

April 3, 2018

BY EMAIL ONLY

Ms. Lorelie Spencer

Jones Consulting Group
Unit 1, 229 Mapleview Drive East
Barrie ON, L4N 0W5
E: lspencer@jonesconsulting.com



**RE: Andpet Realty Site – City of Owen Sound
Grey Bruce Health Services Hospital Heliport
Flight Path Study Revised with Updated Plan**
Avia NG Project No. 18-0009-00

Dear Ms. Lorelie,

At your request, Avia NG has completed a Flight Path Study for the proposed Andpet Realty Site located on part of Park Lots 4 and 5, Range 5 East of the Garafaxa Road, in the City of Owen Sound. The purpose of the Flight Path Study is to assess the impact of the proposed development on the flight paths established for the heliport (CNK6) located at Grey-Bruce Health Services.

1. EXISTING CONDITIONS AND PROPOSED DEVELOPMENT

The subject site is located on part of Park Lots 4 and 5, Range 5 East of the Garafaxa Road, in the City of Owen Sound, which is situated approximately 450m northwest of Grey Bruce Health Services. The site is currently undeveloped.

A Draft Plan of Subdivision has been prepared for the future development of the site which includes a mix of semi detached, medium and high density residential and retirement residences.

Refer to the enclosed Site Plan and Draft Plan of Subdivision for additional information regarding the location of the proposed development.

2. GREY BRUCE HEALTH SERVICES HELIPORT

The Grey Bruce Health Services Owen Sound Heliport (CNK6) is a surface level heliport located in the northeast corner of 8th Street and 16th Avenue. The heliport is certified as a day/night non-instrument heliport in accordance with Standard 325, Part III of the Canadian Aviation Regulations 2017-2 (CAR's 325). The heliport physical characteristics are summarized in Table 1.

Table 1 – GBHS Owen Sound Heliport Physical Characteristics

GEOMETRIC CENTRE¹	N44 34 06, W80 54 48
FLIGHT PATH HEADING¹	Northern 331°M – 031°M Southern 161°M – 196°M
HELIPORT ELEVATION¹	794 ft (242 m) ASL
TLOF²	26m x 26m
MAX HELICOPTER LENGTH²	17.5m ft
FATO²	26m x 26m
SAFETY AREA²	35m x 35m

Source

1) Canada Flight Supplement

2) GBHS Owen Sound Heliport Operating Manual (Certificate Number 5151-4-601)

The heliport has four (4) flight paths, two fanned flight paths to the north and two fanned flight paths to the south. The fanned flight paths mean aircraft can approach/depart anywhere within the flight path centrelines. The obstacle limitation surfaces (OLS) associated the flight paths at the GBHS Owen Sound heliport are outlined below in Tables 2 and 3 and illustrated on the enclosed site plan SP 1.

Table 2 – Northern Fanned Flight Path OLS Characteristics

POINT OF ORIGIN	N44 34 05, W80 54 48
FLIGHT PATH HEAD	331°M - 031°M
DIVERGENCE FROM CENTRELINE	15%
LENGTH OF FIRST SECTION	245 m
SLOPE OF FIRST SECTION	8% (1:12.5)
LENGTH OF SECOND SECTION	830 m
SLOPE OF SECOND SECTION	16% (1:6.25)

Source

1) CARs 325

2) GBHS Owen Sound Heliport Operating Manual (Certificate Number 5151-4-601)

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 GBHS Hospital Heliport Flight Path Study – Andpet Realty Site

Table 3 - Southern Fanned Flight Path OLS Characteristics	
POINT OF ORIGIN	N44 34 05, W80 54 48
FLIGHT PATH HEAD	196°M - 161°M
DIVERGENCE FROM CENTRELINE	15%
LENGTH OF FIRST SECTION	245 m
SLOPE OF FIRST SECTION	8% (1:12.5)
LENGTH OF SECOND SECTION	830 m
SLOPE OF SECOND SECTION	16% (1:6.25)

Source

1) CARs 325

2) GBHS Owen Sound Heliport Operating Manual (Certificate Number 5151-4-601)

As illustrated in SP1, the proposed development site is located to the north west of the heliport and falls with the northern fanned flight path.

3. FLIGHT PATH STUDY

The following assessment has been completed to identify potential aeronautical impacts associated with the proposed development.

MARKING AND LIGHTING

In accordance with the Canadian Aviation Regulations (CARs), the marking and lighting of obstacles in the vicinity of the heliport is intended to reduce hazards to aircraft by indicating their presence. A fixed obstacle (buildings, poles, trees, etc.) located within the obstacle marking/lighting area should be marked and lighted. Marking and lighting of obstacles must be in accordance to TP382E, Standard Obstruction Markings Manual. The specifications of the marking/lighting area are summarized in Table 4 below.

Table 4 - Marking and Lighting Criteria	
POINT OF ORIGIN	N44 34 05, W80 54 48
CENTRE RADIUS	150 m
DIVERGENCE FROM FLIGHT PATH	30 m
LENGTH OF FIRST SECTION	150 m
SLOPE OF FIRST SECTION	1:25
LENGTH OF SECOND SECTION	850 m
SLOPE OF SECOND SECTION	1:9.5

Source

1) CARs 325

MAXIMUM ALLOWABLE ELEVATIONS

Maximum allowable development elevations are restricted by the flight path Obstacle Limitation Surfaces (OLS).

It is understood that the building layout and finished elevations of the proposed development are not yet known. Maximum allowable development heights have been established at the corners of the proposed development for reference purposes. Refer to Table 5 and enclosed SP1 for the maximum allowable development heights. Also indicated in Table 5 are the maximum allowable heights beyond which obstruction lighting and marking is required.

Table 5 – Maximum Allowable Development Heights		
POINT	MAXIMUM ALLOWABLE HEIGHT	HEIGHT AT WHICH MARKING AND LIGHTING IS REQUIRED
SE CORNER BLOCK 14	278.4m ASL	273.4m ASL
SE CORNER BLOCK 15	294.1m ASL	283.1m ASL
FRONT LOT 5	317.2m ASL	298.5m ASL

Refer to enclosed SP1 for a visual representation of allowable development heights.

4. LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the Jones Consulting Group and their Client. Avia NG does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Jones Consulting Group or their Client, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user.

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5. CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, there are height restrictions associated with the proposed development of the Andpet Realty Site. While we do not believe that the proposed development will include buildings at or near the maximum heights indicated, it is nevertheless recommended that the developer review these restrictions in the preparation of detailed site plans.

Should you have any questions, or require any additional information, please do not hesitate to contact the undersigned.

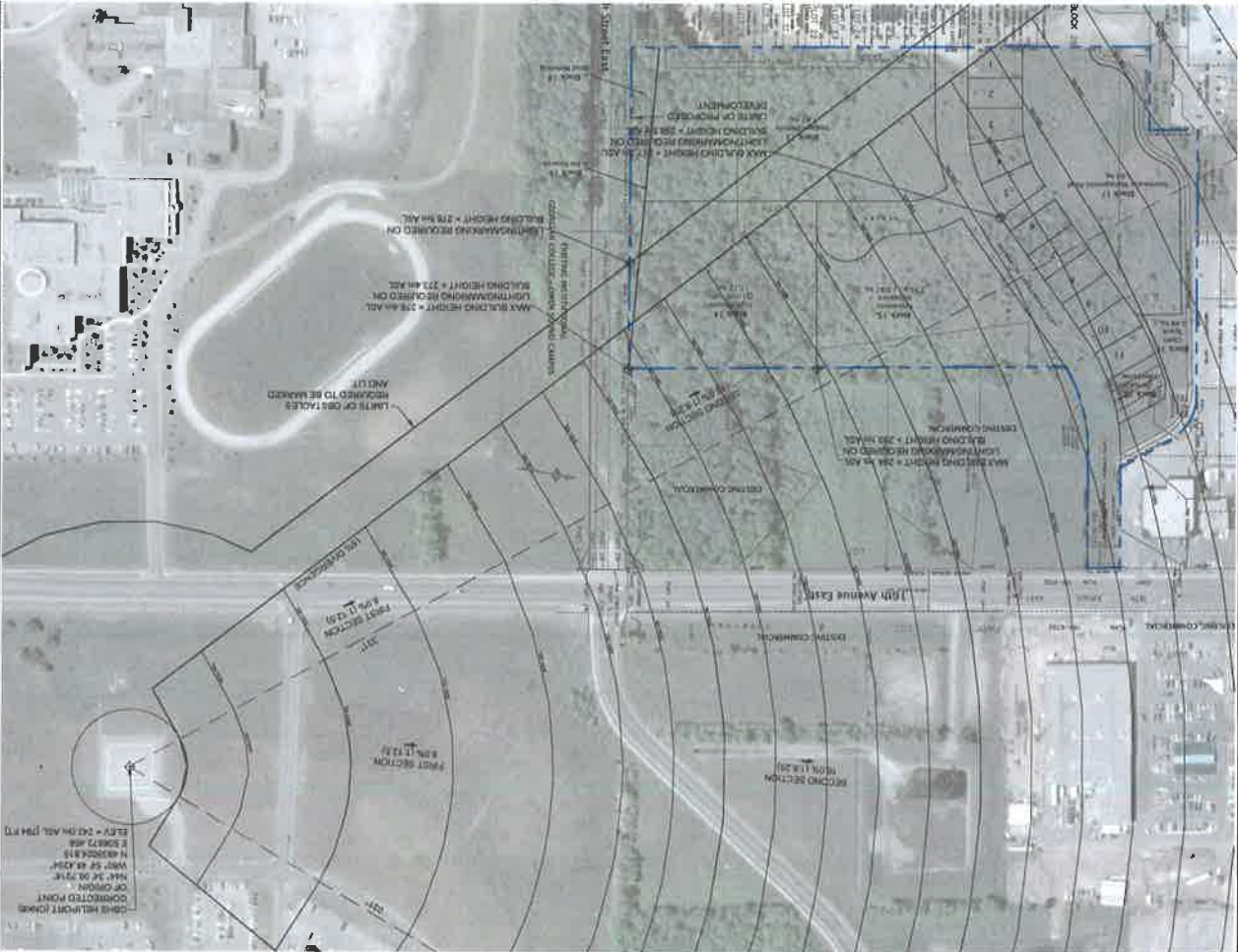
Sincerely,

A handwritten signature in blue ink, appearing to read "Isaac Wilkinson".

Isaac Wilkinson, P. Eng
Project Engineer

cc: Ian Rowbotham, P. Eng

Enc.



GENERAL NOTES

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DATE: 11/15/2011

PROJECT: OCHS HILLPORT CAMPUS

CLIENT: OCHS HOSPITAL HEALTH SYSTEM

CONSULTING ENGINEER: JONES CONSULTING GROUP

SCALE: 1" = 100'

SITE PLAN

FLIGHT PATH STUDY

ANDETT REALTY SITE - OWEN SOUND

JONES CONSULTING GROUP

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NO.	DATE	DESCRIPTION
1	11/15/2011	ISSUED FOR PERMITTING
2	11/15/2011	ISSUED FOR PERMITTING
3	11/15/2011	ISSUED FOR PERMITTING
4	11/15/2011	ISSUED FOR PERMITTING
5	11/15/2011	ISSUED FOR PERMITTING
6	11/15/2011	ISSUED FOR PERMITTING
7	11/15/2011	ISSUED FOR PERMITTING
8	11/15/2011	ISSUED FOR PERMITTING
9	11/15/2011	ISSUED FOR PERMITTING
10	11/15/2011	ISSUED FOR PERMITTING

PREPARED BY: JONES CONSULTING GROUP

CHECKED BY: JONES CONSULTING GROUP

DATE: 11/15/2011

SCALE: 1" = 100'

PROJECT: OCHS HILLPORT CAMPUS

CLIENT: OCHS HOSPITAL HEALTH SYSTEM

CONSULTING ENGINEER: JONES CONSULTING GROUP

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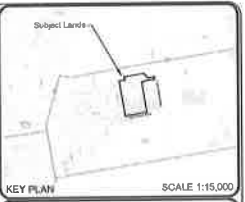
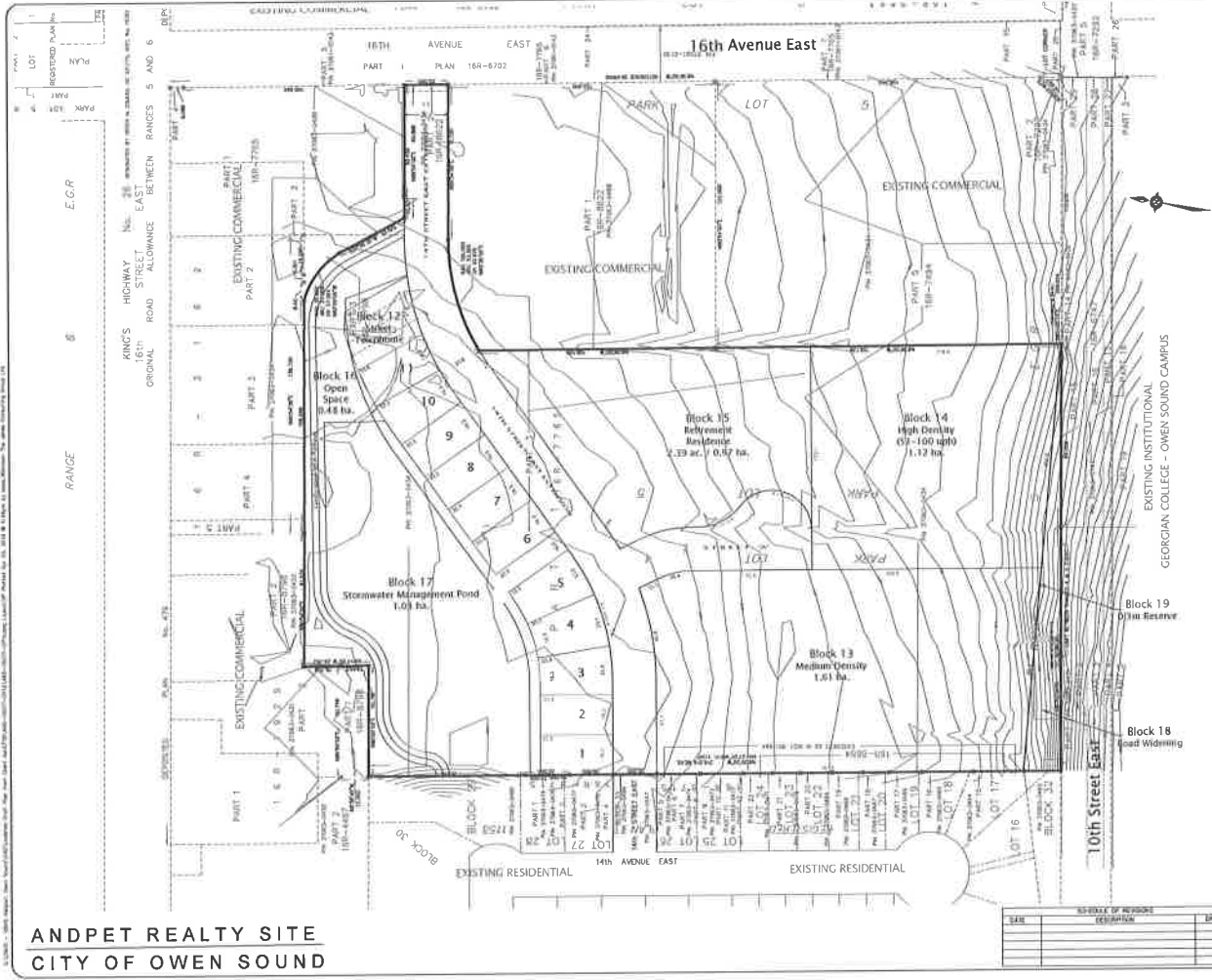
SCALE: 1" = 100'

SITE PLAN

FLIGHT PATH STUDY

ANDETT REALTY SITE - OWEN SOUND

JONES CONSULTING GROUP



Proposed Draft Plan of Subdivision
 Part of Park Lots 4 and 5, RANGE 5
 East of The Garafaka Road, PL Owen Sound
 City of Owen Sound
 County of Grey
 2018

OWNER'S CERTIFICATE
 I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE THE JONES CONSULTING GROUP LTD. TO PREPARE THE DRAFT PLAN OF SUBDIVISION AND TO SUBMIT SAME TO THE CITY OF OWEN SOUND FOR APPROVAL.

DATE _____ OWNER _____

SURVEYOR'S CERTIFICATE
 I CERTIFY THAT THE MEASUREMENTS OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE _____ O.L.S. ONTARIO LAND SURVEYORS

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 11 OF THE PLANNING ACT

DESCRIPTION	AREA (ha)	AREA (ac)
STREET DETACHED: 18.3m	0.84 ha	21 ac
STREET TOWNHOMES: 5m	0.29 ha	4 ac
STREET TOWNHOMES: 3.5m	1.91 ha	48 ac
HIGH DENSITY	1.12 ha	112 ac
RESIDENT RESIDENCE	0.87 ha	150 ac
PARKING/OPEN SPACE	0.43 ha	-
STORMWATER MANAGEMENT	1.03 ha	-
ROAD WIDENING AND RESERVE	0.17 ha	-
TOTAL	7.68 ha	189 ac



ANDPET REALTY SITE
 PROPOSED DRAFT PLAN OF SUBDIVISION

Date Issued: FEB. 12, 2018
 Checked By: LS
 Project No.: AND-18027
 Drawn By: M.S.S.
 Drawing Name: AND-18027-DPTA.dwg



ANDPET REALTY SITE
 CITY OF OWEN SOUND

