the comparison.

Development Impact and Next Steps

Based on the above and the preliminary sanitary sewer design sheets previously prepared, the proposed sanitary sewers within the private road and the existing sanitary sewers within Bel-Air Drive will have sufficient capacity to take the 0.06 L/s increase in flow.

As part of the detailed design, an assessment of the hydraulic grade line within the proposed and existing sanitary sewers will be completed to ensure adequate freeboard to the underside of footings. The sanitary sewer design sheets will also be updated to reflect the approved Draft Plan.

6.0 WATER SUPPLY SYSTEM

Although the proposed revisions to the Subject Site will result in an increase in the number of units, the recent City direction has been to use 280 L/person/day for the average residential demand. Below you will find calculations of the water demands from the previous and revised

layouts for comparison. Refer to Section 6.3, Table 6.1 of the Serv&SWM Report for the watermain design parameters.

Domestic Demand

Previous layout (25 row townhome units):

Total Population = 25 units x 2.7 persons/unit = 67.5 persons

Ave. Daily Demand = 350 L/day/person x 67.5 persons = 23,625 L/day = 0.27 L/s

Maximum Daily Demand = 2.5 x 0.27 L/s = 0.68 L/s

Peak Hour Demand = 2.2 x 0.68 L/s = 1.50 L/s

Revised layout (27 row townhome units):

Total Population = 27 units x 2.7 persons/unit = 72.9 persons

Ave. Daily Demand = 280 L/day/person x 72.9 persons = 20,412 L/day = 0.24 L/s

Maximum Daily Demand = 2.5 x 0.24 L/s = 0.59 L/s

Peak Hour Demand = 2.2 x 0.73 L/s = 1.30 L/s

Fire Demand

Similar to the previous layout, only row townhome units are being proposed within the Subject Site. As such, the fire flow cap of 167 L/s (10,000 L/min) is still applicable. This cap had always been accounted for in the water supply system.

Development Impact and Next Steps

Based on the decrease in the domestic demands, and that the fire demand requirements remain the same, the proposed watermain within the private road and Bel-Air Drive will have sufficient capacity and will not be impacted by the proposed revisions to the Subject Site.

New boundary conditions have been requested, and updated system pressure modeling and results will be provided as part of the detailed design

7.0 UTILITIES

It is not anticipated that there will be any issues to service the proposed layout. The utility servicing will be coordinated with local utility companies as part of detailed design once the Draft Plan has been approved.

8.0 EROSION AND SEDIMENT CONTROL AND DEWATERING MEASURES

Further to the Serv&SWM Report, due to the dewatering activities required during construction of the proposed infrastructure, a Permit-To-Take-Water (PTTW) or Environmental Activity and Sector Registry (EASR) application will be submitted to the Ministry of the Environment, Conservation and Parks (MECP). The permit will outline the water taking quantity, and location/quality of the discharge.

9.0 CONCLUSIONS

This addendum is respectfully submitted for review and subsequent approval. Please contact the undersigned should you have questions or require additional information.

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