

June 30, 2021

IBI Group
410 Albert Street, Unit 1
Waterloo, ON N2L 3V3
Attn: Ms. Odete Gomes

File No.: 00091-2
Document No.: 00091-2.02

Dear Ms. Gomes:

Subject: Response to Engineering Review Comments
Proposed Residential Subdivision
Part of Lot 13, Concession 2, Geographic Township of Erin
Ospringe, Town of Erin

This letter provides my responses to Section 2.0 of review comments by Ainley & Associates Limited, dated February 2, 2021, related to our Wastewater Servicing Assessment report (FlowSpec Engineering document 00091-2.01, dated September 5, 2019) for the above-referenced development. Each comment is reiterated below, followed by my response:

2.1 The design flow calculations, required nitrogen removal, and proposed Class 4 Wastewater Treatment Systems of this report are expected to be reviewed by the Building Department.

Acknowledged.

2.2 The proposed lot sizes appear to accommodate the proposed Class 4 Wastewater Treatment Systems and their spatial separation from other features (e.g., private wells, driveways, sheds, decks, pools).

Acknowledged.

2.3 Page 2, Section 3.1, Percolation Time, 3rd paragraph mentions that the geotechnical report prepared by Chung & Vander Doelen Engineering (CVDE) provides recommendations for filling procedures, equipment and soil-type in the proposed leaching bed areas. Given that adherence to those recommendations is critical, those recommendations with sufficient context of the CVDE report should be quoted in the main body of this Wastewater Servicing Assessment report and should appear on the detail design drawings.

I concur that the comments should be quoted on detailed design drawings; a condition should be made to this end. The comments were cross-referenced and not quoted in our report, as the report was meant to be reviewed in conjunction with the geotechnical report.

2.4 In Appendix B, Figure 2, Interpreted Water Table Configuration, is borehole data from the CVDE Geotechnical Investigation. The borehole identification numbers should be added to Figure 2.

This figure was created by Chung & Vander Doelen Engineering and appended as a reference. We are not at liberty to change the figure, but the requested borehole numbers were already depicted on our Layout Plan in Appendix A of our report.

Additional Comments

In addition to my responses above, please find attached our revised Layout Plan which reflects IBI Group's updated Grading Plan, received by us on June 21, 2021.

With the adjustments in IBI Group's updated Grading Plan, it was necessary to calculate two maximum wastewater flows (i.e., theoretical peak daily flow), depending on the lot, using anticipated maximum potential residential occupancies and flow-rates prescribed in OBC Table 8.2.1.3.A. The calculations are summarized in the following tables:

Lots 2 to 4, and 8 to 13

Occupancy Data		Theoretical Peak Daily Wastewater Flow (L/day)
A	4 bedrooms	2,000
B	0 bedrooms over 5	0
C	300 m ² (3,200 ft ²) finished floor area (above-grade storeys only)	1,000
D	40 plumbing fixture units from OBC Table 7.4.9.3. (i.e., approximately four bathrooms, kitchen, and laundry)	1,000
Total = A + (greater of B, C, and D)		3,000

Lots 1, and 5 to 7

Occupancy Data		Theoretical Peak Daily Wastewater Flow (L/day)
A	4 bedrooms	2,000
B	0 bedrooms over 5	0
C	232 m ² (2,500 ft ²) finished floor area (above-grade storeys only)	400
D	28 plumbing fixture units from OBC Table 7.4.9.3. (i.e., approximately three bathrooms, kitchen, and laundry)	400
Total = A + (greater of B, C, and D)		2,400

The leaching beds depicted on our revised Layout Plan are sized on the basis of the wastewater flows described above.

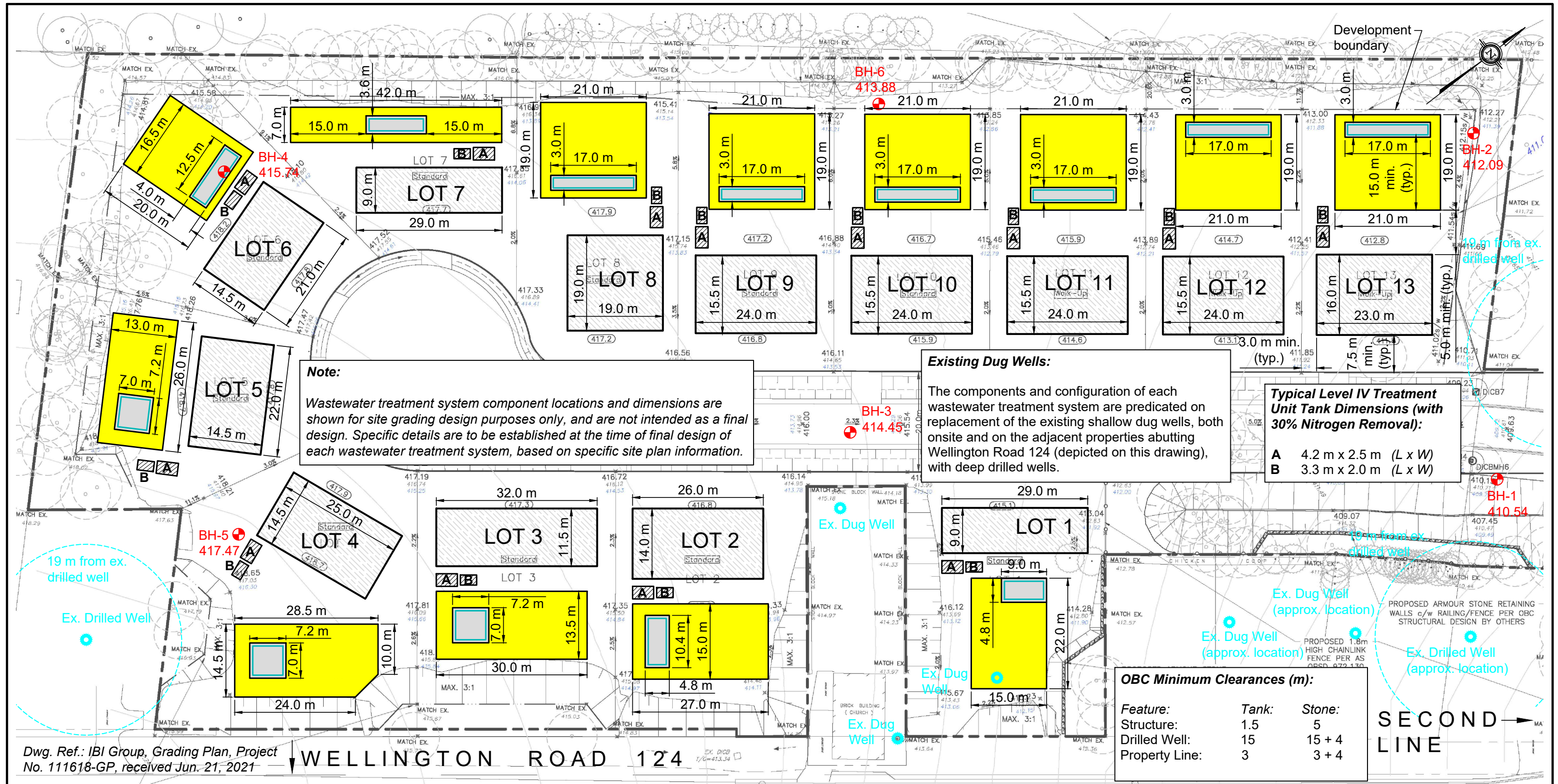
As described in our Wastewater Servicing Assessment report, and recommended by Chung & Vander Doelen Engineering, each wastewater treatment system is to include a Level IV (i.e., tertiary) treatment unit with the capability of removing 30% of wastewater-derived nitrogen, which is predicated on replacement of the existing shallow dug wells, both onsite and on the adjacent properties abutting Wellington Road 124, with deep drilled wells.

If you have any questions regarding this letter, please do not hesitate to contact me.

Yours truly,
FlowSpec Engineering Ltd.



David Morlock, P.Eng.
Consulting Engineer



FlowSpec ENGINEERING

FlowSpec Engineering Ltd., 31 McBrine Drive, Unit 1, Kitchener, ON N2R 1J1
Office: 519-744-9336 Web: www.flowspec.ca



Legend:

- Proposed Residence Envelope (schematic)
- Proposed Leaching Bed Envelope
- Proposed Stone Envelope
- Proposed Leaching Bed Distribution Pipe Envelope
- Proposed Level IV Treatment Unit Tank
- Borehole Location (CVD)
- Borehole Ground Surface Elev. (m)

Leaching Bed Elevations:

Set the base of sand elevation beneath the stone layer in each bed to at least 500 mm above the corresponding May 11, 2018 groundwater elevation (third number in the elevation sets above). Increase the distance to 750 mm on Lots 1, and 11 to 13.

Client:	Spirit of Pentecost			Drawn:	DFIII
Project:	Wastewater Servicing Assessment Proposed Residential Subdivision			Checked:	DM
Location:	Part of Lot 13, Concession 2, Geog. Twp. of Erin Ospringe, Town of Erin			Date:	September 5, 2019
Drawing:	Layout Plan			Scale:	0 10 20 1:750
No.	1	Alter layout to accommodate updated grading plan	Jun. 30, 2021	DM	File No.: 00091-2
		Revision	Date	Checked	Drawing No.: 1