



Attachment B

Summary of Crepuscular Bird Habitat Features and Habitat Assessment Status

Attachment B. Survey Results



Eastern Whip-poor-will and Common Night Hawk Species-Specific Surveys undertaken for the "Preliminary Design Update, Detail Design and Class Environmental Assessment Study for the Highways 6 & 401 Improvements

Feature		Round 1			Round 2			Round 3	
ID	Date	Survey Conditions	Results	Date	Survey Conditions	Results	Date	Survey Conditions	Results
CR-01	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-02	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-03	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none:	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-04	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-05	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-06	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None
CR-08		Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None		Moon Illumination (%): 62.9 Temperature °C: 11 Wind (BF): 1 Cloud Cover (%): 90 Precipitation: none	None	Not required		
CR-09	5/30/2018	Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/5/2018	Moon Illumination (%): 62.9 Temperature °C: 11 Wind (BF): 1 Cloud Cover (%): 90 Precipitation: none	None	Not required		

Attachement B- Survey Results

Attachment B. Survey Results



Eastern Whip-poor-will and Common Night Hawk Species-Specific Surveys undertaken for the "Preliminary Design Update, Detail Design and Class Environmental Assessment Study for the Highways 6 & 401 Improvements

Feature		Round 1			Round 2			Round 3	
ID	Date	Survey Conditions	Results	Date	Survey Conditions	Results	Date	Survey Conditions	Results
CR-10	5/30/2018	Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/5/2018	Moon Illumination (%): 62.9 Temperature °C: 11 Wind (BF): 1 Cloud Cover (%): 90 Precipitation: none	None	Not required		
CR-11	5/31/2018	Moon Illumination (%): 97.3 Temperature °C: 21 Wind (BF): 1 Cloud Cover (%): 20 Precipitation: none	None	6/5/2018	Moon Illumination (%): 62.9 Temperature °C 11 Wind (BF): 1 Cloud Cover (%): 90 Precipitation: none	None	Not required		
CR-12	5/31/2018	Moon Illumination (%): 97.3 Temperature °C: 21 Wind (BF): 1 Cloud Cover (%): 20 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/26/2018	Moon Illumination (%): 100 Temperature °C: 16 Wind (BF): 2-4 Cloud Cover (%): haze Precipitation: none	None
CR-13	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 23 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none:	None
CR-14	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 23 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none:	None
CR-15		Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	Not required		
CR-16	5/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF):2 Cloud Cover (%): 10 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None		Moon Illumination (%): 100 Temperature °C: 16 Wind (BF): 2-4 Cloud Cover (%): haze Precipitation: none	None
CR-17	5/31/2018	Moon Illumination (%): 97.3 Temperature °C: 21 Wind (BF): 1 Cloud Cover (%): 20 Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 22 Wind (BF): 0 Cloud Cover (%): 0 Precipitation: none	None

Attachement B- Survey Results 2

Attachment B. Survey Results



Eastern Whip-poor-will and Common Night Hawk Species-Specific Surveys undertaken for the "Preliminary Design Update, Detail Design and Class Environmental Assessment Study for the Highways 6 & 401 Improvements

Feature		Round 1			Round 2			Round 3	
ID	Date	Survey Conditions	Results	Date	Survey Conditions	Results	Date	Survey Conditions	Results
CR-18		Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	Not required		
CR-19	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None		Moon Illumination (%): 100 Temperature °C: 16 Wind (BF): 2-4 Cloud Cover (%): haze Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none	None
CR-20	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	6/28/2018	Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none	None	6/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF): 1 Cloud Cover (%): 0 Precipitation: none	None
CR-21	6/1/2018	Moon Illumination (%): 93.2 Temperature °C: 18 Wind (BF): 2 Cloud Cover (%): 5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none:	None	6/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF): 1 Cloud Cover (%): 0 Precipitation: none	None
CR-22	5/30/2018	Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none:	None	6/29/2018	Moon Illumination (%): 100 Temperature °C: 26 Wind (BF): 1 Cloud Cover (%): 0 Precipitation: none	None
CR-23	5/30/2018	Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none	None
CR-24		Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/25/2018	Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none	None
CR-25	5/30/2018	Moon Illumination (%): 90 Temperature °C: 20 Wind (BF): 2 Cloud Cover (%): 80 (thin cirrus clouds, moon full and visible) Precipitation: none	None	6/25/2018	Moon Illumination (%): 96 Temperature °C: 17-11 Wind (BF): 0-1 Cloud Cover (%): 0-5 Precipitation: none	None	6/28/2018	Moon Illumination (%): 100 Temperature °C: 24 Wind (BF): 1 Cloud Cover (%): 5 Precipitation: none	None

Attachement B- Survey Results



Attachment C

Field Data Collection Forms



Project Name: Hahway y	01/6	Surveyors: E. M CNCUMENTO	
Project Number: 60 54 10 71			
Survey Date: May 28, 20	218	Official Sunsent Time: 8:5/10	m
% Moon Illumination: 106%	(97.8% antic	ipated Official Moonrise Time: 7:56	<i>O</i> m
Weather Conditions			'
Temperature (C°): 26°C	Wind (from):	SE. $B-2$ Wind (B.S.):	
Cloud Cover (%): 10%	Percipitation:		
Description of Local Habitat Condition	ns and Adjacent Land Us	se:	
Deciduais Freest wit	h appeater th	ran (00% cover.	1
		ALER Saccharum,	
		ubus icleas, Arisaema trito	lun
DoiNT count locations	adjacent to	throw 6 North and agri	alte
Survey Point Information (Spend at le	east 5 minutes listening	for Whip-poor-wills at each operation	25
survey point. For point with Whip-po			
survey form and record the location of	on the field map.		

			V-1000	est-contribution and	W-100			-
Citable	?	. ×		# EWPW	Moon Visible?			Records
(4/N)	? Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Lev	vel (circle one)	#
N	CR-01	0565320 4813492	9:57pm	Ø	N	Slight High	Moderate Excessive	BB-01
y	CR-02	0565699 4812638	10:21pm	Ø	y	Slight High	Moderate Excessive	BB-02
y	CR -04	0565699 4812638	10:21pm	Ø	y	Slight High	Moderate Excessive	BB-UZ
y	OR-03	0566243 4812885	10:48pm	Ø	7)	Slight High	Moderate Excessive	BB-63
y	CR-05	US65917 4812086	11:32 pm	Ø	y	Slight High	Moderate Excessive	BB-04
?	CR-06	4812086	11:32pm	Ø	3	Slight High	Moderate Excessive	BB-U-1
y.	CR-15	0571337 4811495	12: 26pm	Ø	y.	Slight (High)	Moderate Excessive	88-05
4?	CR-Ke.	451088	12.49An	0	y	Slight High	Moderate Excessive	BB-ae
0						Slight High	Moderate Excessive	
						Slight High	Moderate Excessive	1
						Slight High	Moderate Excessive	1
	N 10					Slight High	Moderate Excessive	1
					7 ×	Slight High	Moderate Excessive]



Whip-poor-will Bird Information - fill in one line per each bird heard

		one me per eden on a	T		
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
				-	= =
	#				
	MONE	OBSERVER).		
		98			
					1

Survey Point ID	Species	Distance	Direction	Comments
				i ii i
			NO Bire	1 Species
			Heare	Surveys.
				Surveys.
			d d	



Project Name: 1(* 1	E.M.Warreliten
Project Name: High way 401/6	surveyors: E. M. Waughten M. Olson
Project Number: (0054107)	
Survey Date: May 29, 2018 (99.7% anticipate)	Official Sunsent Time: 8:52 pm
% Moon Illumination: 90%	Official Moonrise Time: 8:56pm
Weather Conditions	
Temperature (C°): 20 Wind (from): E 17 K	m / h Wind (B.S.): 2
Temperature (C°): 20 Wind (from): £ 17 k Cloud Cover (%): 80% + Nin C Percipitation: 0	
Description of Local Habitat Conditions and Adjacent Land Use:	
Adjacent to HW1401 Property us	e includes
residential & commercial Vegetat	200 communities
are typical of area & include t	OD (III) CUM CUT
SWT, etc.	, , , , , , , , , , , , , , , , , , , ,

		I the held in	1#	Moon			-
			# EWPW	Visible?			Recordi.
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Lev	val (circle ana)	#
	0568394		incuru	(1/14)		el (circle one)	
CR-10	4810824	9:57		14	Slight	Moderate	07
				/	High	Excessive	′
	0567753	10:15	0	lu	Slight	Moderate	08
	4810842		/	/	High	Excessive	1 0
CR-08	0567424	10:31	B	4	Slight	Moderate	09
	4810788	10:02		9	High	Excessive] /
CR-22	0572855 4808538	11:26	a		Slight	Moderate	140
22		12.40		J	High	Excessive	10
CR-23	0573306	11:48	1		Slight	Moderate	7 1
UN 125	4808374	TT.10			High	Excessive	I1
CR-24	0573306	11:48		11	Slight	Moderate	14
012 21	4808374	11.40		9	High	Excessive	12
CR-25	3574194	12:08	X		Slight	Moderate	13
50 25	4808359	12.00			High	Excessive	50
CR-18	0570720	12:27	0	U	Slight	Moderate	110
CIC 20	4810485	97.71	9	191	High	Excessive	13
					Slight	Moderate	1
					High	Excessive	
					Slight	Moderate	1
v_=:					High	Excessive	
					Slight	Moderate	1
	S				High	Excessive	
0					Slight	Moderate	1
					High	Excessive	
					Slight	Moderate	1
		9			High	Excessive	



Whip-poor-will Bird Information - fill in one line per each bird heard

	,	n one mie per eden bird			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
18					
	No	ne observe	el Ma	nel	
			/		

Other species of				
Survey Point ID	Species	Distance	Direction	Comments
			None ?	place red/hood
	_			,
	i i			



Project Names H' als a 1151/	F Manage 1stm
Project Name: Highway 401/6.	Surveyors: E. Manaughton
Project Number: 60541071	
Survey Date: May 30, 2018	Official Sunsent Time: 8:53 Pm
% Moon Illumination: (00 /. (99.51)	anticipated Official Moonrise Time: 9:52pm
Weather Conditions	
Temperature (C°): 23°C Wind (from):	1 / km/h. Wind (B.S.):
Cloud Cover (%): SO /_ Percipitation:	8
Description of Local Habitat Conditions and Adjacent La	and Use:
Adjacent to they 401. P	roperty use includes
	getation communities
are thoical of drea and	Include ROD, CUW, CUM, U
Sut dite	the state of the s
Current Daint Information (Count of Inch Project of Inch	

			# EWPW	Moon Visible?		
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Naise Lev	el (circle one)
CR-21	05+1449	9:22	K	N	Slight	Moderate
CR-20	4809256	1 0	NO.	10	High	Excessive
CR-19	0570683	10:08	8	N	(Slight	Moderate
	4809845	10 00	2	10	High	Excessive
CR-13 CR-14	85 70 294	11:03	08	h	Slight	(Moderate)
01. 13	48 10-138	11.00	90		High	Excessive
c1-14	11	11:03	10%	N	Slight	Moderate
		11-03	\mathcal{D}		High	Excessive
		-			Slight	Moderate
					High	Excessive
	S	100	100		Slight	Moderate
		urvel	18		High	Excessive
		COLORDI	Dea	1 2	Slight	Moderate
		CAMO	ue	M	High	Excessive
		inno =	L. 15	0	Slight	Moderate
		MASU	100		High	Excessive
		and	*****	c ,	Slight	Moderate
		CHICI	110K	1	High	Excessive
-		1000			Slight	Moderate
		ruled	IU	R>	High	Excessive
		000	0	ofon	Slight	Moderate
		KK-1,0	AND	UIC	High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

Survey Point 10	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
-	g trå e ^{g tr}		<u> </u>	ll e	
		None Mea	rel 10/2	served	
8					

Survey Point ID	Species	Distance	Direction	Comments
		Nine Ma	arellob	served
21			/	
				5.
-				



	Project Name: 401/6	Surveyors: E. McNawanton
	Project Number: 60541071	VII. (7 ISD) / 3
	Survey Date: May 31, 2018	Official Sunsent Time: 8:54 pm
		Official Moonrise Time: 10:44 DW
	Weather Conditions	
	Temperature (C°): 71°C Wind (from): SW 4 Kr	√ // Wind (B.S.): 1
	Cloud Cover (%): 7 0 % Percipitation: 000 8 - 200	
1.	Description of Local Habitat Conditions and Adjacent Land Use:	Control of the control of
Lounas	Description of Local Habitat Conditions and Adjacent Land Use: Advacent +0 Hulys 401 & 6 high!	y distiched
	Ly alkun (1) com munities in clipa a to	$\mathcal{D} \subset \mathcal{U}(k) \subset \mathcal{U}(k)$
į	sult, etc industrial & commercia	Paranerties nearly
		rew by.

			# EWPW	Moon			7, 1:
Survey Point ID	GPS Co-ordinates	Start Time	heard	Visible?			Recordin
		Start Time	neard	(Y/N)		el (circle one)	
	0570060 4811135	11:46	Ø	4	Slight	Moderate Excessive	17
CR-11	0569324 4811059	12:08	Ø	4	Slight High	Moderate Excessive	18
CR-17	0571510 4811736	12:50	Ø	4	Slight High	Moderate Excessive	19
					Slight High	Moderate Excessive	1 - '
					Slight High	Moderate Excessive	1
		4.		ı.	Slight High	Moderate Excessive	1
					Slight High	Moderate Excessive	
					Slight High	Moderate Excessive	1
i = =					Slight High	Moderate Excessive	1
					Slight	Moderate	1
				_	High Slight	Excessive Moderate	-
		8			High Slight	Excessive Moderate	
					High Slight	Excessive Moderate	-
					High	Excessive	



Whip-poor-will Bird Information - fill in one line per each bird heard

Vinp poor trin out	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Tone line per euch bird			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
3					
	7.				
		None Me	mellob	exect	*1
	G.				
				2 2 2	

Other species of I		21.1	Direction	Comments
Survey Point ID	Species	Distance	Direction	Comments
		None 1	eard /of	cerved.
			70.	
		Ψ.		

A=COM

Project Name: Highway 401/6	Surveyors: E. McNaughtin				
Project Number: 6541071	0				
Survey Date: June 1, 2018	Official Sunsent Time: 8:55am				
% Moon Illumination: $93-2^{\circ}/_{\circ}$	Official Moonrise Time: / / - 2)				
Weather Conditions					
Temperature (C°): 18 Wind (from):	first 2 Wind (B.S.):				
Cloud Cover (%): Percipitation:					
Description of Local Habitat Conditions and Adjacent Land Use:					
Acricultural fields, Country roads and					
destruct meadows. Purpas woodlands					
and the 401 are also within and adjacent					
to the local habitant	0				
Survey Point Information (Spand at least 5 minutes listoning for Whin					

Survey Point Information (Spend at least 5 minutes listening for Whip-poor-wills at each survey point. For point with Whip-poor-will fill in the additional information on page 2 of the survey form and record the location on the field map.

Survey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Lev	vel (circle one)
CR-20	4809248	11:46	8	Ч	Slight High	Moderate Excessive
OR-20 CR-21	0571449	11:46	6/	4	Slight	Moderate Excessive
CR-19	0570682	12:21	Ø	Й	Slight High	Moderate Excessive
CR-13	0570290	1 Wam	Ø	9	Slight High	Moderate Excessive
CR-14	0570290 4810745	1:10 dr		u	Slight High	Moderate Excessive
					Slight High	Moderate Excessive
-				Ü	Slight High	Moderate Excessive
			٠		Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive

22

22



Whip-poor-will Bird Information - fill in one line per each bird heard

		-		7	
		Repeat from Last	-		
Survey Point ID	EWPW ID	Survey Point? (Y/N)	Distance	Direction	Comments
			11.		
	0.				
8					
		2			
		None he	urel obs	prived.	
			l d		

Survey Point ID	Species	Distance	Direction	Comments
		None	reazel	Cobserved.
			(=
0				
200				

ROUND 2

Eastern Whip-poor-will Survey Form

AECOM

Project Name: $401/6$	Surveyors: E. M. Olson John
Project Number: 60541071	
Survey Date: #JUNE 1, 2018	Official Sunsent Time: 8:550m
% Moon Illumination: 93.27	Official Moonrise Time: 1:310m
Weather Conditions	
Temperature (C°): 18°C Wind (from):	11 km/h Wind (B.S.): 2
Cloud Cover (%): 5% Percipitation:	0)
Description of Local Habitat Conditions and Adjacent La	nd Use:
Adjacent to they you	Aprice otural fields.
Adjacent to they you.	word and are included
in local habitet.	
	7

Survey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Le	vel (circle one)	Recordi
Ce-18	0570724	12:32	Ø	У	Slight (High)	Moderate Excessive	22
CR-15	4810488 0570867 4811099	01:32		y	Slight High	Moderate Excessive	23
					Slight High	Moderate Excessive	1
					Slight High	Moderate Excessive	-
		, h			Slight High	Moderate Excessive	
			10		Slight High	Moderate Excessive	
					Slight High	Moderate Excessive	
					Slight High	Moderate Excessive	
					Slight	Moderate Excessive	
					High Slight	Moderate	
				4	Hìgh Slight	Excessive Moderate	1
					High Slight	Excessive Moderate	
					High Slight High	Moderate Excessive	



Whip-poor-will Bird Information - fill in one line per each bird heard

						2
Survey Point ID		EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
				J ^{eg}		
:						
			None hear	ed/Mase	eveel	
						_
	9 2	age 10	4			

Survey Point ID	Species	Distance	Direction	Comments
				-
-	3 4 5			- 1
		None hear	rellon	sexuel.
-		911	/ -	
			6	



Whip-poor-will Bird Information - fill in one line per each bird heard

<u></u>					
		Repeat from Last			
Survey Point 10	EWPW ID	Survey Point? (Y/N)	Distance	Direction	Comments
E 70 L.					
- '1		9	(F)		Y
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Survey Point ID	Species	Distance	Direction	Comments
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	1	L		
5				
- Catel Cal	gets 2 5 13			
- FE 1 2	100 to 10			and a



Project Name: Highway 401/6.	Surveyors: E Mandaghton
Project Number: 605410770.	Fishingley
Survey Date: June 5,2018	Official Sunsent Time: 8:58pm
% Moon Illumination: (o 2-9 1/.	Official Moonrise Time: /-22am
Weather Conditions	
Temperature (C°): °C Wind (from):	8 km/hr Wind (B.S.):
Cloud Cover (%): 90% Percipitation:	- ORMINIC WIND (B.S.).
Description of Local Habitat Conditions and Adjacent Land	Use:
Agricultural fields, decided	
Stamps, Residental and Ca	mmappice O band
Zonne. Open woodlands and	Cu Otica O Mandre
adjacent to hodge paels.	The state of the s
Survey Point Information (Spend at least 5 minutes listenia	ng for Whin-poor-wills at each
	O . a. a han mills at edell

survey point. For point with Whip-poor-will fill in the additional information on page 2 of the survey form and record the location on the field map. ROUND#2

Survey Point ID	GPS Co-ordinates	Start Time	# EWPW	Moon Visible? (Y/N)		vel (circle one)
CR-11	05 69 335	2:48am	0	4	Slight High	Moderate
QR-10	4810844	3:06am		y	Slight High	Excessive Moderate Excessive
CR-08	0567246 4810785	3:31am	Ø	y	Slight High	Moderate Excessive
CR-09	0507730 4810860	3:41am	Ø	y	Slight High	Moderate Excessive
					Slight High	Moderate Excessive
				19 N 2	Slight High	Moderate Excessive
					Slight High	Moderate Excessive
				,	Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
					Slight High	Moderate Excessive
16.01	1 0.1/00				Slight High	Moderate Excessive

* Cloud COVER diminished and moon completely
DATA-2016-05-18-Eastern Whip-poor-will Survey Form_Sudbury
Visible during
Page Lof

28



Project Name: High way	Surveyors: E. M. Waryhon
Project Number: 605 41076	I RAIN FIJE
Survey Date: The Lo. 208	Official Sunsent Time: 8:59pm
% Moon Illumination: 53°/ °/,	Official Moonrise Time: 12 Sepm
Weather Conditions Temperature (C°): // Wind (from): Wind (from): Cloud Cover (%): 90 // Percipitation:	10 km/ha Wind (B.S.):
Description of Local Habitat Conditions and Adjacent Land Use: Acricus tures Pelds, Obelide 100001 crels our cultures 1 To Nedge Box 5.	

			#	Moon	1	`
	relace sod to		EWPW	Visible?	100	
Survey Roint ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Level	(circle one)
					Slight	Moderate
		_		TE	High	Excessive
					Slight	Moderate
1 2					High	Excessive
				_	Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
	=			- = =	Slight	Moderate
					High	Excessive
-	0 126		11.74	150	Slight	Moderate
	CONOU DONS	1		L 1 2	High	Excessive
	Conditions unsuitabl Survey	a fac			Slight	Moderate
5 4 47	UNSWITCHE	<u>L 102</u>			High	Excessive
	C- 10 100 1				Slight	Moderate
	Survey	ン、			High	Excessive
	U				Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
			=		High	Excessive
					Slight	Moderate
		1 /			High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

, , , , , , , , , , , , , , , , , , ,	Jii Tii Tii Tii Tii Tii Tii Tii Tii Tii	n one line per each bird		U	
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
			9)		
20 h					
	Wine	heard/c	TOPPEN	Rel	
				ev ev	
		Ų-			
		- 0.			

Burvey Point ID	Species	Distance	Direction	Comments
	-			
	Nano	Trooped	1 obsert	real.
				-
1 2 D A				
0.000	А		1	

1	
Ö	
C	
•	

Project Name: 401/6	Surveyors: B. 14/dn A.
Project Number: 60541071	Abodon
Survey Date: Jun 25-26 2018	Official Sunsent Time: 706 pm
% Moon Illumination: G_{k}'	Official Moonrise Time: んせんか
Weather Conditions Temperature (C°): 7 - 11 ° (Wind (from): 0-1 Cloud Cover (%): 0 - County Percipitation:	UAR Wind (B.S.):
Description of Local Habitat Conditions and Adjacent Land Use:	Pind Counts
Vendus locations	

Survey Point ID	GPS Co-ordinates	Start Time	EWPW heard	Visible? (Y/N)	Noise Level (circle one)
CRUI		(251)	/	~	Slight thy 6 (Moderate) High Excessive
(201)		1201	1	7	
CRUS		1228		~	6
CRO6		1228	/	~	
CRUZ		4421		~	
(RO4)		1244		~	
CR 12		1945		~	401
CRIT		一千		~	401
CR 16		OAB		7	104-
CR 13		1010	1	~	Slight (Moderate High Excessive
4127		0101		~	194
5223		1:3	1	~	Slight (Moderate High Excessive
42 22		<u>ر</u>	1	~	6
DATA-2016-05-18-E	DATA-2016-05-18-Eastern Whip-poor-will Survey Form_ Sudbury	1. 46 Irvey Form_Su	dbury	~	6 Moderate
		rivey i dilli_ ad	ubury		Page of

Page __ of __



Project Name: 401 /6	Surveyors: B. Holden A Alberta
Project Number: 605	enser Paris
Survey Date: 5m 76, 2018	Official Sunsent Time: 936pm
% Moon Illumination:	Official Moonrise Time:
Weather Conditions Temperature (C°): Wind (from): Cloud Cover (%): VAR / H47C Percipitation:	Wind (B.S.): 2-4
Description of Local Habitat Conditions and Adjacent Land Use: See See 2 199	

Survey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Level (circle one)
CR19		9:37	/	N	Slight My Moderate High Excessive
CR16		954	/	Y	Slight (a) Moderate High Excessive
CRIZ		1024	/	Y	Slight W Moderate (High) Excessive
- 0	antito 2	down		m=10	Slight Moderate High Excessive
					Slight Moderate High Excessive
					Slight Moderate High Excessive
					Slight Moderate High Excessive
					Slight Moderate High Excessive
					Slight Moderate High Excessive
					Slight Moderate High Excessive
				·	Slight Moderate
					High Excessive Slight Moderate
·					High Excessive Slight Moderate High Excessive

AECOM

Project Name: 461 /6		Surveyors: J. Flis E. Ra	1
Project Number:		SIGNA) CIRC	1417
Survey Date: 28 - June	-7017	Official Sunsent Time: 21.63	S
% Moon Illumination:	0	Official Moonrise Time: 21, 2	
Weather Conditions			N
Temperature (C°): 22	Wind (from):	MA Wind (B.S.):	-
Cloud Cover (%):	Percipitation:	Vilid (B.3.).	
Description of Local Habitat Cond	itions and Adjacent Land Use:		
Hochway you	, Grass and	u, colland	
Survey Point Information (Spend a			

		l	#	Moon		
J			EWPW	Visible?		
Survey Point ID		Start Time	heard	(Y/N)	Noise Lev	el (circle one)
(0,0	43. 45717	23,44			Slight	Moderate
CL17	-80.11/08	~ // []	0	y	High	Excessive
					Slight	Moderate
					High	Excessive
İ					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
				1	Slight	Moderate
					High	Excessive
				1	Slight	Moderate
					High	Excessive
			i		Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
1					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

Milih-hooi-Mili r	shu illiorittation jiii i	n one ime per each bha	1		
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
		3			
			<u> </u>		
42					
		J		<u> </u>	

Survey Point ID	Species	Distance	Direction	Comments
9477				
ļ				
}				



Project Name:		Surveyors:
Project Number:		
Survey Date:		Official Sunsent Time:
% Moon Illumination:		Official Moonrise Time:
Weather Conditions		The state of the s
Temperature (C°):	Wind (from):	Mind In c \.
Cloud Cover (%):	Percipitation:	Wind (B.S.):
Description of Local Habitat C	onditions and Adjacent Land Us	se:

urvey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible?		
artey Foliat ID	GF3 CO-ordinates	Start Time	neard	(Y/N)		/el (circle one)
J			1	-111	Slight	Moderate
				922	High	Excessive
					Slight	Moderate
——————————————————————————————————————					High	Excessive
			ĺ	88	Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
			'	1	Slight	Moderate
					High	Excessive
			- 1		Slight	Moderate
					High	Excessive
			l		Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High_	Excessive
					Slight	Moderate
					High	Excessive
			1		Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

Whip-poor-will E	Bird Information - Jili II	n one line per each bird	neuru		
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
		10			
	l:		#7		
	12				

Survey Point ID	Species	Distance	Direction	Comments
survey Politicia	эрсысэ			
	10			



Project Name:		Surveyors:		
Project Number:	ži –			
Survey Date:		Official Sunsent Time:		
% Moon Illumination:		Official Moonrise Time:		
Weather Conditions				
Temperature (C°):	Wind (from):	Wind (B.S.):		
Cloud Cover (%):	Percipitation:	wild (b.5.).		
Description of Local Habitat	Conditions and Adjacent Land U	se:		

			# EWPW	Moon Visible?		
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	N/=:	
	GI 5 CO-OIGINATES	Start Hitle	ileard	(1/14/		el (circle one)
				İ	Slight	Moderate
					High	Excessive
					Slight	Moderate
				<u> </u>	High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
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					Slight	Moderate
			,		High	Excessive
ľ					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
		J	П		Slight	Moderate
					High	Excessive
			Ţ		Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

will book will		n one mie per eden biid			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
ŧ					

 Distance	Direction	Comments
Species	Species Distance	



Project Name:		Surveyors:
Project Number:		
Survey Date:		Official Sunsent Time:
% Moon Illumination:		Official Moonrise Time:
Weather Conditions		
Temperature (C°):	Wind (from):	Wind (B.S.):
Cloud Cover (%):	Percipitation:	Talled (mos)
Description of Local Habitat C	onditions and Adjacent Land Us	se:
Samuel Deint Lafe		

			#	Moon		
			EWPW	Visible?		
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Lev	el (circle one)
					Slight	Moderate
					High	Excessive
					Slight	Moderate
			<u> </u>		High	Excessive
	i				Slight	Moderate
					High	Excessive
				!	Slight	Moderate
	<u></u>				High	Excessive
					Slight	Moderate
		·			High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
				,	High	Excessive
					Slight	Moderate
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					Slight	Moderate
					High	Excessive
					Slight	Moderate
				_ [High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

		Depart from Last			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
			<u> </u>		
	59				

Survey Point ID	Species	Distance	Direction	Comments
	· · · · · · · · · · · · · · · · · · ·			
				
•				
			<u> </u>	



Project Name: 40/	Surveyors: J. Ellis E. Rut	4'LZ
Project Number:	Ç	10
Survey Date: 29 - Line-2018	Official Sunsent Time:	
% Moon Illumination: / O O	Official Moonrise Time:	
Weather Conditions	2::2	
Temperature (C°): \bigcirc \bigcirc Wind (from):	MA Wind (B.S.):	
Cloud Cover (%): Ø Percipitation: Ø		
Description of Local Habitat Conditions and Adjacent Land Use	e:	
Hillman 6. field al scattered tre	e e a	

·		V	#	Moon		
			EWPW	Visible?		
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Level (circle one)	
	43,46577	0 - 0		V	Slight	Moderate Hug
CR-04	-30,13491	22:31		7	High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
		72			High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
			-		Slight	Moderate
					High	Excessive
					Slight	Moderate
	2				High	Excessive
					Slight	Moderate
L					High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

	1			
EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
				GT.
				.,
	EWPW ID	Repeat from Last Survey Point? (Y/N)	Repeat from Last Survey Point? (Y/N) Distance	EWPW ID Repeat from Last Survey Point? (Y/N) Distance Direction

Survey Point ID	Species	Distance	Direction	Comments
	L			



Project Name: 40/6			Surve	ors: 7. Ellis	E. Ratujery
Project Number:					
Survey Date: June 2	8/18		Officia	l Sunsent Time:	21:105 P
% Moon Illumination:		100	Officia	l Moonrise Time	21:38
Weather Conditions		-			
Temperature (C°): 23	Wind (from):		WIA	Wind (B.	5:0
Cloud Cover (%):	Percipitation:	Ō	7- (
Description of Local Habitat Cond	litions and Adjacer	nt Land Use	e:		
→ Grass land Surre	sunded 64	Centar	and Sal	- Fernat land	d.
- land swones into	"valle"	7 7 0 0 0 0		7-1.3. 7-1.	
,	J				-
					_

			#	Moon		
Survey Point ID	GPS Co-ordinates	Start Time	EWPW heard	Visible? (Y/N)	Naise Lev	(al (aiasta ana)
Jaivey Follit ID			neard	(1714)		/el (circle one)
CR 13/14	43, 44757	21:35		$I \wedge I$	Slight	Moderate
CF. 13/14	-80. 13076	21.00		, A	-High	Excessive
			ľ		Slight	Moderate
			ļ. <u>.</u>		High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
				716	High	Excessive
		· · · · · · · · · · · · · · · · · · ·			Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
		1.0.	1		Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

		mone me per eden on a			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
		6			

Survey Point ID	Species	Distance	Direction	Comments
CR13/69	Bats	70-30M		Foraging regions cohean frees large bats 1. Ly B.B.B.
:				
	8			

AECOM

Project Name: 401/6	Surveyors: J. Ellis E. Ratajczyk
Project Number:	J. Ellis C. Katajezyk
Survey Date: 28 - June - 2018	Official Sunsent Time: 2//05
% Moon Illumination: / 🔾 🔿	Official Moonrise Time: 21:28
Weather Conditions	
Temperature (C°): 22 Wind (from): Cloud Cover (%): Ø Percipitation:	Wind (B.S.):
Description of Local Habitat Conditions and Adjacent Land Use)
- Highway 6 - Add and Mouture trees.	

Survey Point ID		Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Le	vel (circle one)
(RO5/06	43.45963	22:50	O	\/	Slight	Moderate
	-30,13198	2011		γ,	-High-	Excessive-
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
1				}	Slight	Moderate
					High	Excessive
				ľ	Slight	Moderate
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		j			Slight	Moderate
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					High	Excessive
				T	Slight	Moderate
					High_	Excessive
ĺ		i			Slight	Moderate
					High	Excessive
				T	Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

Nhip-poor-will Bird Information - fill in one line per each bird heard						
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments	
						
		*				

Other species of Int	Species	Distance	Direction	Comments
iurvey Point ID	Species	Distance		
1				
	•			



Project Name: 401 / 6	Surveyors: J. Blis E. Redejeryle
Project Number:	ar and the firefly
Survey Date: 28 - June - 20 18	Official Sunsent Time: 71705
% Moon Illumination:	Official Moonrise Time: 71.20
Weather Conditions	
Temperature (C°): ZZ Wind (from): Cloud Cover (%): Percipitation:	
Description of Local Habitat Conditions and Adjacen	t Land Use:
Concession 7, com fields u	1 Scattered trees
Survey Delie M. C.	

			#	Moon		
			EWPW	Visible?		
Survey Point ID		Start Time	heard	(Y/N)	Noise Leve	el (circle one)
CR-03	43.44755	124-7		V	Slight	M oderat e
CK-0 J	780. 17971	22:06		7	High	Excessive-
]			Slight	Moderate
					High	Excessive
	2,		1		Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
	İ				Slight	Moderate
					High	Excessive
	l				Slight	Moderate
					High	Excessive
1					Slight	Moderate
					High	Excessive
				\neg	Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

		n one me per each bro			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
				3 1	
			90		

Survey Point ID	Species	Distance	Direction	Comments
			1	
			24	

AECOM

Project Name: 40/6	Surveyors: J. Ellis E. Quity'cz
Project Number:	
Survey Date: 27 - June -7018	Official Sunsent Time: 21;05
% Moon Illumination: /OO	Official Moonrise Time: 21, 28
Weather Conditions	
Temperature (C°): 22°C Wind (from):	Wind (B.S.):
Cloud Cover (%): Percipitation:	0
Description of Local Habitat Conditions and Adjacent L	and lise:
	to the and woodland
grasses on S side of Conces	sion 4

Survey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Lo	val (circle cos)	
	43,47270			(1714)	Noise Level (circle one)		
(R-01	-80. 194 BZ	12:12		l	Slight	Moderate	
		00110			High	Excessive	
					Slight	Moderate	
		-	 		High	Excessive	
₩.					Slight	Moderate	
					High	Excessive	
					Slight	Moderate	
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ĺ					Slight	Moderate	
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					High	Excessive	
					Slight	Moderate	
					High	Excessive	
					Slight	Moderate	
					High	Excessive	
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1		丁			Slight	Moderate	
					High	Excessive	
					Slight	Moderate	
					High	Excessive	
					Slight	Moderate	
					High	Excessive	



Whip-poor-will Bird Information - fill in one line per each bird heard

Whip-poor-will Bird Information - fill in one line per each bird heard							
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments		
Survey Formers							
			•				
!							

Survey Point ID	Species	Distance	Direction	Comments
Survey Point ID	Species	5,544,144		
ľ			1	
99				
	ii ii			
		_		



Project Name: 40//6	Surveyors: J. Ellis F. Ratciczu
Project Number:	' '
Survey Date: 28 June-70	Official Sunsent Time: 21:05
% Moon Illumination: (🗢	Official Moonrise Time: 21.28
Weather Conditions	
Temperature (C°): 22 w	from)://_A Wind (B.S.):
	itation:
Description of Local Habitat Conditions	Adjacent Land Use:
Highwan 6 , agricultura	ield al scattered trees

			#	Moon		
			EWPW	Visible?		
Survey Point ID	GPS Co-ordinates	Start Time	heard	(Y/N)	Noise Level (circle one)	
(R-07	43,46741	20:22	0		Slight-	Moderate Huy
CK-0 6	-80 18567	40,20		7	High	Excessive
					Slight	Moderate
	···.				High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
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					High	Excessive
					Slight	Moderate
					High	Excessive
	N				Slight	Moderate
					High	Excessive
					Slight	Moderate
					High	Excessive
					Slight	Moderate
		3*			High	Excessive
					Slight	Moderate
					High	Excessive



Whip-poor-will Bird Information - fill in one line per each bird heard

		1			
Survey Point ID	EWPW ID	Repeat from Last Survey Point? (Y/N)	Distance	Direction	Comments
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STOP WORK Right & Responsible Changes/changed conditions	nsibility- all task re-assess with THA		Slip/ Trip/ Fall Specialized Pl		3
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Required checklists/records a	available, understood (describe):		Other Topics (describe/	attach):
Lessons Learned / SH&E imp	rovements (describe);		Client specific	requirem	ents (describe):
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Worker Acknowledgement / Sign In Sign Out sheets applicable to this meeting are on reverse and, if applicable, attached. Daily Tailgate Meeting (\$3AM-209-FM5)
Revision 6 June 26, 2017
PRINTED COPIES ARE UNCONTROLLED. CONTROLLED COPY IS AVAILABLE ON COMPANY INTRANET.

All employees:

- STOP WORK if concerned / uncertain about safety / hazard or additional precaution is not recorded on the THA.
- Be alert and communicate any changes in personnel or conditions at the worksite to the supervisor.
- Reassess task, hazards, & mitigations on an ongoing basis; amend the THA if needed.

SITE WORKERS (including AECOM Contractors and Subcontractors): Your signature below means that you understand:

- * The requirement to participate in creating, reviewing, & updating hazard assessments (THA) applicable to your task(s).
- * The hazards & control measures associated with each task you are about to perform.
- * The permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
- * That no tasks or work is to be performed without a hazard assessment.
- * Your authority & obligation to "Stop Work" intervene, speak up/ listen up.

Your initials (right columns) certify that you arrived & departed fit for duty, & have reported all incidents/near misses; meaning:

- * You are physically and mentally fit for duty.
- * You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
- * You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or impairment/fatigue issue to the AECOM Supervisor.
- * You signed out as fit / uninjured unless you have otherwise informed the AECOM Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
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(Attach additional Site Worker sign-in/out sheets if needed) Identify number of attached sheets:

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AECOM

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Project Name: 461/6	Surveyors: P. H. Un A. Alberdan
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Survey Point ID	GPS Co-ordinates	Start Time	# EWPW heard	Moon Visible? (Y/N)	Noise Leve	l (circle one)
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AECOM Canada Ltd. 105 Commerce Valley Drive West, 7th Floor Markham, ON L3T 7W3 Canada

May 27, 2020

T: 905.886.7022 F: 905.886.9494 www.aecom.com

To: Kirstie Houston
Senior Environmental Planner
Ministry of Transportation

Project #: 60541071

From:

Date:

Jessica Piette (AECOM)

Johanna Perz (AECOM)

CC:

Memorandum

Subject: Henslow's Sparrow Surveys Undertaken for the "Preliminary Design Update, Detail Design and Class Environmental Assessment Study for the Highways 6 & 401 Improvements

1. Introduction

AECOM has been retained by the Ontario Ministry of Transportation (MTO) to undertake the Preliminary Design Update, Detail Design and Class Environmental Assessment (EA) Study for the Highways 6 & 401 Improvements from Hamilton North Limits to Guelph South Limits including a New Alignment of a Segment of Highway 6 (G.W.P. 3042-14-00). A map showing the Study Area is provided in **Figure 1**.

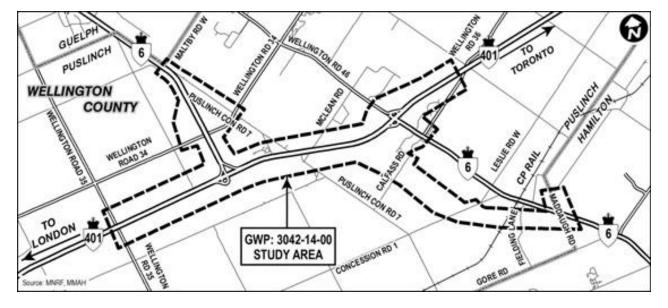


Figure 1: Study Area

In 2009, the Ministry of the Environment (now the Ministry of the Environment, Conservation and Parks) issued a Notice of Approval to Proceed with the undertaking subject to a set of conditions to be addressed during the detailed design phase of the project. Thirteen conditions were outlined in the document in order to address



various aspects of the project, one of which relates to the potential presence of Henslow's Sparrow (*Ammodramus henslowii*) and its habitat within the Study Area.

Table 1: Notice of Approval to Proceed with the Undertaking - Condition 5: Henslow's Sparrow

5.1	The proponent shall update and verify the Henslow's Sparrow habitat investigations documented in the
	Addendum issued November 1997 to confirm that the proposed highway right-of-way continues to have no
	potential impacts on the habitat for Henslow's Sparrow.
5.2	The proponent shall update the investigations described in Condition 5.1 by conducting additional investigations
	within appropriate time periods (i.e., during nesting and breeding season) during the detailed design phase. If the
	above investigation is undertaken within one year of construction, an additional investigation would not be
	required immediately prior to construction.
5.3	In the event that the investigations do demonstrate potential impacts, the proponent shall notify the Ministry of
	Natural Resources and Environment Canada and consider all direction provided by the Ministry of Natural
	Resources and Environment Canada.

On April 27, 2017, AECOM submitted a request for information to the MNRF Guelph District for background natural heritage information relating to the Study Area. Information pertaining to identified features, SAR, and any other relevant information was requested. On June 30, 2017, MNRF Guelph District responded to the request and provided information on wetlands, Areas of Natural and Scientific Interest (ANSI), and potential Species at Risk (SAR) within the vicinity of the Study Area. MNRF also indicated that, once project details have been determined, an Information Gathering Form (IGF) would be required to be submitted and reviewed by the MNRF to determine impacts on SAR. Presented in **Table 2** below are the SAR for which MNRF indicated they had records for in the vicinity of the Study Area.

Table 2: MNRF Species at Risk Records

Species Name	ESA Status
Eastern Small-footed Myotis (Myotis leibii)	Endangered
Jefferson Salamander (Ambystoma jeffersonianum)	Endangered
Little Brown Myotis (Myotis lucifugus)	Endangered
Northern Myotis (Myotis septentrionalis)	Endangered
Redside Dace (Clinostomus elongatus)	Endangered
Tri-colored Bat (Perimyotis subflavus)	Endangered
Unisexual Ambystoma (Jefferson Salamander dependent) (Ambystoma laterale) – (2) jeffersonianum	Endangered
Bank Swallow (Riparia riparia)	Threatened
Barn Swallow (Hirundo rustica)	Threatened
Bobolink (<i>Dolichonyx oryzivorus</i>)	Threatened
Eastern Meadowlark (Sturnella magna)	Threatened
Eastern Ribbonsnake (Thamnophis sauritus)	Special Concern
Grasshopper Sparrow (Ammodramus savannarum)	Special Concern
Monarch (Danaus plexippus)	Special Concern
Snapping Turtle (Chelydra serpentina)	Special Concern

2. Habitat Assessment

Henslow's Sparrow requires dense herbaceous vegetation that is typically over 30 cm tall. A thick mat of thatch material from previous years' vegetation is generally found in the ground layer. They prefer level areas and grasslands with minimal tree or shrub cover (Environment Canada, 2010). A study conducted in Illinois found probability of occurrence for Henslow's Sparrow increased with grassland size and the average size of an occupied grassland patch was 421 ha (Herkert 1994). Environment Canada (2010) states that patches of



suitable grassland habitat should be greater than 50 ha, preferably greater than 100 ha, to support breeding Henslow's Sparrow. Several small habitat patches, each at least 30 ha, separated by less than 2 km may also function together as a single large habitat patch.

The potential for the presence of suitable habitat for Henslow's Sparrow was assessed along the entire alignment using a combination of aerial photography interpretation and analysis of Ecological Land Class (ELC) data collected during the 2017 and 2018 field investigations.

It was determined that the largest area of contiguous grassland/meadow habitat with minimal shrub cover in the Study Area was located at P005 (refer to **Attachment A, Figure 1**). This community is approximately 8 ha in size, which is well below the minimum threshold of 30 ha. Additionally, P060 (refer to **Attachment A, Figure 3**) contained a large area of cultural meadow, of about 12 ha in size; however, this community contained a dense shrub layer and is considered as a community in transition from cultural meadow to cultural thicket and, as such, does not provide suitable Henslow's Sparrow habitat. Other areas of grassland/meadow habitat identified within the Study Area were much smaller in area and/or contained dense shrub layers making them unsuitable as habitat for Henslow's Sparrow.

3. Species-specific Surveys

Despite lack of records and presence of suitable habitat for Henslow's Sparrow within the Study Area, the condition of approval was addressed through breeding bird surveys conducted in 2017 and during grassland bird SAR surveys conducted in 2018. Additionally, all incidental bird observations were documented during field investigations within the Study Area.

3.1 Methods

3.1.1 2017

In 2017, breeding bird surveys followed the Forest Bird Monitoring Program Survey (CWS, 2009) protocol. These surveys to target potential SAR including Henslow's Sparrow, Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) were performed when suitable grasslands habitats were identified (CUM1, CUM2, or agricultural lands not currently farmed) through ELC classification or aerial photo interpretation. Generally, grassland area surveys are conducted within areas meeting a minimum size requirement of 30 ha; however, these larger grasslands are not present within the Study Area and therefore, grasslands were surveyed even if well below this threshold. This survey consisted of selecting point count locations approximately 200 m apart. One round of surveys was completed for each station during the breeding bird period between May 24 and July 10, 2017. Surveys were completed between 5:30 am and 10:00 am under appropriate weather conditions (i.e., no precipitation, calm to light wind) (CWS 2009). Each point-count consisted of a 5-minute survey during which time, species, breeding evidence and individual bird movement were recorded within 100 m radius. Species heard outside of the 100 m radius or that were observed outside of their breeding habitat within the 100 m radius (i.e., Fly-overs) were recorded separately.

3.1.2 2018

In 2018, AECOM undertook species-specific surveys to determine the presence or absence of the grassland bird SAR, specifically Henslow's Sparrow, Bobolink and Eastern Meadowlark, in accordance with the *Bobolink Survey Methodology*, dated April 2012 from the Ontario Ministry of Natural Resources and Forestry Guelph District.



Surveys were conducted from June 5, 2018 to July 4, 2018 and each survey was separated by a week or more from previous surveys. Surveys were undertaken from 30 minutes after dawn to 9:00 am under suitable weather conditions of no rain, no to low wind speed and good visibility.

3.2 Results

No Henslow's Sparrow were recorded during species-specific surveys or incidentally during other field investigations completed in 2017 or 2018.

4. Conclusions

During the 2017 and 2018 field investigations, Henslow's Sparrow was not encountered and no appropriate habitat areas of sufficient size were found. As such, this species is highly unlikely to be present within the Study Area. MNRF Guelph District was informed of the Condition 5 and that neither Henslow's Sparrow or suitable habitat was observed during the 2017 and 2018 field investigations.

5. References

Canadian Wildlife Service (CWS), 2009:

Forest Bird Monitoring Program Survey Instructions & Codes. May 2009 Edition.

Environment Canada, 2010:

Amended Recovery Strategy for the Henslow's Sparrow (*Ammodramus henslowi*i) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 23 pp.

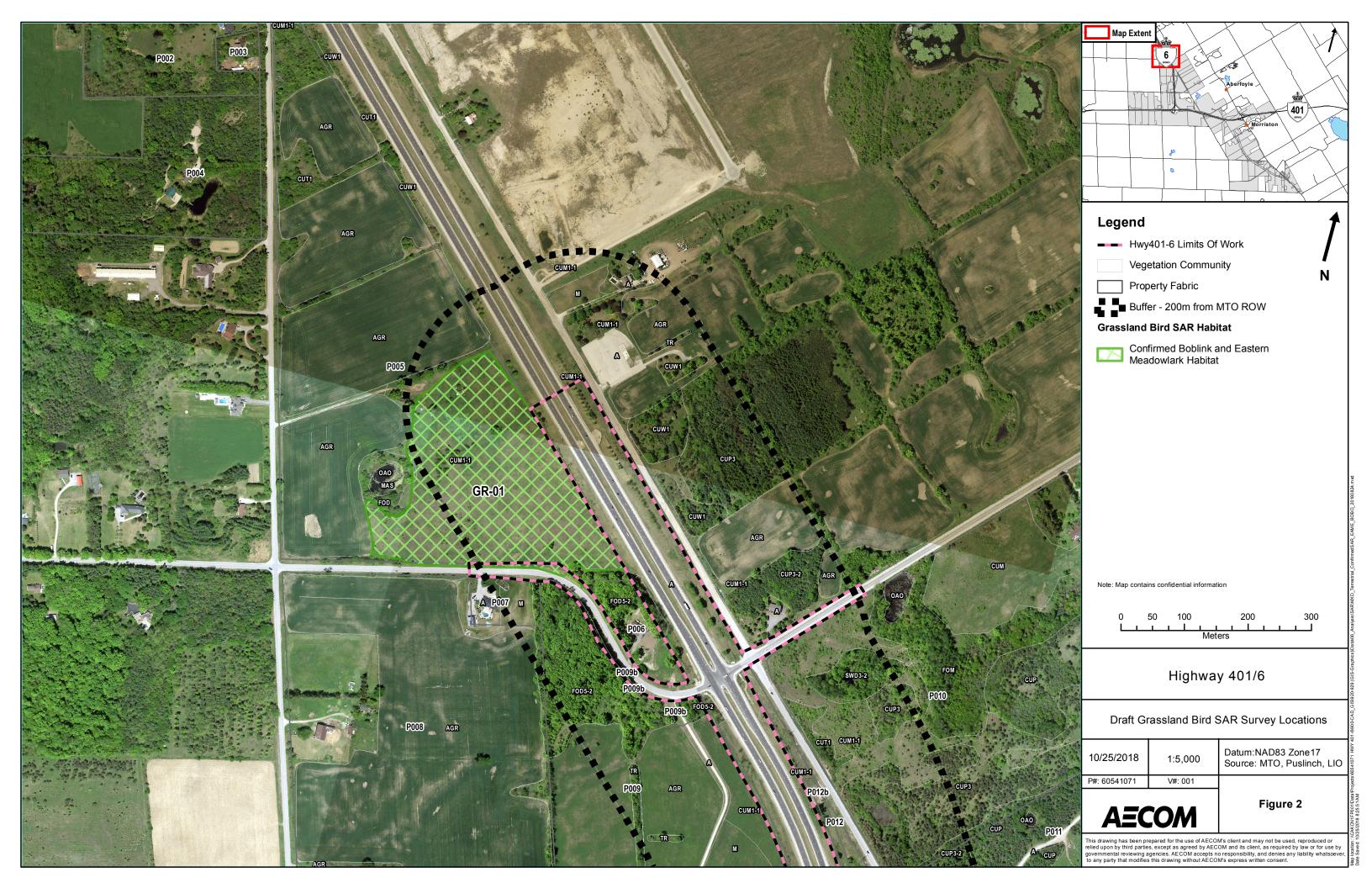
Herkert, J.R., 1994:

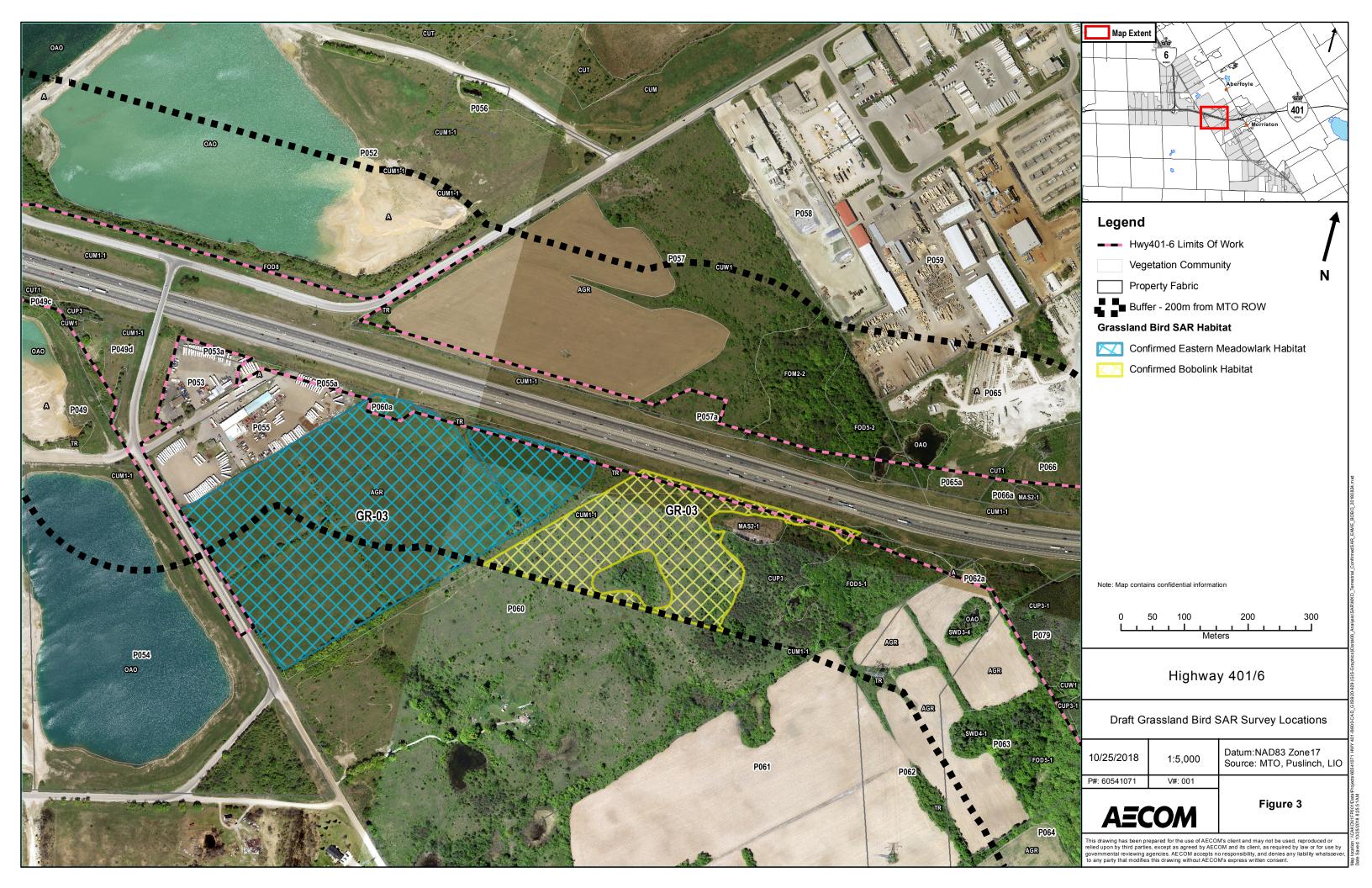
Status and habitat selection of the Henslow's Sparrow in Illinois. Wilson Bulletin 106: 35-45.

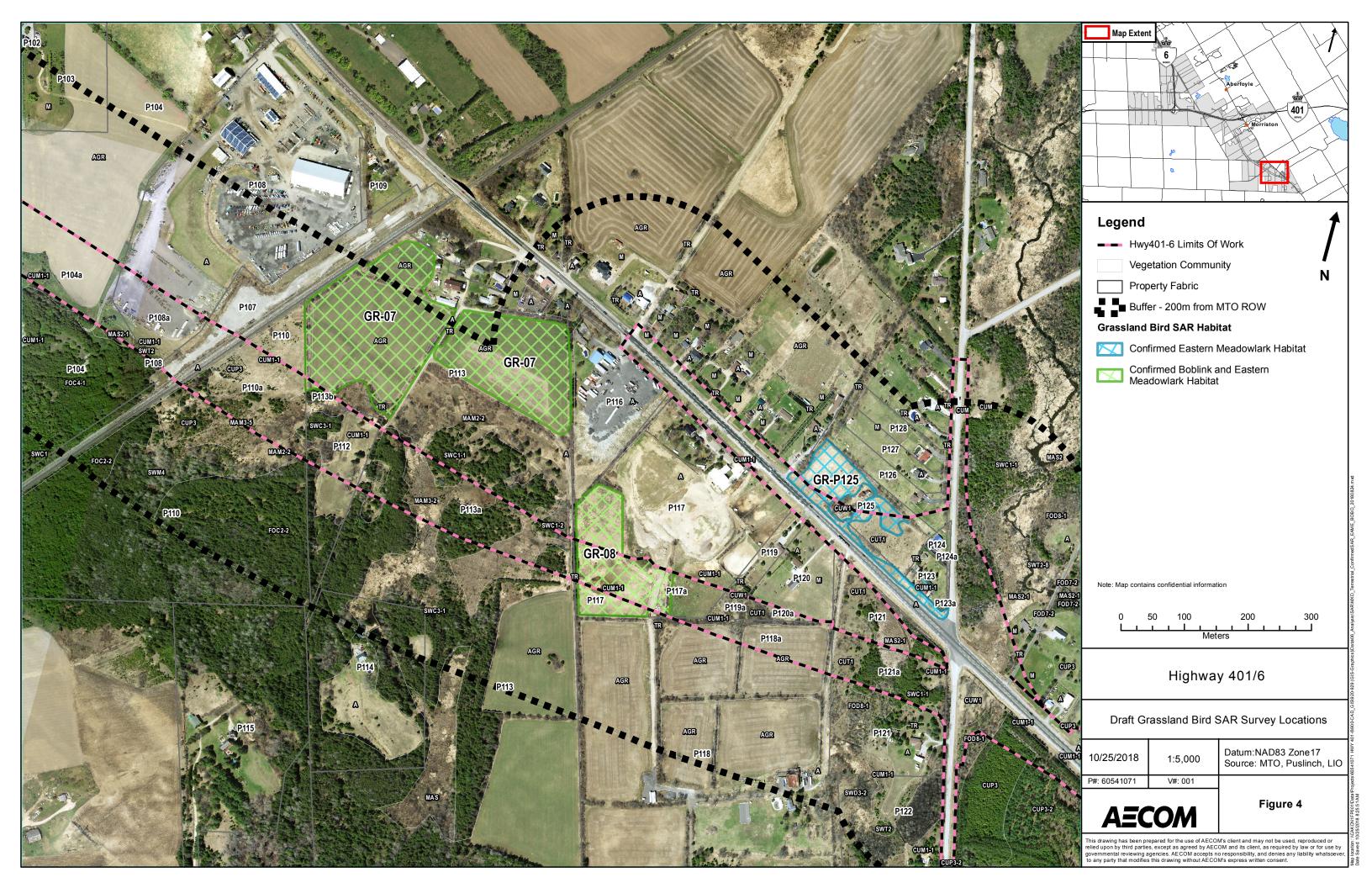


Attachment A

Draft Grassland Bird SAR Survey Locations Figures 2 to 4









AECOM Canada Ltd. 105 Commerce Valley Drive West, 7th Floor Markham, ON L3T 7W3 Canada

T: 905.886.7022 F: 905.886.9494 www.aecom.com

To: Kirstie Houston
Senior Environmental Planner
Ministry of Transportation

Date: May 27, 2020

Project #: 60541071

From: Jessica Piette (AECOM)

Julie Ellis (AECOM)

CC:

Memorandum

Subject: Turtle Survey Results, Highways 6 & 401 Improvements

1. Introduction

AECOM has been retained by the Ministry of Transportation (MTO) to undertake a Preliminary Design Update, Detail Design and Class Environmental Assessment Study for Highways 6 & 401 Improvements (the Project). The Study Area is shown in **Figure 1**. Based on known records within proximity to the Study Area and through consultation with the MNRF, targeted surveys were conducted to confirm the presence or absence of turtle Species at Risk (SAR) (Blanding's Turtle [*Emydoidea blandingii*] and Snapping Turtle [*Chelydra serpentine*]). Blanding's Turtle is afforded protected under the *Endangered Species Act* (*ESA*) (2007) and while Snapping Turtle is listed as Special Concern it is not protected under the *ESA* (2007).

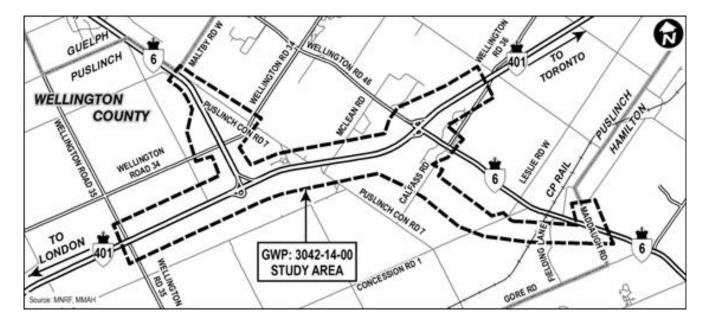


Figure 1: Project Study Area



2. Methods

A total of 13 features were identified as candidate turtle SAR habitat within or immediately adjacent to the anticipated limits of work. AECOM undertook species-specific surveys to determine habitat suitability and determine the presence of turtle SAR in accordance with the method for Visual Encounter Surveys as outlined in *Survey Protocol for Blanding's Turtle (Emydoidea blandingii) in Ontario* (MNRF, 2015). The locations of each site where sampling occurred are provided in **Attachment A, Figures 1-1** to **1-7**. A photographic log which provides representational photos of each feature is provided in **Attachment B**.

Different survey techniques were identified by MNRF (2015) for Open Water Wetlands (OWW) and Heavily Vegetated Wetlands (HVW). OWWs are those wetlands that contain large pools of open water and the view of the shoreline and other basking sites are largely unobstructed by vegetation; HVWs are suitable wetlands (e.g., meadow marshes) that lack large pools of open water. OWWs were surveyed through the use of binoculars to view the shoreline and basking sites. The number of vantage points selected per OWW was dependent on the size of the wetland in order to ensure that all of the wetland can be easily viewed. Where feasible, a portion of the shoreline was walked to survey for turtles. When HVWs were surveyed, evenly spaced transects no more than 10 m apart were conducted. Transects were repeated twice per survey on the same day to increase the detectability of turtles. Surveys were carried out utilizing either of two survey techniques (i.e., use of binoculars at vantage points or walking transects), or a combination of the two, depending on the vegetation present at each location.

In accordance with the MNRF's *Survey Protocol for Blanding's Turtle (Emydoidea blandingii) in Ontario* (2015), AECOM conducted five surveys spread over at least three weeks during the survey window (ice-off to June 15) at locations where suitable habitat was confirmed (**Attachment A, Figures 1.1** to **1.7**). Each survey was carried out between 8:00 am and 5:00 pm under suitable weather conditions, when the air temperature was warmer than water temperature and above 5°C during sunny periods, or was above 15°C on partially cloudy or overcast days. Surveys were conducted during the survey window beginning on April 30, 2018 and continued during days of suitable weather until May 29, 2018.

After each survey, a Blanding's Turtle Survey Form (provided in Appendix 3 of the MNRF Protocol [2015]) was completed. Field forms for each site are provided in **Attachment C.**

3. Results

Of the 13 potentially suitable sites, Site (TU-13) was deemed unsuitable during the initial site visit due to the lack of water. The remaining 12 sites were each surveyed five times between April 30 and May 29, 2018. Site locations are provided in **Attachment A**, **Figures 1.1** to **1.7**.

During five rounds of surveys across each of the 12 sites a total of 271 turtles were observed including 255 Midland Painted Turtle (*Chrysemys picta*), 13 Snapping Turtle, 1 Red-eared Slider (*Trachemys scripta*) and two unconfirmed species. Of these, only Snapping Turtle is on the Species at Risk in Ontario (SARO) list where it is designated as Special Concern, a designation which does not afford protection under the *ESA* (2007).

Midland Painted Turtle were most abundant observed at TU-04 and TU-03, where 120 and 73 turtles were observed over the five surveys at each site respectively. The maximum number of individuals seen during any of the five surveys was 36 at TU-03 and 35 at TU-04. Much smaller numbers of Midland Painted Turtle were also observed at TU-02, TU-07, TU-09, TU-10 and TU-12 (Refer to **Attachment D**).



Snapping Turtle was most abundant at TU-09, where a total of 10 individuals were recorded over all surveys with a maximum of three individuals in a single visit. Snapping Turtle were also observed at TU-01, TU-02 although in smaller numbers (Refer to **Attachment D**). As Snapping Turtle was the only SARO-listed species observed, the locations where Snapping Turtle were observed are illustrated in **Attachment A**, **Figures 1.1** to **1.7**.

One non-native species, Red-eared Slider, was observed at TU-10. There were single observations of an unconfirmed turtle species at both TU-04 and TU-10, these observations are unconfirmed as only the movement from basking into the pond was observed and the turtle was not observed to resurface in order to confirm species identification. Midland Painted Turtle were abundant at both of these locations; it is considered likely that the unconfirmed species observed were Midland Painted Turtle. No turtles were observed at TU-05, TU-06, TU-08, TU-11 and TU-13 during any of the five surveys; it is assumed that these wetlands do not support turtles. Detailed results of each survey are provided in **Attachment D**.

No Blanding's Turtle were observed at any of the sites in the Study Area during the five surveys (Refer to **Attachment D**); therefore, in accordance with the *Survey Protocol for Blanding's Turtle (Emydoidea blandingii)* in *Ontario* (MNRF, 2015), the species is likely not present within the Study Area.

4. Conclusions and Recommendations

- Of the 13 sites initially identified as containing suitable habitat, one (Site TU-13) was eliminated due to lack of water; the remaining 12 were carried forward to species-specific surveys.
- A total of 255 Midland Painted Turtles, 13 Snapping Turtle, one Red-eared Slider (non-native species) and two unconfirmed turtles were observed spread across eight sites (TU-01, TU-02, TU-03, TU-04, TU-07, TU-09, TU-10, and TU-12).
- No turtles were observed at five sites (TU-05, TU-06, TU-08, TU-11 and TU-13).
- No Blanding's Turtles were observed during field investigations completed by AECOM during the 2018 active season.
- Reasonable steps to minimize adverse effects on turtles will be developed during detail design. However, on a preliminary basis, mitigation measures to be considered include but are not limited to:

4.1 Design Measures:

Specific wildlife passage (i.e., eco-passage) design aspects shall be integrated into the design to enhance the crossing of the road through turtle habitat and make them more suitable for wildlife movement. This shall include but not be limited to retaining existing vegetation, planting native vegetation (i.e., shrubs, trees) and adding features such as woody masses/ brush piles to provide a natural transition with habitat features. Specific locations for eco-passages to be finalized at Detailed Design.

4.2 Construction Constraints:

It is recommended, for where construction is to occur in the vicinity of any of the eight locations where turtles were observed (TU-01, TU-02, TU-03, TU-04, TU-07, TU-09, TU-10, and TU-12), a qualified ecologist clear the construction area of any turtles prior to the onset of construction and turtle exclusionary fencing be installed to impede re-entry into the construction area.



- It is recommended that a wildlife observation protocol be prepared to ensure staff working in the vicinity of the eight locations are familiar with the species in question and commit to reporting observations to appropriate people (MECP, Site Biologist, MTO etc.). This document is to also outline the procedures to follow should a SAR turtle be encountered.
- A relocation plan shall be prepared, documenting locations of suitable relocation sites and outline steps to follow for handling.

5. References

Ministry of Natural Resources and Forestry (MNRF), 2015:

Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario. Species Conservation Policy Branch. Peterborough, Ontario. ii + 16 pp.

Attachments

Attachment A: Sampling Location Figures

Attachment B: Photographic Log

Attachment C: Turtle SAR Field Data Collection Forms

Attachment D: Summary of Results



Attachment A

Sampling Location Figures

