Appendix C: Amphibian Survey

1 Introduction & Background

Amphibian surveys were conducted at 419 Penetanguishene Road, Barrie Ontario. The purpose of the surveys was to identify and evaluate any amphibian communities located at or within 120 metres of the proposed ground-mounted solar facility on plot LP8 (herein referred to as the "project location"). Amphibian surveys were completed according to guidelines outlined in the Marsh Monitoring Program protocol (MMP) (Konze & McLaren, 1997).

1.1 Site Investigation

Two (2) surveys were conducted on May 7, 2012 and June 28, 2012. The Marsh Monitoring Protocols were followed as closely as possible with the surveys occurring early and late in the season. A summary of the weather characteristics for the surveys is provided in **Table 1**.

Table 1: Summary of Survey Identification & Weather Characteristics

Date (2012)	Time (PM)	Temperature (˚C)	Wind (Km/h)	Conditions
May 7	9:45 - 10:45	13	7	Misting rain, calm
June 28	8:00 – 9:45	22	13	Calm

2 Methodology

Amphibian surveys were conducted using the Marsh Monitoring Program protocol (MMP). Rain was observed within the previous 24 hours prior to each survey. Winds were light during each survey. Surveys were conducted using an unlimited distance point count. All frogs and toads within a 180° arc sampling area in front of an observer were counted (Konze & McLaren, 1997). The counts were conducted across ten (10) stations that represented the different habitat features of the project location and those areas within 120 metres.

At each station on each sampling date, we conducted three (3) listening sessions per station. Each session lasted three (3) minutes. The calls heard were classified into five (5) levels:

- Level (1) – No calls heard;
- Level (2) – Frog(s) or toad(s) seen or heard
- Level (3) – Frog(s) or toad(s) can be counted, calls do not overlap;
- Level (4) – Frog(s) or toads can be counted, while others are overlapping; or
- Level (5) – Full chorus, continuous and overlapping; cannot distinguish frogs or toads

A summary of habitat characteristics for each station is as follows as mapped on Figure 1:

- Station (1) – At south edge of old field meadow ecosite
- Station (2) – At western edge of the old field meadow ecosite along hedgerow
- Station (3) – At north west corner of the old field meadow ecosite along hedgerow
- Station (4) – At the north edge of the old field meadow ecosite along hedgerow
- Station (5) – At the west edge of the woodland; east of the project location
- Station (6) – At the west edge of the woodland; east of the project location

- Station (7) –At the west edge of the dugout pond; east of the project location
- Station (8) – In woodland; south east corner of residential dwelling
- Station (9) – In woodland; east of the residential dwelling
- Station (10) – In woodland; east of the residential dwelling

3 Results

A number of frogs were observed during both surveys, however, more species were recorded during the May survey as summarized in **Table 2** and **Table 3**. Those species observed during the May survey included Spring peepers (*Pseudacris crucifer*), and an American toad (*Anaxyrus americanus*). The total number of spring peepers counted was approximately 7, with only one call of an American toad.

Species observed during the June survey were associated with those species that are known to breed later in the season. A total of one (1) Green frog (*Lithobates clamitans*) was heard, while both a Leopard frog (*Lithobates pipiens*) and Mink frog (*Lithobates septentrionalis*) were seen (**Table 3**).

Table 2: Summary of May 7, 2012 Amphibian Survey

Survey	Station	Observation	Abundance Code
May 7th, 2012	1	NA	1
	2	NA	1
	3	NA	1
	4	NA	1
	5	5-6 Spring peepers with faint calls	3
	6	5-6 Spring peepers with faint calls	3
	7	~7 Spring peepers and 1 American toad	4
	8	5-6 Spring peepers with faint calls	3
	9	4 Spring peepers	3
	10	4 Spring peepers	3

Table 3: Summary of June 28, 2012 Amphibian Survey

Survey	Station	Observation	Abundance Code
June 28th, 2012	1	NA	1
	2	NA	1

Survey	Station	Observation	Abundance Code
	3	NA	1
	4	NA	1
	5	NA	1
	6	1 Green frog	3
	7	One (1) green frog heard –visually observed one (1) leopard frog and one (1) mink frog	2 & 3
	8	NA	1
	9	NA	1
	10	NA	1

4 Summary

The dugout pond located east of the project location, west of the residential dwelling does serve as a breeding habitat for amphibians in connection with the woodland located just east and north of the residential dwelling. No species were heard inside the woodland during the June survey, but a number of spring peepers were heard during the May survey. Therefore, the site can be considered to contain woodland breeding habitat, which occurs within 120 metres of the project location as indicated on Figure 1.

We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

Exp Services Inc.

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References

Konze, Karl and McLaren, Margaret. 1997. Wildlife Monitoring Programs and Inventory Techniques for Ontario. Ontario Ministry of Natural Resources. Northeast Science and Technology. Technical Manual TM-009. 139 pp.

Source: County of Simcoe GIS Mapping, basd on 2008 Aerial Photography

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PROJECT TITLE:
FUTURE SOLAR DEVELOPMENTS INC. LP8
304 PHASE NATURAL HERITAGE STUDY
419 PENETANGUISHENE ROAD
BARRIE, ONTARIO

DRAWING TITLE:
Amphibian Survey Station Locations

PROJECT No.: WSL-00002250-00	DWN: PS
SCALE: AS NOTED	CHKD: DF
DATE: AUGUST 2012	FIG. No.: 1