



Samsung Renewable Energy Inc. and  
Pattern Renewable Holdings Canada ULC

**5C Additional Stage 2  
Archaeological Assessment**

For  
**Armow Wind Project**



July 13, 2012

## STAGE 2 ARCHAEOLOGICAL ASSESSMENT

**SP Ontario Armow Wind Project  
Additional Field Work  
Various Lots and Concessions  
Geographic Townships of Bruce and Kincardine  
now Municipality of Kincardine  
Bruce County, Ontario**

ORIGINAL REPORT

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and Sport

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## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

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## Executive Summary

A Stage 2 archaeological assessment was conducted by Golder Associates Ltd. (Golder) for the proposed SP Ontario Armow Wind Project on behalf of SP Ontario Wind Development LP (SP Ontario). This wind energy project was originally commenced by Acciona Wind Energy Canada Inc. and later purchased by SP Ontario (2011). The Stage 2 assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 section 22(3) of the *Environmental Protection Act*.

The previously conducted Stage 1 archaeological assessment resulted in the determination that the potential for pre-contact Aboriginal and Euro-Canadian sites was deemed to be moderate to high. As a result, Stage 2 archaeological assessment was recommended for any areas to be impacted by turbine construction, access road construction or other infrastructure related activities.

The first part of the Stage 2 archaeological assessment of the proposed project was undertaken by Golder, on behalf of SP Ontario, in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Approval process, as outlined in Ontario Regulation 359/09 section 22(3). This Stage 2 assessment focused on the proposed wind turbine layout, including turbine sites, collector cable routes, access roads, construction roads, transmission lines, laydown areas and substations. The Stage 2 assessment resulted in the identification of 36 locations, comprising 20 historic Euro-Canadian sites and 16 pre-contact Aboriginal sites.

This report presents the results of additional Stage 2 archaeological assessment for the SP Ontario Armow Wind Project. A total of approximately 26.50 hectares were surveyed according to the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*. One pre-contact site, Location 37 (BbHi-35), and one Euro-Canadian historic site, Location 38, were identified. Both sites are **not recommended for Stage 3 archaeological assessment**.

As a result, the Stage 2 field work documented in this report did not identify any archaeological sites requiring further assessment or mitigation of impacts and so it is recommended that **no further archaeological assessment of the study area is required**. The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public Register of Archaeological Reports and to issue a letter stating that the Ministry is satisfied that concerns for archaeological resources have been met for this study area.

*The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.*



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## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

### 1.0 PROJECT CONTEXT

#### 1.1 Development Context

A Stage 2 archaeological assessment was conducted by Golder Associates Ltd. (Golder) for the proposed SP Ontario Armow Wind Project on behalf of SP Ontario Wind Development LP (SP Ontario) (Figure 1). This wind energy project was originally commenced by Acciona Wind Energy Canada Inc. and was later purchased by SP Ontario (2011). The Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 section 22(3) of the *Environmental Protection Act*. This report focuses upon additional Stage 2 archaeological assessment work that supplements the existing Stage 2 archaeological report (Golder 2012b). The additional areas studied for this report are presented in Table 1.

**Table 1: Parcels Studied Within the SP Ontario Armow wind Project**

Parcel Description	PIN Number	Geographic Township	Lot	Concession	Map
Transformer site	332890046	Bruce	Part 22	3	Figure 6-4; Supplementary Document A Figure 4
Turbine 51	332900040	Bruce	Part 27	3	Figure 6-5; Supplementary Document A Figure 5
Turbine 52	332900042	Bruce	Part 30	3	Figure 6-5; Supplementary Document A Figure 5
Turbine 6	332900047	Bruce	Part 26	2	Figure 6-11; Supplementary Document A Figure 11
Turbine 105	332900063	Bruce	Part 30	1	Figure 6-11; Supplementary Document A Figure 11
Staging Area 5	332910073	Kincardine	Part 26	9	Figure 6-25; Supplementary Document A Figure 25
Turbine 84	332970058	Kincardine	Part 24	7	Figure 6-31; Supplementary Document A Figure 31
Turbines 64 and 90	332980020	Kincardine	Part 33	7	Figure 6-33; Supplementary Document A Figure 33
Turbine 66	332970014	Kincardine	Part 43	3 North of Durham Road	Figure 6-45; Supplementary Document A Figure 45

The *Green Energy Act* (2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 22(1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder (2012a) previously determined that archaeological potential for the recovery of pre-contact Aboriginal and Euro-Canadian historic archaeological resources exists within the study area. Currently, Ontario Regulation 359/09 of the *Environmental Protection Act* governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities. This





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assessment was undertaken in order to meet the requirements for an application for a REA, as outlined in Ontario Regulation 359/09 section 22(3) of the *Environmental Protection Act*.

The SP Ontario Armow Wind Project is planned to include up to 116 turbines with a 180 megawatt capacity as well as associated infrastructure including: collector cable routes, access roads, construction roads, transmission lines, staging areas and substations. Permission to enter the optioned lots within the study area and to remove archaeological resources was provided by Brian Edwards of Samsung Renewable Energy Inc. For the purposes of this Stage 2 assessment, the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) were followed.

### 1.2 Archaeological Context

Golder (2012a) previously conducted a Stage 1 archaeological assessment for the Armow study area. Golder applied archaeological potential criteria commonly used by the MTCS (2011) to determine areas of archaeological potential for the properties selected for the proposed SP Ontario Armow Wind Project. The archaeological potential for Aboriginal and Euro-Canadian sites was deemed to be moderate to high in the study area. For pre-contact Aboriginal sites, this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. For post-contact Aboriginal sites, this assessment is based on the presence of nearby potable water sources, level topography, and historic documentation.

The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19<sup>th</sup> century onwards as well as the presence of historic transportation routes. Stage 2 archaeological assessment was recommended for potential wind turbine sites and their associated infrastructure.

According to the Archaeological Sites Database (ASDB) (personal communication, Robert von Bitter, May 14, 2010), there are eight registered archaeological sites located within the limits of the study area. Table 2 summarizes the characteristics of these sites. Five of the known sites are pre-contact Aboriginal sites and three are historic Euro-Canadian sites. If the identified sites were to be impacted by turbine or infrastructure construction, sites BaHi-2, BbHi-1, BbHi-3, BbHi-4, BbHi-5, BbHi-6 and BbHi-7 would merit further archaeological assessment. The other site within the study area, BbHi-2 has been determined to have limited cultural heritage value or interest and would not require further archaeological assessment.

**Table 2: Archaeological Sites Located within the Limits of the Study Area**

Borden #	Name	Type	Period
BaHi-2	-	campsite	pre-contact Aboriginal
BbHi-1	-	campsite	pre-contact Aboriginal
BbHi-2	-	campsite	pre-contact Aboriginal
BbHi-3	-	campsite	pre-contact Aboriginal
BbHi-4	-	-	historic Euro-Canadian



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Borden #	Name	Type	Period
BbHi-5	-	-	historic Euro-Canadian
BbHi-6	-	-	historic Euro-Canadian
BbHj-7	McDuff	campsite	Middle Archaic

### 1.2.1 Recent Archaeological Assessment by Golder

During the 2010 and 2011 field seasons, Golder (2012b) conducted the first part of the Stage 2 archaeological assessment. In so doing, 36 archaeological sites, 20 historic Euro-Canadian and 16 pre-contact Aboriginal, were identified (Table 3). Twelve of these sites have been recommended for Stage 3 archaeological assessment. However, as none of the sites fall within the proposed turbine and infrastructure layout impact area, Stage 3 field work does not need to be conducted in relation to the current project.

**Table 3: Results of the Previous Stage 2 Archaeological Assessment by Golder**

Location	Borden Number	Affiliation	Stage 3 Recommended
1	BbHi-23	Pre-contact Aboriginal	Yes
2	BbHi-24	Historic Euro-Canadian	Yes
3		Pre-contact Aboriginal	No
4		Historic Euro-Canadian	No
5	BbHi-25	Historic Euro-Canadian	Yes
6	BbHi-26	Historic Euro-Canadian	Yes
7	BbHj-38	Historic Euro-Canadian	Yes
8	BbHi-27	Historic Euro-Canadian	Yes
9		Pre-contact Aboriginal	No
10	BbHi-28	Historic Euro-Canadian	Yes
11		Pre-contact Aboriginal	No
12		Post-contact Aboriginal?	No
13		Historic Euro-Canadian	No
14		Pre-contact Aboriginal	No
15		Pre-contact Aboriginal	No
16		Historic Euro-Canadian	No
17	BbHi-29	Historic Euro-Canadian	Yes
18		Pre-contact Aboriginal	No
19		Pre-contact Aboriginal	No
20		Historic Euro-Canadian	No
21	BbHi-30	Pre-contact Aboriginal	No



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Location	Borden Number	Affiliation	Stage 3 Recommended
22	BbHi-31	Pre-contact Aboriginal	Yes
23		Historic Euro-Canadian	No
24	BbHi-32	Pre-contact Aboriginal	Yes
25		Historic Euro-Canadian	No
26		Historic Euro-Canadian	No
27		Historic Euro-Canadian	No
28	BbHi-33	Historic Euro-Canadian	Yes
29		Pre-contact Aboriginal	No
30		Pre-contact Aboriginal	No
31		Pre-contact Aboriginal	No
32		Historic Euro-Canadian	No
33		Historic Euro-Canadian	No
34		Pre-contact Aboriginal	No
35		Pre-contact Aboriginal	No
36	BbHi-34	Historic Euro-Canadian	Yes

### 1.2.2 Pre-contact and Contact Aboriginal Occupation of the Study Area

The study area was most likely occupied by Algonkian-speaking groups who also exhibited cultural influence from Iroquoian-speaking groups, both before and after European contact (Table 4). The pre-contact Aboriginal presence in much of southern Ontario reflects occupation by Northern Iroquoian speakers. During and following the Iroquois Wars of the mid-17<sup>th</sup> century and the dispersal of the Iroquoian-speaking Huron-Petun and Neutral, a considerable reduction in the extent of territory occupied by Iroquoian speakers occurred in southern Ontario. Beginning about 1690, Algonkian speakers from northern Ontario began to move southwards (Ferris 2009; Rogers 1978:761; Schmalz 1991). It has been presumed that occupation of the Bruce County and the Bruce Peninsula before about 1690 would have been by Iroquoians, but the Middle Woodland Saugeen Complex, known best from locations in the Saugeen River valley such as the Donaldson site, is most often interpreted as Algonkian (Fiedel 1999), arguing for an occupation of Bruce County by Algonkian speakers for millennia. Dating somewhat later than the Donaldson site, Wright (1974:303; Fox 1990:461) believed that the isolated occurrence of a palisaded village in Bruce County at the Middle Ontario Iroquoian-like (Middleport substage) Nodwell site established a case for immigration by the Iroquoian-speaking Huron.

**Table 4: Southern Ontario Cultural Chronology (Ellis and Ferris 1990)**

Period	Characteristics	Time Period	Comments
Early Palaeo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Palaeo-Indian	Hi-Lo Projectiles	8400 - 8000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base	8000 - 6000 B.C.	slow population growth



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Period	Characteristics	Time Period	Comments
	Points		
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 B.C.	increasing site size
	Broadpoints	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C. - A.D.500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
	Riviere au Vase	A.D. 500 - 800	thin-bodied, low, uncollared and uncastellated vertical to weakly everted rim pottery
Late Woodland	Ontario Iroquoian Tradition		
	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
	Western Basin Tradition		
	Younge	A.D. 800 - 1100	intensification of farming, heterogeneous vessel forms, sizes, and decorative motifs
	Springwells	A.D. 1100-1400	intensification of settlement, collared, castellated, and decorated rim vessels
	Wolf	A.D. 1400 - 1550/1600	Parker festooned pottery vessels
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

More recently, however, Rankin (2000) has argued that the Nodwell village represents a short-lived sedentary farming experiment by hunter-gatherers, probably indigenous Algonkian speakers, who may have been ancestral to the Odawa (see also Warrick 2008:159). French missionaries indicated relatively close ties between the Odawa and the Huron-Petun (Fox 1990; cf. Feest and Feest 1978:773).

Ferris (1999:119-120) has also pointed out the potential misuse in the literature of the designation "Huron" to describe sites in Bruce County. As Koenig (2005:61-61) indicates, there are some who argue that the ancestors of the Algonkian speaking First Nations now occupying the Bruce Peninsula only arrived in the mid-1800s, relating to known relocations from the U.S. and the establishment of reserves (Surtees 1971:48). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779). Still, archaeological sites in Bruce County point to much earlier settlement, probably by at least some of their



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ancestors. To Koenig (2005:61), “it seems likely ... that many of the Saugeen Indians the newcomers joined had ties to the peninsula going back at least several generations.” During the Late Woodland period there is evidence that the study area could have been inhabited by Algonkian- or Iroquoian-speaking groups or a combination of these groups.

While it is difficult to trace ethnic affiliation during the period of initial contact between Aboriginal and European groups, Koenig (2005:62) states that “there is no doubt that some native groups regularly occupied sites on the [Bruce] peninsula at the end of [the early historic] period.” Feest and Feest (1978:772-773) imply that the Bruce Peninsula was Odawa territory from approximately 1616 A.D. onwards. Early 17<sup>th</sup> century French glass trade beads recovered at the Glen and Cripps sites on the northern tip of the Bruce Peninsula support this assertion (Fox 1990:465-466). Fox (1990:462, 463, 472) not only points to Odawa (or Ottawa) settlement on the Bruce Peninsula during the mid-1600s at Hunter’s Point, but also to sites in the southern Bruce County littoral such as the Hunter site on the Saugeen Reserve, dating to about 1600, as well as the Inverhuron-Lucas site. Abandonment of this area by the Odawa seems to have occurred, at least briefly, in the mid-1600s due to the Iroquois Wars (Fox 1990:472).

By 1690, Algonkian speakers from the north appear to have begun to repopulate Bruce County (Rogers 1978:761). This is the period during which the Mississaugas are known to have moved into southern Ontario and the Lower Great Lakes watersheds (Konrad 1981). Although noted as “MIS” (i.e. Mississauga), Tanner (1987:Plate 13) shows First Nation occupation at the mouth of the Saugeen River in the late 1700s. Villages, sometimes temporary, fishing camps, and portage trails were documented by surveyors and other Euro-Canadian visitors and settlers (Koenig 2005:62). In 1818, First Nations people were living at the mouth of the Saugeen when the area was visited by Pierre Piche, a fur trader from Lower Canada (Koenig 2005:57). The Fishing Islands, just off of the Huron shore, were charted in 1822 by Captain Bayfield as ‘Ghegheto’ (Koenig 2005:57). Fox (1990:462) notes the presence of earlier, possibly Odawa, ‘Puckasaw pits’, thought to represent storm shelters (Fox 1990:470), on these islands, similar to those found on the Bruce Peninsula. A human burial was also discovered on the islands in the 1830s, reflecting earlier Aboriginal occupation (Koenig 2005:62). Missionaries arrived in the area in 1828 (Koenig 2005:64). In the 1830s, the village at Saugeen was inhabited by more than 300 people, but large-scale commercial fishing by Euro-Canadians was already underway in the area (Koenig 2005). The Chippewas of “Saginge” River along with Lieutenant-Governor Sir John Colborne, are reported to have granted fishing rights to the Huron Fishing Company, based in Goderich (Anonymous 1839; Fitzgerald 2004:3).

### 1.3 Historical Context

#### 1.3.1 Bruce Township

Bruce Township was originally surveyed by Allan Park Brough in 1851 and completed by Chisholm Miller in 1852 using the 1000 acre section system (Bruce Township Historical Society 1984:4-5). One and a quarter mile square blocks were created from the survey, each containing ten 100 acre farms, with the lots fronting onto the concession road allowances (Bruce Township Historical Society 1984:5). Concession road allowances therefore occurred on every second concession line and side road allowances were accounted for after every fifth lot. Figure 2 shows the plan of Bruce Township as laid out by Brough and Miller. This early survey map does not



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reveal any evidence of squatters living on lands located within the study area or any notable Aboriginal activity in the general vicinity.

The first major influx of settlers into Bruce Township occurred in 1854 with the “Big Land Sale” (Bruce Township Historical Society 1984:5). At this time, thousands of people fled to the land agent’s office in Southampton in the hopes of obtaining land. Many disputes followed this race for property due to the fact that land was being officially given to people where others had already been living. This led to several years of lawsuits and many families were forced to restart on new properties (Bruce Township Historical Society 1984:5-6). The southwest corner of Bruce Township was the earliest area to be settled, especially in the vicinity of Inverhuron (Bruce Township Historical Society 1984:7). The first settlers in the township were primarily Scottish immigrants or of Scottish descent (Robertson 1906:327).

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1880 *Bruce County Supplement to the Illustrated Atlas of the Dominion of Canada* (Belden and Company 1880). Due to the fact that this atlas was subscriber based, only families who agreed to purchase an atlas had their names and homestead locations appear on the map (Figure 3). This map illustrates the overall growth in the study area in comparison to the earlier 1852 and 1853 maps of Bruce Township (Figure 2). In addition to the houses of atlas subscribers, other historic structures noted in the study area include cemeteries, churches, mills, shops and schools. Table 5 lists those lots that hold a structure other than a house, along with the current status of these structures. Even though locations are only approximate on historic maps, they do give an idea of potential for significant archaeological historic remains that could be impacted within the study area. Typically these locations no longer exhibit any visible evidence of their former structure, but if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains.

**Table 5: Historic Euro-Canadian Properties with Potentially Significant Structures According to the 1880 Bruce County Supplement to the Illustrated Atlas of the Dominion of Canada**

Township	Structures	Location	Current Status
Bruce	Steam Sawmill	Lot 16, Concession 1	No longer standing
	School House	Lot 31, Concession 1	No longer standing
	Orange Hall	Lot 6, Concession 2	Could possibly be the house standing there today
	School House	Lot 16, Concession 3	Incorrect on map; actually located on Lot 15, Concession 3 and now empty
Kincardine	School House (S.S. # 14)	Lot 27, Concession 3	No longer standing, there is a plaque indicating its location
	Blacksmith Shop	Lot 1, Concession 5	No longer standing
	School House	Lot 26, Concession 5	No longer standing
	Steam Saw and Grist Mill	Lot 16, Concession 6	No longer standing
	Zion Church	Lot 26, Concession 6	No longer standing, there is a plaque indicating its location
	School House	Lot 31, Concession 6	No longer standing





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School House	Lot 6, Concession 7	No longer standing
Steam Sawmill	Lot 12, Concession 7	No longer standing
School House	Lot 17, Concession 7	No longer standing
Blacksmith Shop	Lot 3, Concession 9	No longer standing
Sawmill	Lot 16, Concession 9	No longer standing
School House	Lot 18, Concession 9	No longer standing
School House (S.S. # 10)	Lot 10, Concession 10	Still standing
Congregational Church	Lot 15, Concession 11	No longer standing, there is a plaque indicating its location
School House	Lot 27, Concession 11	No longer standing
Glamis Presbyterian Church 1886	Lot 34, Concession 12	Still standing

### 1.3.2 Kincardine Township

The survey of Kincardine Township was conducted in three phases:

- in 1847 Alexander Wilkinson surveyed the Lake Range Lots;
- in 1848 Allan Park Brough surveyed the Durham Road and three concessions on either side; and
- in 1850 the remaining portion of the township was surveyed by James W. Bridgland (Robertson 1906:429).

The lake range lots were surveyed as three concessions – A, B and C – with long narrow lots of differing size due to variation along the Huron shore. The survey of the three concessions north and south of Durham Road created long and narrow 50 acre lots with side road allowances accounted for after every tenth lot. In the final portion (the northeast) of the township that was surveyed, blocks consisting of ten 100 acre farms were created. In this portion concession road allowances occurred on every second concession line and side road allowances were accounted for after every fifth lot. Concessions 3 and 4, north of Durham road, are quite different as they are the concessions that bridge the gap between two separate surveys. Concession 4 is laid out north of Concession 3 with no concession road dividing them. Due to the fact that Concession 3 was surveyed with long and narrow 50 acre lots, Concession 4 was surveyed with square 50 acre lots so that the frontage of the farms would correspond with those on Concession 5.

Figure 4 shows the plan of Kincardine Township as laid out by Wilkinson, Brough and Bridgland. It clearly illustrates that this township was surveyed in three phases. This early survey map does not reveal any evidence of squatters living on lands located within the study area nor of any notable First Nations activity in the general vicinity. James W. Bridgland's 1851 report of the survey of Kincardine Township does, however, mention a First Nations camp existing in the area. When describing the conditions of Lots 15 and 16, Concession 9, he states that there was an "Indian Camp" located between two creeks that cut through the lots (Bridgland 1851:113). The general area where Bridgland made note of the Aboriginal campsite is outlined in black on Figure 4.



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The first Euro-Canadian settlers of the township, similar to that of Bruce Township, were primarily Scottish immigrants and people of Scottish descent. The first areas to be settled were along the lakefront lots, especially in the area of the future community of Kincardine and along Durham Road.

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1880 *Bruce County Supplement to the Illustrated Atlas of the Dominion of Canada* (Belden and Company 1880). Due to the fact that this atlas was subscriber based, only families who agreed to purchase an atlas had their names and the locations of their homesteads appear on the map (Figure 5). This map illustrates the overall growth in the study area in comparison to the earlier 1854 map of Kincardine Township (Figure 4). In addition to the houses of atlas subscribers, other historic structures noted in the study area include cemeteries, churches, mills, shops and schools. Table 5 lists those lots that hold a structure other than a house, along with the current status of these structures. Even though locations are only approximate on historic maps, they do give an idea of potential for significant archaeological historic remains that could be impacted within the study area. Typically these locations no longer exhibit any visible evidence of their former structure, but if they are to be impacted by a wind turbine placement, the location would need to be archaeologically assessed to see if there are any archaeological remains.

### 1.3.3 Recent Reports

Golder conducted the Stage 1 Background Study for the Armow Wind Project in the spring of 2010 under PIF P084-223-2010. The report, entitled *Stage 1 Archaeological Assessment, SP Ontario Armow Wind Energy Project, Various Lots and Concessions, Geographic Townships of Bruce and Kincardine, now Municipality of Kincardine, Bruce County, Ontario*, was produced by Golder (2012a) on January 23, 2012.

Golder also conducted the first part of the Stage 2 archaeological assessment from May 18, 2010 to November 29, 2011 under PIFs P084-230-2010 and P243-256-2011. The report, also produced by Golder (2012b) on January 23, 2012, is entitled *Stage 2 Archaeological Assessment, SP Ontario Armow Wind Energy Project, Various Lots and Concessions, Geographic Townships of Bruce and Kincardine, now Municipality of Kincardine, Bruce County, Ontario*.

Both reports were reviewed by the MTCS, accepted into the Ontario Public Register of Archaeological Reports and assigned the RIMS Number HD000681.





## 2.0 FIELD METHODS

The study area encompasses additional parcels to be impacted by the SP Ontario Armow Wind Project, in addition to those already assessed in the previous Stage 2 archaeological assessment report (Golder 2012b). These parcels accommodate turbine sites as well as some access road, collector cable and laydown impact areas.

A total of approximately 26.50 hectares were subject to the additional Stage 2 archaeological assessment. Field reconnaissance conducted during the Stage 1 assessment identified that the study area consisted primarily of ploughed agricultural fields. The Stage 2 assessment of well-weathered ploughed fields was conducted by the standard pedestrian survey method at transect intervals of five metres. Ground visibility was excellent. In the event that an artifact was encountered during pedestrian survey, survey intervals were intensified to one metre within a twenty metre radius of the find. For areas subject to test pit survey, the survey was conducted in five metre transects as well. Each test pit was approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil. All soil matrix was screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts. However, no artifacts were recovered during test pit survey (see Section 3.0). Approximately 91.8% of the study area was subject to pedestrian survey at five metre intervals, approximately 5.4% was subject to test pit survey at five metre intervals and approximately 2.8% of the study area was not surveyed due to being an area of steep slope. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a, Government of Ontario 2011), Plates 1 to 5 and 8 to 10 provide a representative sample of parts of the study area to illustrate conditions that allowed the standards for pedestrian survey to be met. Plate 6 illustrate conditions that allowed the standards for test pit survey to be met and Plate 7 illustrates a steeply sloped area that was excluded from Stage 2 archaeological assessment due to its topography. Plate locations and photograph directions are provided in Figures 6-4, 6-5, 6-6, 6-10, 6-11, 6-12, 6-24, 6-25, 6-31 and 6-33.

The Stage 2 archaeological assessment of the Armow Wind Project has involved consultation with and participation by First Nations peoples whose traditional territories are affected by the study area. The study area falls within the traditional territories of the Chippewas of Saugeen First Nation and Chippewas of Nawash First Nation as documented by Treaty 45½ in 1836. Hence, the Saugeen Ojibway Nation and Cape Croker First Nation were consulted during the planning stages of the Stage 2 archaeological assessment. Further details are provided in Supplementary Document C.

The Stage 2 field survey was conducted between March 27, 2012 and June 4, 2012 under archaeological consulting licence P218 and PIF P218-206-2012, issued to Scott Martin, Ph.D. by MTCS. The weather during the Stage 2 assessment was clear, sunny, and cool. At no time were the conditions detrimental to the recovery of archaeological material. Field visibility during the pedestrian surveys and test pitting surveys was excellent.



### 3.0 RECORD OF FINDS

Two archaeological sites were identified during the Stage 2 assessment and are discussed further below. Figure 7 and Supplementary Document A provide mapping that illustrates the Stage 2 assessment methods. UTM coordinates (Supplement B) were recorded for all finds. Coordinates were recorded using either a Trimble Recon handheld GPS unit with a Holux GR-271 CF GPS Receiver or a Garmin eTrex handheld GPS, using the North American Datum (NAD) 83. GPS readings were accurate to two metres. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 5, Standards 2a, 2b, Government of Ontario 2011), for small archaeological sites (less than 10 metres by 10 metres in area) one coordinate reading from the center of the site was taken. For archaeological sites larger than 10 metres by 10 metres in area, five readings were taken: one for the centre of the site and the furthest extent in each of the cardinal directions. Supplement B lists the GPS coordinates for each archaeological site.

Material culture recovered from the Armow Wind Project is contained in a single banker's box and will be temporarily housed at Golder's London office until formal arrangements can be made for their transfer to an MTCS collections facility. Table 6 provides an inventory of the documentary record generated in the field.

**Table 6: Inventory of Documentary Record**

Document Type	Current Location of Document	Additional Comments
Field Notes	Golder offices in Mississauga	In original field book and photocopied in project file
Hand Drawn Maps	Golder offices in Mississauga	In original field book and photocopied in project file
Maps Provided by Client	Golder offices in Mississauga	Stored in project file
Digital Photographs	Golder offices in Mississauga	Stored digitally in project file

#### 3.1 Location 37 (BbHi-35)

During the pedestrian survey of the northernmost section of the Turbine 84 pad on March 27, 2012, located just north of Concession 7 and west of Weber Side Road on property 332970058, an isolated projectile point was identified and collected. This pre-contact Aboriginal site, designated Location 37 (BbHi-35), was located during a clear, cool, and windy day. Survey intervals were intensified to one metre for a 20 metre radius surrounding the find but no additional artifacts were identified.

The recovered projectile point (Plate 11) is an Otter Creek point, dating to the Middle to Late Archaic period (*circa* 6000 to 1550 B.C.) (Ritchie 1971) and is manufactured from Kettle Point chert. Kettle Point chert is a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.

The projectile point (Table 7) measures 71.30 millimetres in length, 29.5 millimetres in width, and is 7.8 millimetres thick. It has a basal width of 23.9 millimetres, a shoulder width of 29.3 millimetres, and an internotch width of 21.0 millimetres. It is plano-convex in profile and a flake has been removed from the base, which was subsequently ground down. One notch appears to be incomplete, and both do not exhibit much grinding. The



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lateral margin of the side with the “incomplete” notch is significantly more worn than the other, indicating that it may have been used as a knife.

**Table 7: Location 37 (BbHi-35) Artifact Catalogue**

Cat. #	Date	Context	Artifact	Freq.	Comments
1	March 27/12	surface	projectile point	1	Middle to Late Archaic Otter Creek point

### 3.2 Location 38

During the pedestrian survey of Staging Area 5 on May 7, 2012, located on property 332900073, a surface scatter of late 19<sup>th</sup> to early 20<sup>th</sup> century Euro-Canadian historic artifacts was identified. The surface artifacts covered an area approximately 50 metres (along the north-south axis) by 75 metres (along the west-east axis) in size.

A total of 31 artifacts were recovered from an observed 75 artifacts on the surface. The recovered artifacts include 28 domestic and three structural. Each artifact class will be discussed separately below. Table 8 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment, while Table 9 consists of the complete artifact catalogue for Location 38. A representative sample of recovered artifacts is illustrated in Plate 12.

**Table 8: Location 38 Artifact Summary**

Artifact	Freq.	%
Domestic	28	90.3
Structural	3	9.7
<b>Total Stage 2 Artifacts</b>	<b>31</b>	<b>100</b>

**Table 9: Location 38 Artifact Catalogue**

Cat. #	Date	Context	Artifact	Freq.	Comments
1	May 7/12	surface	ironstone, plain	1	
2	May 7/12	surface	ironstone, plain	1	
3	May 7/12	surface	nail, cut	1	
4	May 7/12	surface	ironstone, plain	1	
5	May 7/12	surface	ironstone, transfer print	1	green, floral
6	May 7/12	surface	ironstone, plain	1	
7	May 7/12	surface	nail, wire drawn	1	



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Cat. #	Date	Context	Artifact	Freq.	Comments
8	May 7/12	surface	ironstone, plain	2	
9	May 7/12	surface	ironstone, transfer print	1	blue, floral
10	May 7/12	surface	porcelain, semi	1	plain
11	May 7/12	surface	ironstone, plain	1	
12	May 7/12	surface	nail, undetermined	1	
13	May 7/12	surface	ironstone, transfer print	1	blue, floral
14	May 7/12	surface	ironstone, plain	1	
15	May 7/12	surface	porcelain, semi	1	floral transfer print
16	May 7/12	surface	ironstone, transfer print	1	green, floral
17	May 7/12	surface	ironstone, transfer print	1	blue, floral
18	May 7/12	surface	ironstone, plain	1	
19	May 7/12	surface	ironstone, plain	1	
20	May 7/12	surface	ironstone, transfer print	1	blue, floral
21	May 7/12	surface	glass, bottle	1	purple
22	May 7/12	surface	ironstone, painted	1	red
23	May 7/12	surface	ironstone, plain	1	
24	May 7/12	surface	porcelain, semi	1	plain
25	May 7/12	surface	porcelain, plain	1	moulded, oblique lines
26	May 7/12	surface	ironstone, painted	1	brown
27	May 7/12	surface	glass, bottle	1	clear, complete, inkwell?
28	May 7/12	surface	glass, chimney lamp	1	machine crimped rim
29	May 7/12	surface	ironstone, transfer print	1	blue, floral
30	May 7/12	surface	glass, bottle	1	purple, rectangular base

### 3.2.1 Domestic Artifacts

A total of 28 domestic artifacts were recovered from Location 88, including 24 ceramic artifacts and four glass artifacts.

#### *Ceramic Artifacts*

A total of 24 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 38. This total includes 20 pieces of ironstone and four pieces of porcelain. Table 10 provides a breakdown of the ceramic assemblage by ware type and Table 11 provides a breakdown by decorative type.



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**Table 10: Location 38 Stage 2 Ceramic Assemblage by Ware Type**

Artifact	Freq.	%
Ironstone	20	83.3
Porcelain	4	16.7
<b>Total Stage 2 Ceramics</b>	<b>24</b>	<b>100.0</b>

**Table 11: Location 38 Stage 3 Ceramic Assemblage by Decorative Type**

Artifact	Freq.	%
Ironstone, plain	11	45.8
Ironstone, transfer print	7	29.2
Porcelain, semi	3	12.5
Ironstone, painted	2	8.3
Porcelain, plain	1	4.2
<b>Total Stage 2 Ceramics</b>	<b>24</b>	<b>100.0</b>

### Ironstone

Ironstone or graniteware is a variety of refined white earthenware introduced in the 1840s that became extremely popular in Upper Canada by the 1860s. It is usually much thicker than other whiteware, and often decorated with raised moulded designs of wheat or fruit. A total of 20 pieces of ironstone were recovered from Location 38 including 11 plain pieces (Plate 12:1), seven transfer printed pieces (Plate 12:2) and two painted pieces (Plate 12:3). The transfer printed pieces include five blue and two green; all transfer printed pieces were decorated with floral motifs. Pieces recovered with the blue motif appear to be from the same dish. The same can be said for the green pieces. The recovered painted pieces include one red and one brown.

### Porcelain

Porcelain (Plate 12:4) is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to a light. Due to its high cost, porcelain is extremely rare on 19<sup>th</sup> century sites in Ontario, however by the turn of the century it becomes relatively common, as production techniques were developed in Europe which greatly reduced costs. Three pieces of semi-porcelain (two plain, one transfer printed) and one piece of porcelain moulded with oblique lines were recovered from Location 38.

### Glass Artifacts

Four glass artifacts were recovered from Location 38 including two pieces of bottle glass, one complete glass bottle and one piece of chimney lamp glass. The pieces of bottle glass recovered are both tinted purple and appear to come from the same bottle, rectangular in shape. Bottle glass colours are very limited when it comes



to providing a temporal sequence for a site (Lindsey 2012). The complete glass bottle is aqua with a mold seam that extends to the base of the finish. This bottle is a machine-made inkwell which dates to the 20<sup>th</sup> century.

The recovered chimney lamp glass fragment includes a rim that is clearly machine crimped in the “pearl topped” style. The patent for this style of crimping using a machine was issued in 1883 (The Lampworks 2011) and so the fragment dates to the late 19<sup>th</sup> or 20<sup>th</sup> century.

### **3.2.2 Structural Artifacts**

Three structural artifacts were recovered from Location 38 including one machine cut nail (Plate 12:5), one wire drawn nail (Plate 12:6) and one undetermined corroded nail. Cut nails represent a more mechanized way of making a nail. The nails were “cut” from flat sheets of iron; hence, the nail is of even thickness when viewed from the side, not tapered on all sides like hand made nails. The head is usually square and flat. Invented about 1790, cut nails were in common use from the 1830s until the 1890s (Adams 1994). Wire drawn nails are identical to the type of nails in current use today, with a flat, round head and a wire shaft. Wire drawn nails became popular in the 1890s.



## **4.0 ANALYSIS AND CONCLUSIONS**

This additional Stage 2 assessment for the SP Ontario Armow Wind Project resulted in the identification of one pre-contact Aboriginal archaeological site and one Euro-Canadian historic site. Analysis of these locations is provided below, as is a determination of whether further assessment is recommended. At the end of this section a preliminary indication is provided as to whether any of these sites may require Stage 4 archaeological assessment.

### **4.1 Location 37 (BbHi-35)**

Location 37 (BbHi-) consists of a single, Otter Creek projectile point, dating to *circa* 6000 to 1550 B.C. The archaeological survey documented an isolated pre-contact Aboriginal location and adds to the body of knowledge concerning land use by peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of this site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the Ministry of Tourism, Culture, and Sport, and has been assigned Borden number BbHi-35.

### **4.2 Location 38**

The Stage 2 assessment of Location 38 resulted in the recovery of primarily late 19<sup>th</sup> century and early 20<sup>th</sup> century Euro-Canadian historic artifacts. Ironstone and porcelain ceramics account for 83.3% and 16.7% of the entire ceramic assemblage, respectively. Both porcelain and ironstone ceramics were manufactured well into the 20<sup>th</sup> century. Spatially Location 38 is located on Lot 26, Concession 9, Geographic Township of Kincardine, County of Bruce, Ontario. No one is listed as owning this lot on the 1880 map of the Township of Kincardine (Figure 5); however as discussed previously, only subscribers to the historical atlas had their names included on the maps. The location is situated in the south half of the lot, adjacent to Weber Sideroad. Although the one cut nail could date to the 19<sup>th</sup> century, considering the site's location, the fact that the majority of the ceramics date to the early 20<sup>th</sup> century and the general sparseness of the number of artifacts over a 75 metre by 50 metre area, Location 38 is interpreted as an early 20<sup>th</sup> century one-time refuse disposal episode. Given these factors the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifacts do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

### **4.3 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Assessment**

This preliminary indication of whether any site could be eventually recommended for Stage 4 archaeological assessment is required under the *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3 Standard 2c (Government of Ontario 2011). Since neither Location 37 (BbHi-35) nor Location 38 has been



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recommended for a Stage 3 archaeological assessment, no Stage 4 archaeological assessments are anticipated.





## **5.0 RECOMMENDATIONS**

This Stage 2 assessment of the SP Ontario Armow Wind Project resulted in the identification of one pre-contact Aboriginal site and one Euro-Canadian historic site. Recommendations for these sites are found below.

### **5.1 Location 37 (BbHi-35)**

The Stage 2 assessment of Location 37 (BbHi-35) resulted in the recovery of an isolated pre-contact Aboriginal Otter Creek projectile point. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 37 (BbHi-35).**

### **5.2 Location 38**

The Stage 2 assessment of Location 38 resulted in the recovery of primarily late 19<sup>th</sup> century and early 20<sup>th</sup> century historic Euro-Canadian artifacts. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 38.**

### **5.3 Summary**

Neither site documented during the additional Stage 2 assessment conducted on the SP Ontario Armow Wind Project was recommended for Stage 3 archaeological assessment. As a result, the Stage 2 field work documented in this report did not identify any archaeological site requiring further assessment or mitigation of impacts and so it is recommended that **no further archaeological assessment of the study area is required.** The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public Register of Archaeological Reports and to issue a letter stating that the Ministry is satisfied that concerns for archaeological resources have been met for this study area.



## **6.0 ADVICE ON COMPLIANCE WITH LEGISLATION**

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, R.S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.



## **7.0 BIBLIOGRAPHY AND SOURCES**

Adams, Nick

- 1994 *Field Manual for Avocational Archaeologists in Ontario*. Ontario Archaeological Society Incorporated Archaeological Stewardship Project. Ontario Archaeological Society, North York.

Anonymous

- 1839 *Report of the Huron Fishing Company*. Smith and Ebbs, London.

Belden, H. and Company

- 1880 *Illustrated Historical Atlas of Bruce County*. 1970 reprint. Ross Cumming, Port Elgin.

Bridgland, James W.

- 1851 *Report of the Survey of the Township of Kincardine in the District of Bruce*. Notebook on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.

Bruce Township Historical Society

- 1984 *Bruce Township Tales and Trails*. St. Jacobs Printery, St. Jacobs.

Devine, Thomas

- 1852 *Plan of Part of Bruce, compiled from late D. P. Surveyor A.P. Brough's field notes*. Number B60. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.

Ellis, Chris J. And Neal Ferris (editors)

- 1990 *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5. London Chapter, Ontario Archaeological Society, London.

Feest, Johanna and Christian Feest

- 1978 "Ottawa." In *Handbook of North American Indians. Volume 15, Northeast*, edited by Bruce Trigger, pp. 772-786. Smithsonian Institution Press, Washington.



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## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

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Ferris, Neal

- 1999 "What's in a Name? The Implications of Archaeological Terminology Used in Nonarchaeological Contexts." In *Taming the Taxonomy: Toward a New Understanding of Great Lakes Archaeology*, edited by Ronald Williamson and Christopher Watts, pp. 111-121. Eastendbooks, Toronto.
- 2009 *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes*. University of Arizona Press, Tucson.

Fiedel, Stuart

- 1999 "Algonquians and Iroquoians: Taxonomy, Chronology and Archaeological Implications". In *Taming the Taxonomy: Toward a New Understanding of Great Lakes Archaeology*, edited by Ronald Williamson and Christopher Watts, pp. 193-204. Eastendbooks, Toronto.

Fitzgerald, William

- 2004 *Ministry of Culture Stages 1 and 2 Archaeological Assessment, Al Pfluegl Subdivision Development, Part of Lot 5, Concession 6 WBR, Town of South Bruce Peninsula (former Albemarle Township), Bruce County*. Report on file, Ministry of Tourism, Culture and Sport, Toronto.

Fox, William

- 1990 "The Odawa." In *The Archaeology of Southern Ontario to A.D. 1650* (Chris J. Ellis and Neal Ferris, eds). Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5. London Chapter, Ontario Archaeological Society, London.

Golder Associates Ltd.

- 2012a *Stage 1 Archaeological Assessment, SP Ontario Armow Wind Energy Project, Various Lots and Concessions, Geographic Townships of Bruce and Kincardine, now Municipality of Kincardine, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.
- 2012b *Stage 2 Archaeological Assessment, SP Ontario Armow Wind Energy Project, Various Lots and concessions, Geographic Townships of Bruce and Kincardine now Municipality of Kincardine, Bruce County, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

Government of Ontario

- 2011 *Standards and Guidelines for Consultant Archaeologists*. Ministry of Tourism, Culture and Sport, Toronto.



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## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

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Koenig, Edwin

2005 *Cultures and Ecologies: A Native Fishing Conflict on the Saugeen-Bruce Peninsula*. University of Toronto Press, Toronto.

Konrad, Victor

1981 "An Iroquois Frontier: The North Shore of Lake Ontario during the Late Seventeenth Century". *Journal of Historical Geography* 7(2):129-144.

The Lampworks

2011 *A Brief Historical Profile of MacBeth-Evans Glass Company*. Electronic document: [http://www.thelampworks.com/lw\\_companies\\_macbeth.htm](http://www.thelampworks.com/lw_companies_macbeth.htm). Last accessed on May 9, 2012.

Lindsey, Bill

2011 Historic Glass Bottle Identification and Information Website. Electronic document: <http://www.sha.org/bottle/index.htm>. Last accessed on May 9, 2012.

Miller, Chisholm

1853 *Plan of that Part of the Township of Bruce*. Number B59. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.

Robertson, Norman

1906 *The History of the County of Bruce*. William Briggs, Toronto.

Rankin, Lisa

2000 *Interpreting Long-term Trends in the Transition to Farming: Reconsidering the Nodwell Site, Ontario, Canada*. British Archaeological Reports International Series 830. British Archaeological Reports, Oxford.



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## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

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Ritchie, William

- 1971 *A Typology and Nomenclature for New York Projectile Points*. Revised Edition. New York State Museum and Science Service, Bulletin Number 384. The University of the State of New York, The State Education Department, Albany, New York.

Rogers, E.S.

- 1978 "Southeast Ojibwa." In *Handbook of North American Indians. Volume 15, Northeast*, edited by Bruce Trigger, pp. 760-771. Smithsonian Institution Press, Washington, D.C.

Schmalz, Peter S.

- 1991 *The Ojibwa of Southern Ontario*. University of Toronto Press, Toronto.

Surtees, Robert

- 1971 *The Original People*. Holt, Rinehart and Winston, Toronto.

Tanner, Helen (editor)

- 1987 *Atlas of Great Lakes Indian History*. University of Oklahoma Press, Norman.

Warrick, Gary

- 2008 *A Population History of the Huron-Petun, A.D. 500-1650*. Cambridge University Press, Cambridge.

Wright, J.V.

- 1974 *The Nodwell Site*. Archaeological Survey of Canada Paper No. 22. National Museums of Canada, Ottawa.





## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

### 8.0 IMAGES

*Plate 1: Stage 2 pedestrian survey of Turbine 84 (332970058) at 5 metre intervals, facing north, March 27, 2012*



*Plate 2: Stage 2 pedestrian survey of Turbine 51 (332900040) at 5 metre intervals, facing south, March 27, 2012*



*Plate 3: Stage 2 pedestrian survey of transformer location (332890046) at 5 metre intervals, facing south, March 27, 2012*



*Plate 4: Stage 2 pedestrian survey of Turbine 105 (332900063) at 5 metre intervals, facing north, April 12, 2012*





## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

*Plate 5: Stage 2 pedestrian survey of Turbine 90 (332980020) at 5 metre intervals, facing north, April 13, 2012*



*Plate 6: Stage 2 test pitting of Turbine 52 (332900042) at 5 metre intervals, facing west, April 12, 2012*



*Plate 7: Stage 2, steeply sloped area at Turbine 52 (332900042), not assessed, facing north, April 12, 2012*



*Plate 8: Stage 2 pedestrian survey of Staging Area 5 (332910073) at 5 metre intervals, facing southwest, May 7, 2012*







## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

*Plate 9: Stage 2 pedestrian survey of transformer location (332890046) at 5 meter intervals, facing south, May 7, 2012*



*Plate 10: Stage 2 pedestrian survey of Turbine 6 (332900047) at 5 metre intervals, facing northeast, June 4, 2012*





## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

*Plate 11: Location 37 (BbHi-35) Pre-contact Aboriginal artifact, actual size*



1: Projectile Point  
Location 37, cat. # 1

*Plate 12: Location 37 Euro-Canadian historic artifacts, actual size*



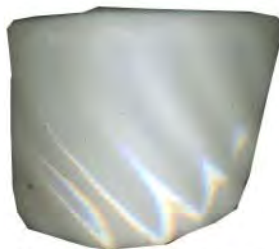
1. Plain Ironstone



2. Transfer Printed Ironstone



3. Painted Ironstone



4. Moulded Porcelain



5. Machine Cut Nail

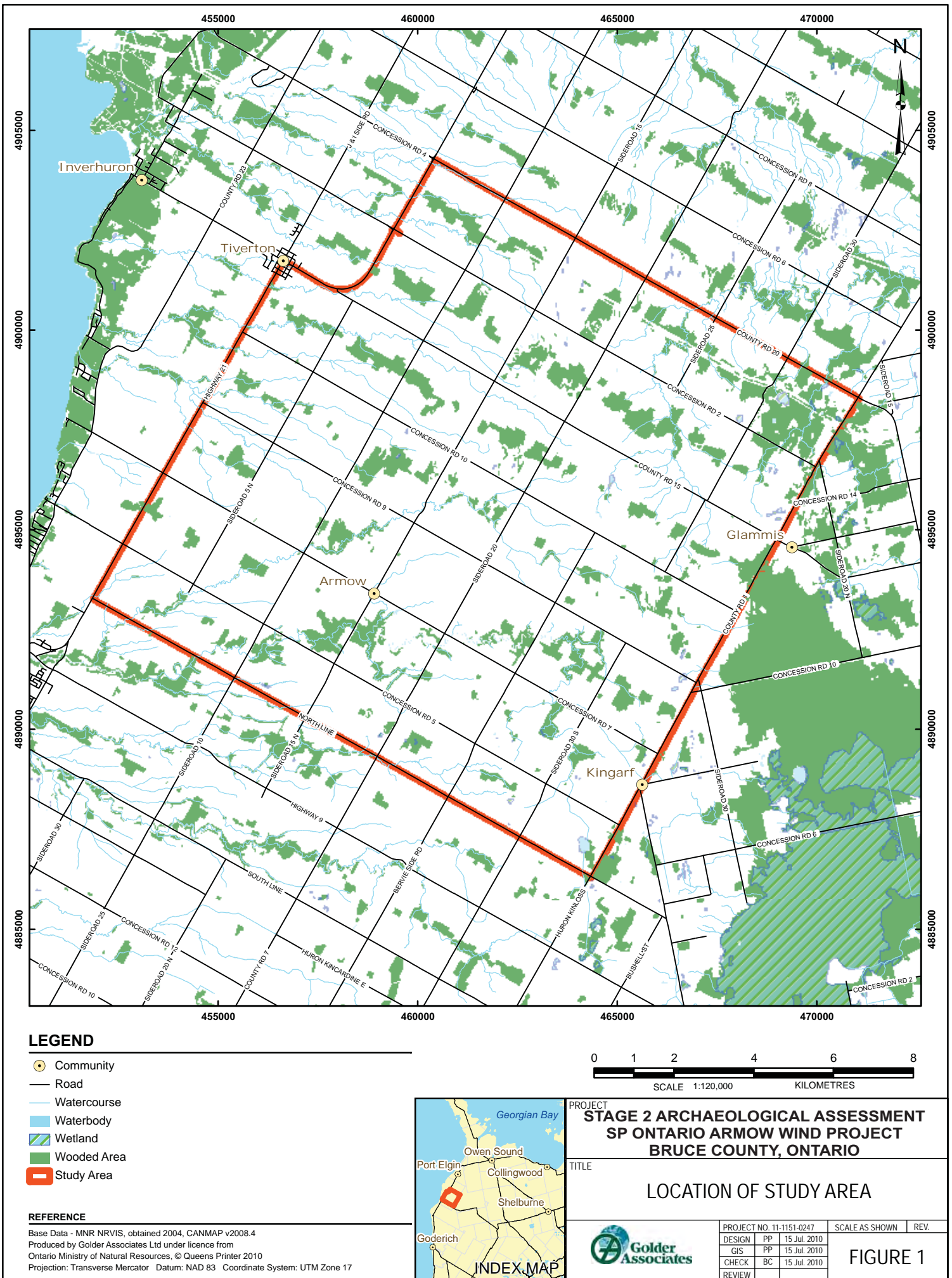


6. Wire Drawn Nail



## **9.0 MAPS**

All maps will follow on succeeding pages.







## REFERENCE

DRAWING BASED ON  
Devine, Thomas

1852 *Plan of Part of Bruce, compiled from late D. P. Surveyor A.P. Brough's field notes.* Number B60. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.


Miller, Chisholm

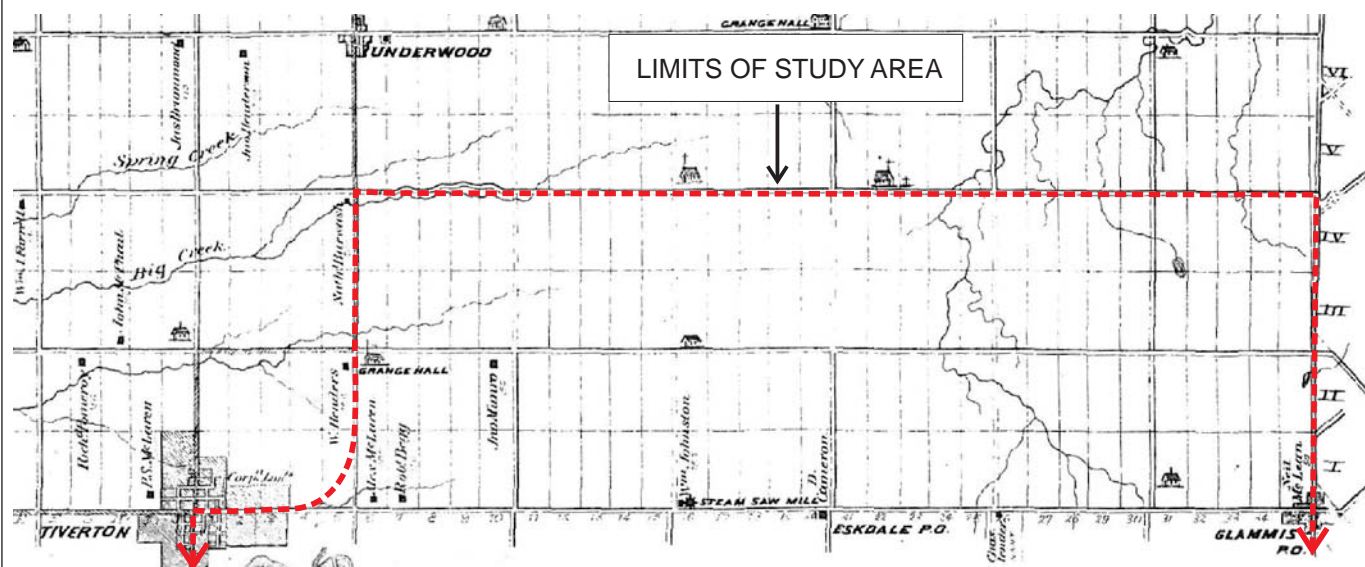
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## NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT	<b>STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW WIND PROJECT BRUCE COUNTY, ONTARIO</b>			
TITLE	<b>A PORTION OF THE 1852 AND 1853 MAPS OF BRUCE TOWNSHIP</b>			
	PROJECT No.	11-1151-0247	FILE No.	1111510247-3000-R03002
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## REFERENCE

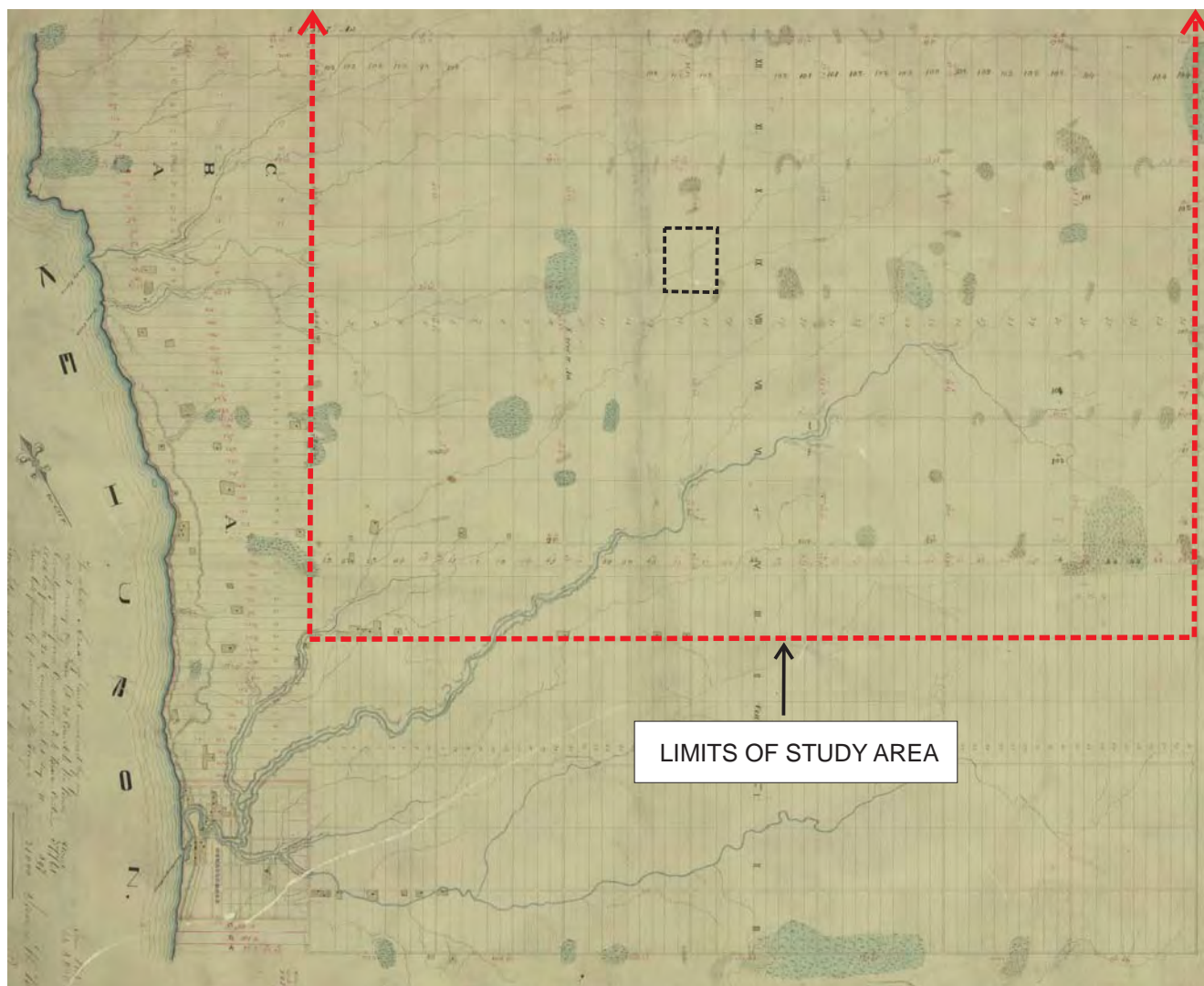
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1880 *Illustrated Historical Atlas of Bruce County*. 1970 reprint.  
Ross Cumming, Port Elgin.

## NOTES

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ALL LOCATIONS ARE APPROXIMATE.

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A PORTION OF THE 1880 MAP OF BRUCE TOWNSHIP					
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				FIGURE 3	



## LEGEND

 Approximate location of an "Indian Camp" according to Bridgland (1851b).

## REFERENCE

### DRAWING BASED ON

Bridgland, James W.


1851a *Kincardine; Bruce District*. Number B41. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.

1851b *Report of the Survey of the Township of Kincardine in the District of Bruce*. Notebook on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough.

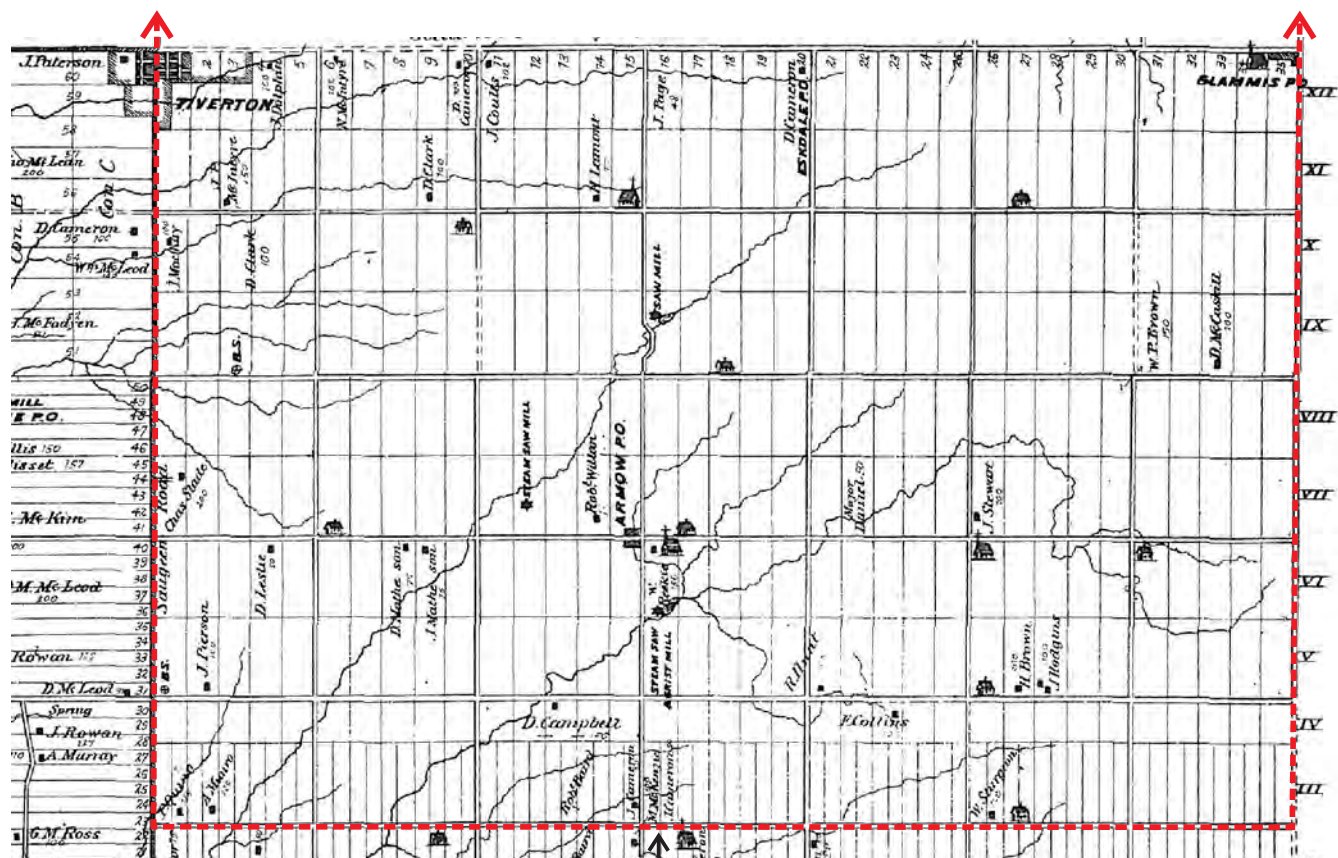
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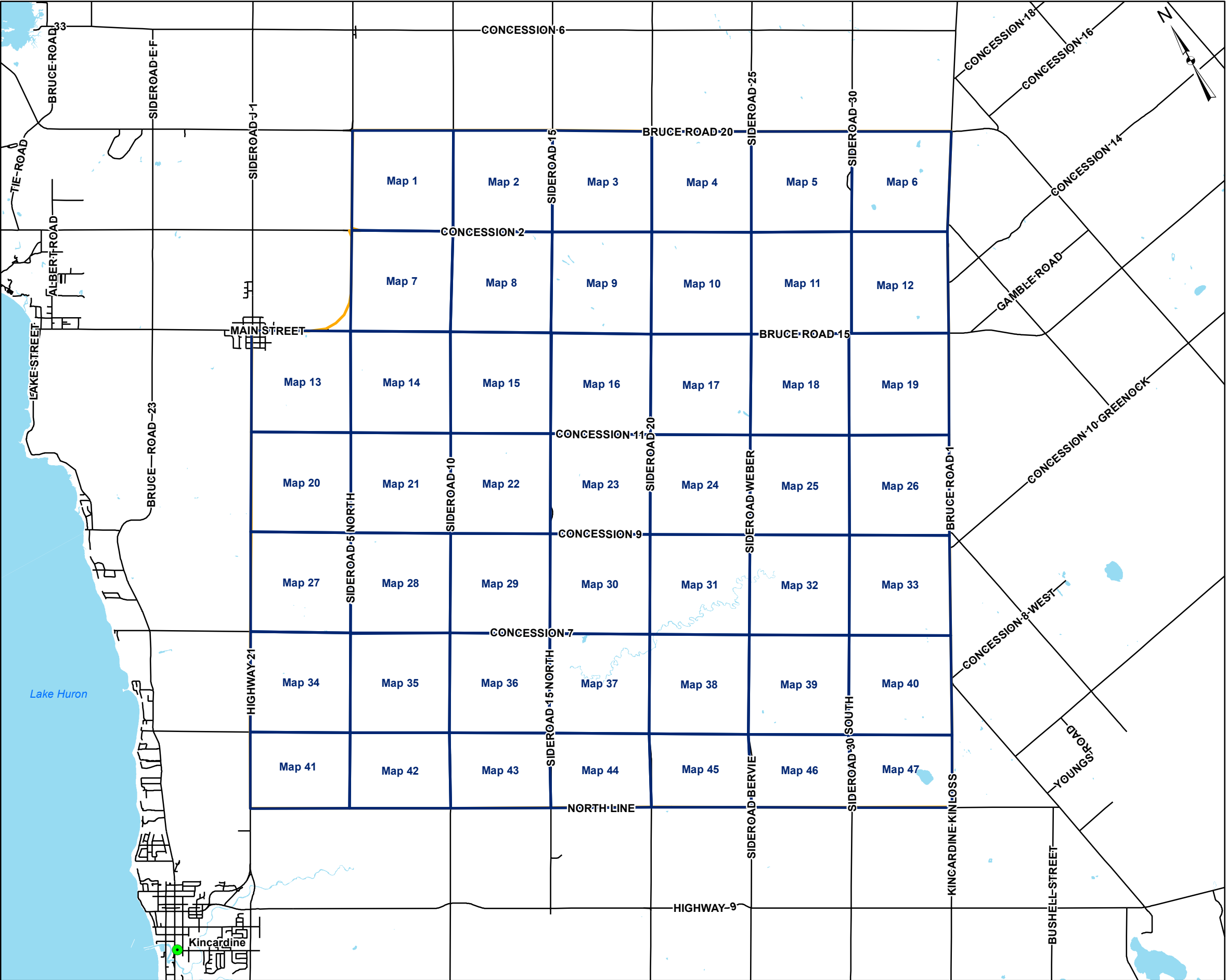


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CADD	AL	JUN 4/10	<b>FIGURE 5</b>
CHECK			

**FIGURE 5**



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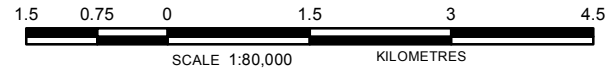


LEGEND

- Roads
- Study Area
- Waterbody

REFERENCE

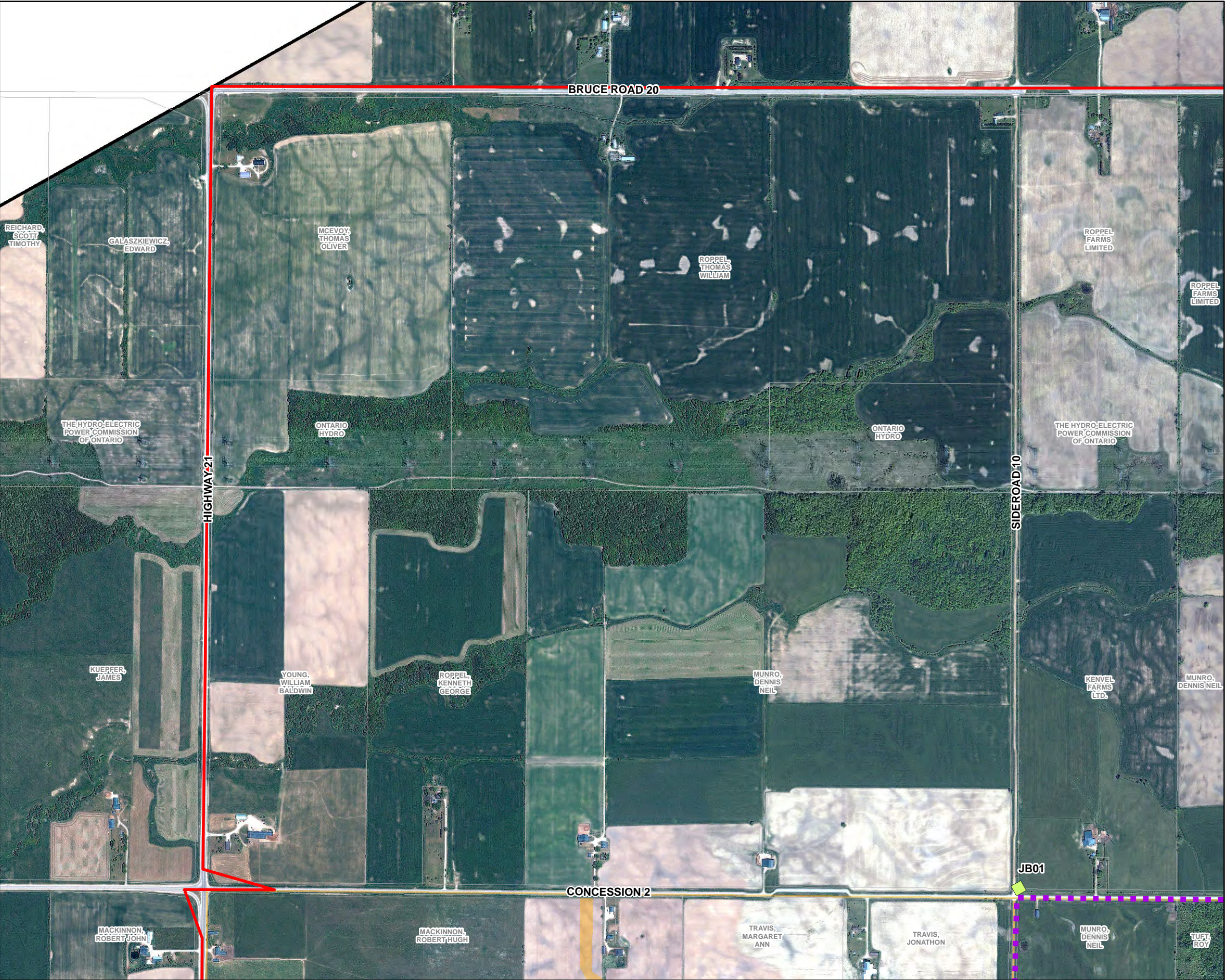
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TITLE	KEY PLAN			
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	GIS	ME	13 Dec. 2011	
	CHECK			
	REVIEW			





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LEGEND


 Proposed Turbine Location


 Photo Location


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
 Junction Boxes


 Transformer


 Crane Walk


 Collector Cable


 Access Road


 Stage 2 Pedestrian Survey at 5m Intervals


 Stage 2 Test Pitting at 5m Intervals


 Area of Steep Slope – Not Assessed

 Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

 Land Parcel

 Project Area

 Staging/Laydown Area

 Substation



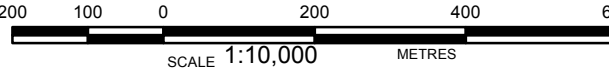
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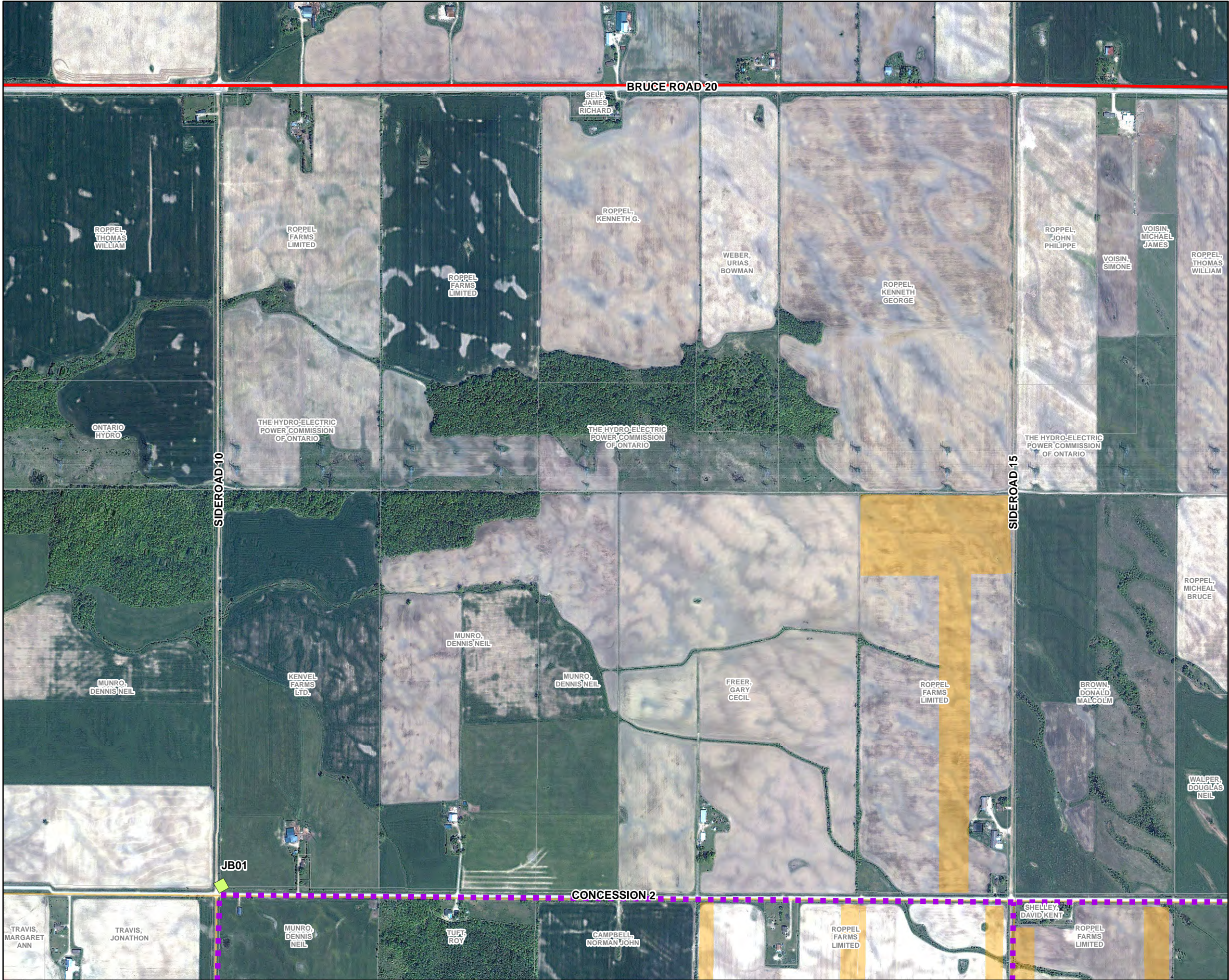
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	CHECK	JM	5 Jul. 2012	
	REVIEW			



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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



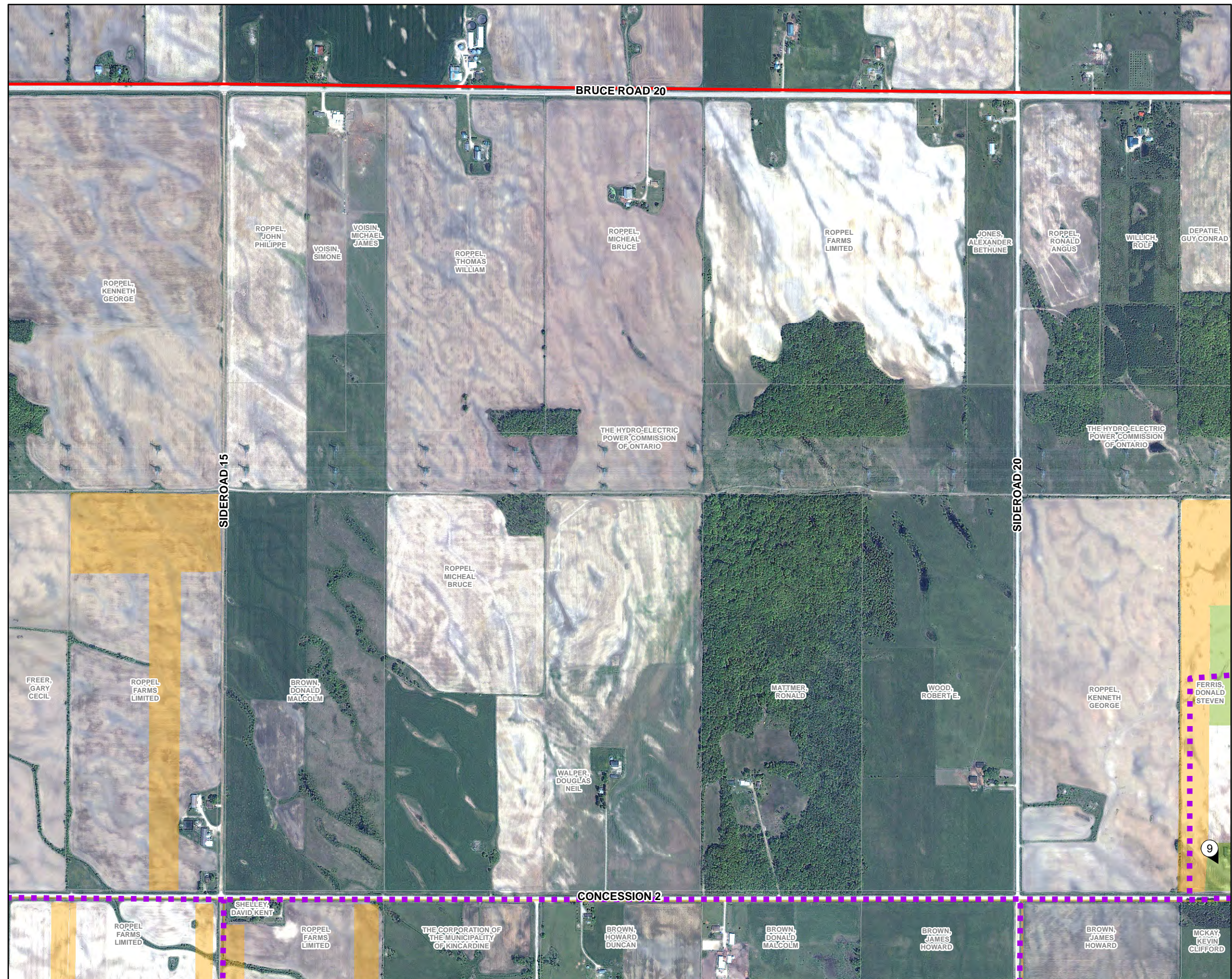
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

















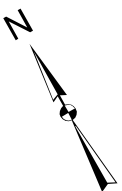
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	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
		REVIEW			





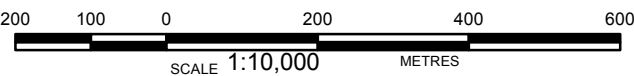
## LEGEND


-  Proposed Turbine Location
-  Photo Location
-  MET Tower
-  Junction Boxes
-  Transformer
-  Crane Walk
-  Collector Cable
-  Access Road
-  Stage 2 Pedestrian Survey at 5m Intervals
-  Stage 2 Test Pitting at 5m Intervals
-  Area of Steep Slope – Not Assessed
-  Previous Archaeological Assessment  
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-  Land Parcel
-  Project Area
-  Staging/Laydown Area
-  Substation



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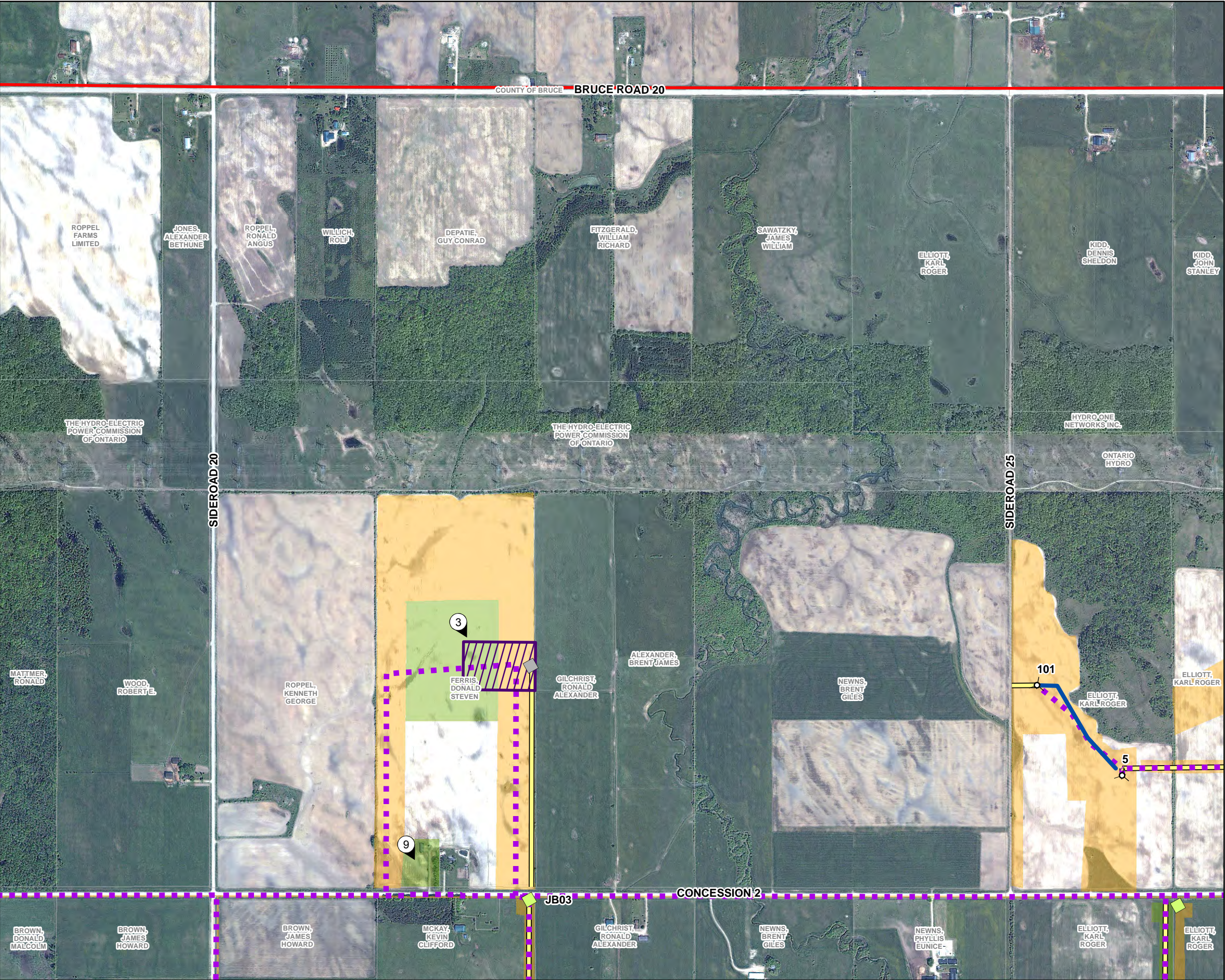
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			FIGURE 6-3	



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LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

Staging/Laydown Area

Substation



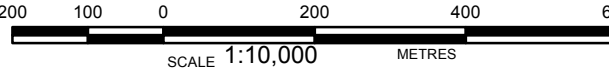
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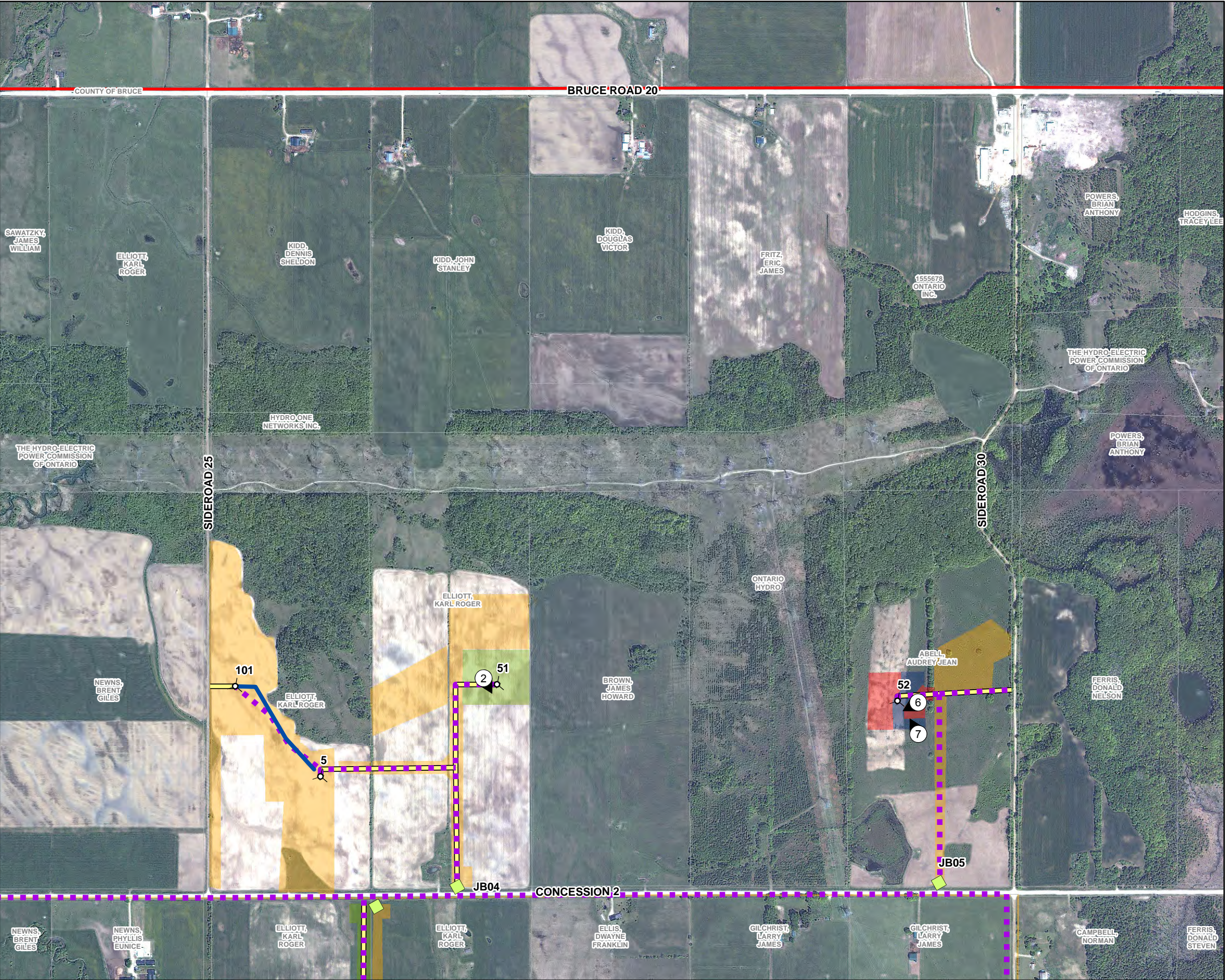
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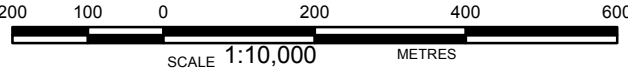
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- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



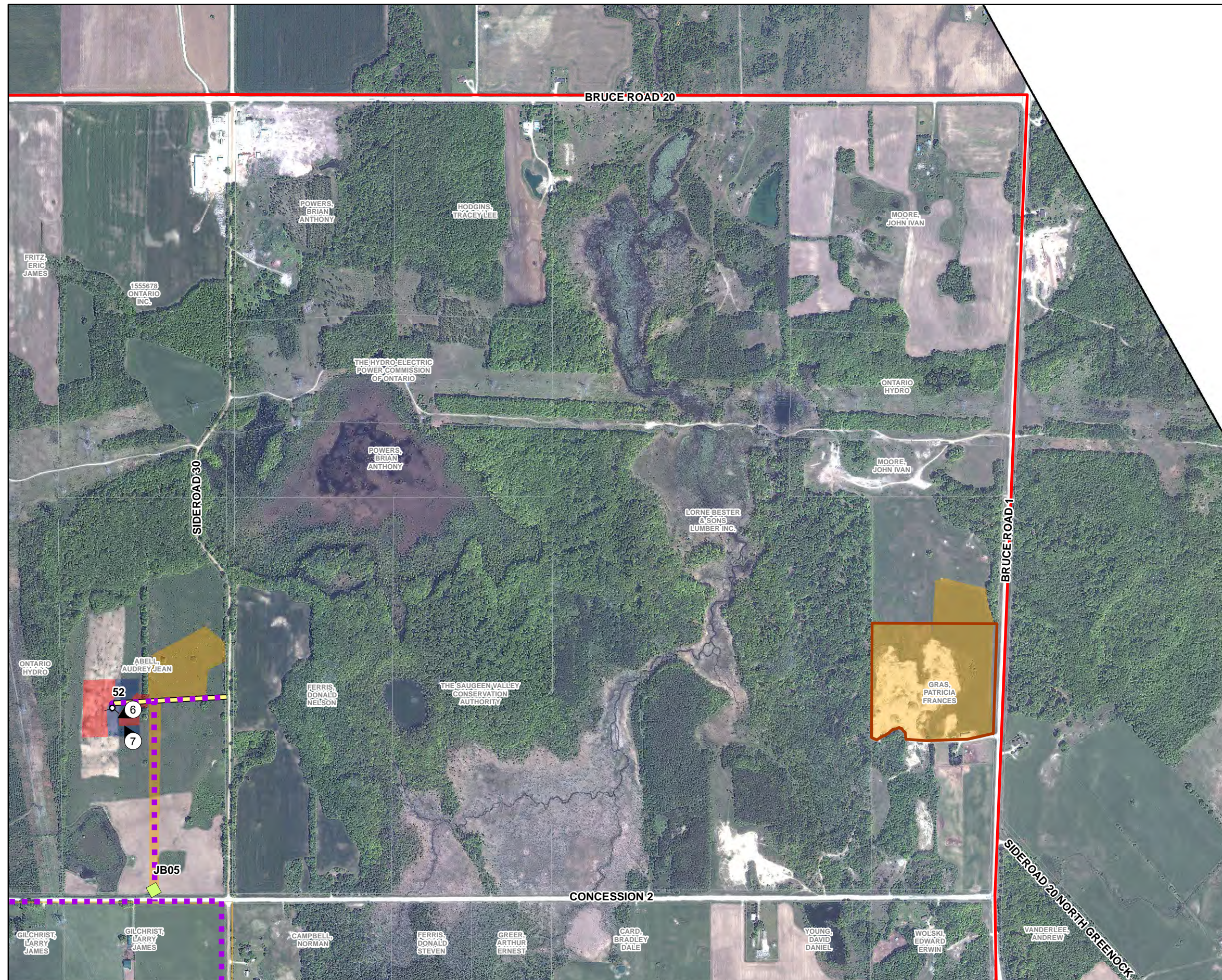
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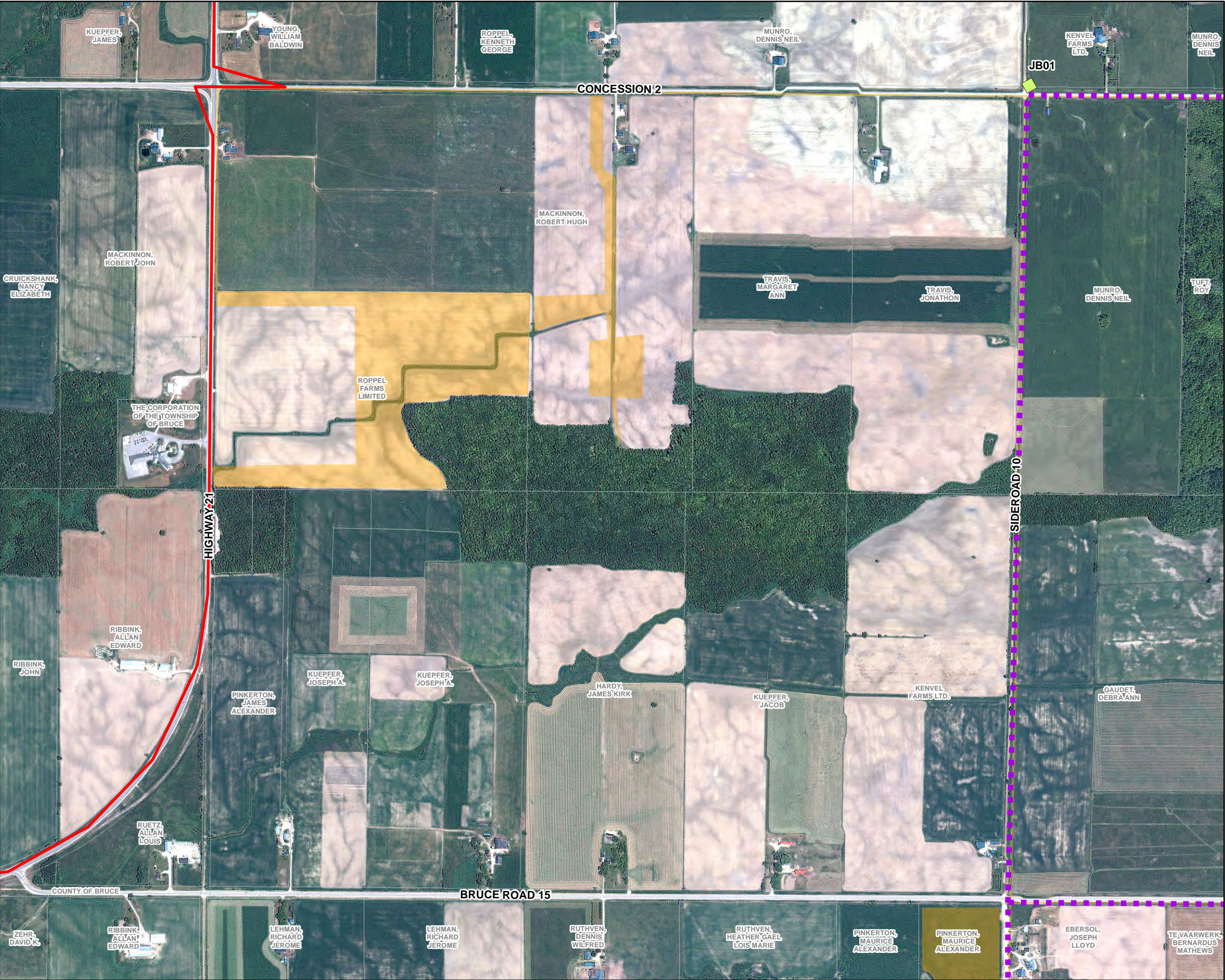
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TITLE	STAGE 2 SURVEY METHODS			
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	CHECK	JM	5 Jul. 2012	
	REVIEW			







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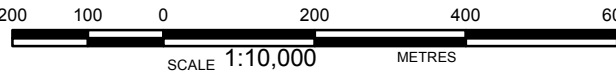
LEGEND


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- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
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- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



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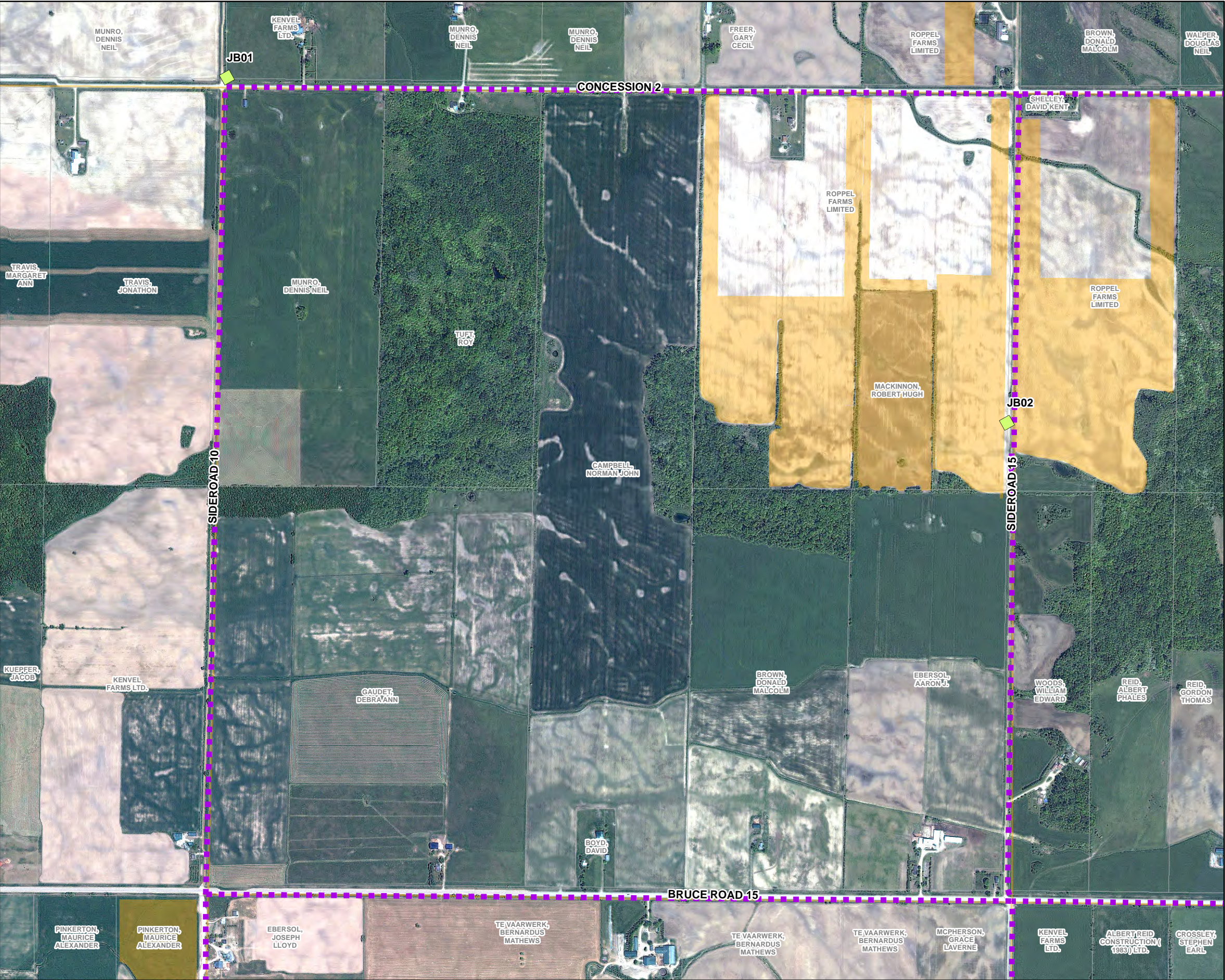
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PROJECT		ARMOW WIND PROJECT			
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		REVIEW			



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**LEGEND**

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

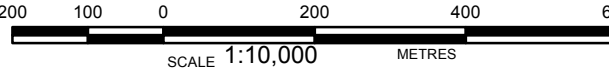
Staging/Laydown Area

Substation



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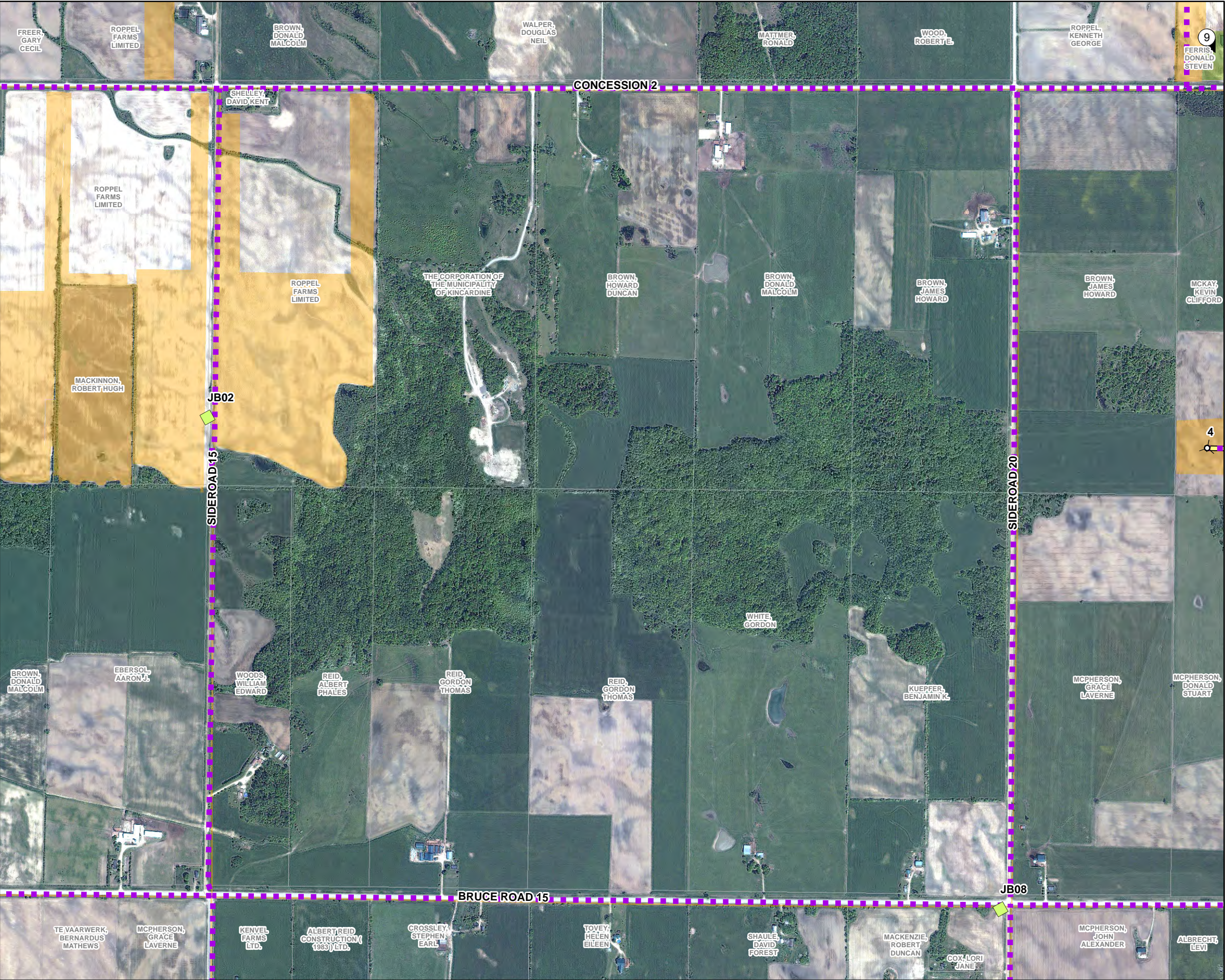
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PROJECT		ARMOW WIND PROJECT			
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		REVIEW			



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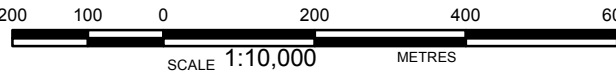
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- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
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- Project Area
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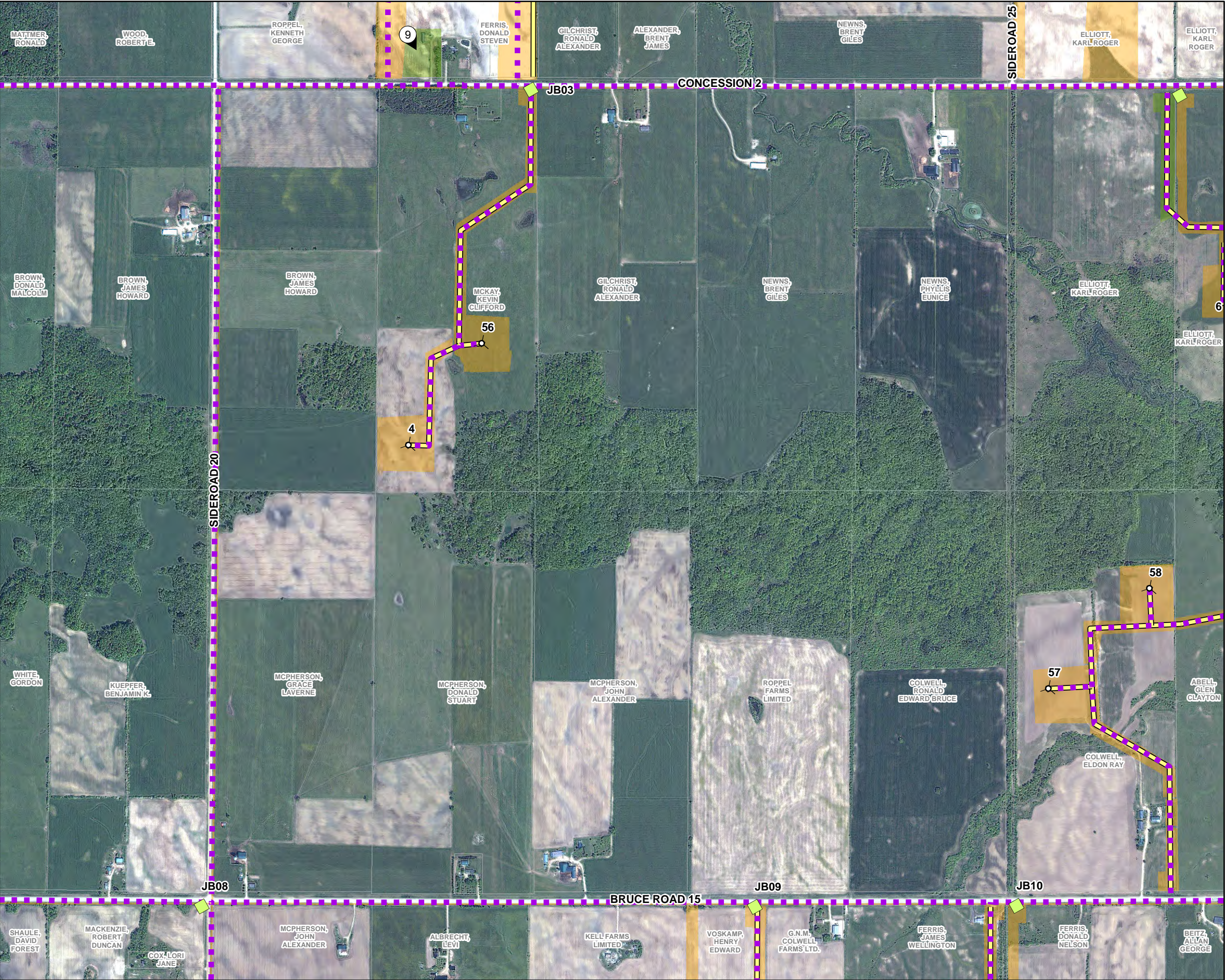
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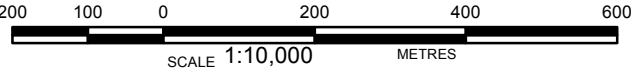
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- Transformer
- Crane Walk
- Collector Cable
- Access Road
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- Area of Steep Slope – Not Assessed
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- Staging/Laydown Area
- Substation



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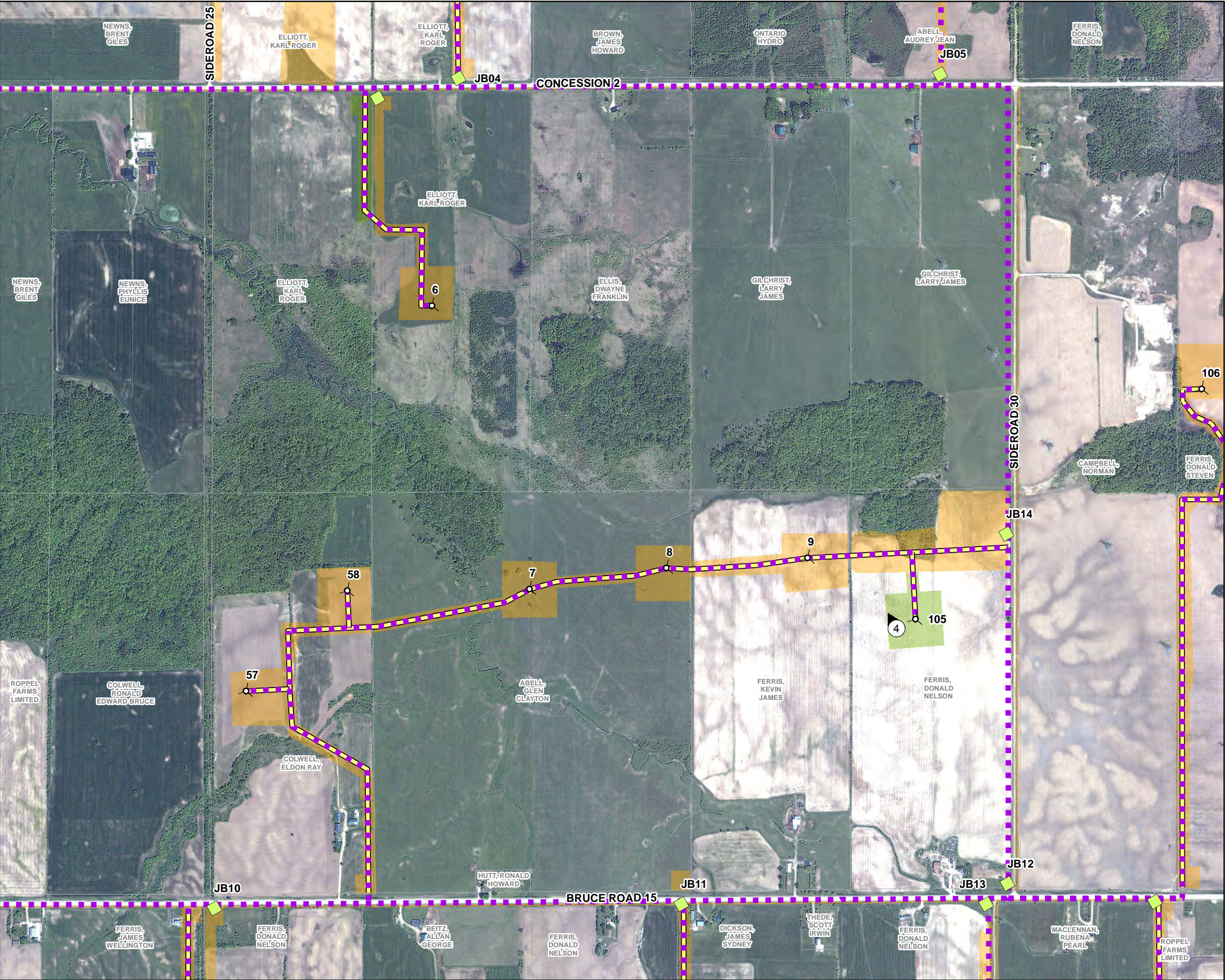
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-10	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		



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LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

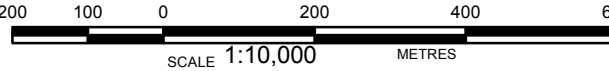
Staging/Laydown Area

Substation



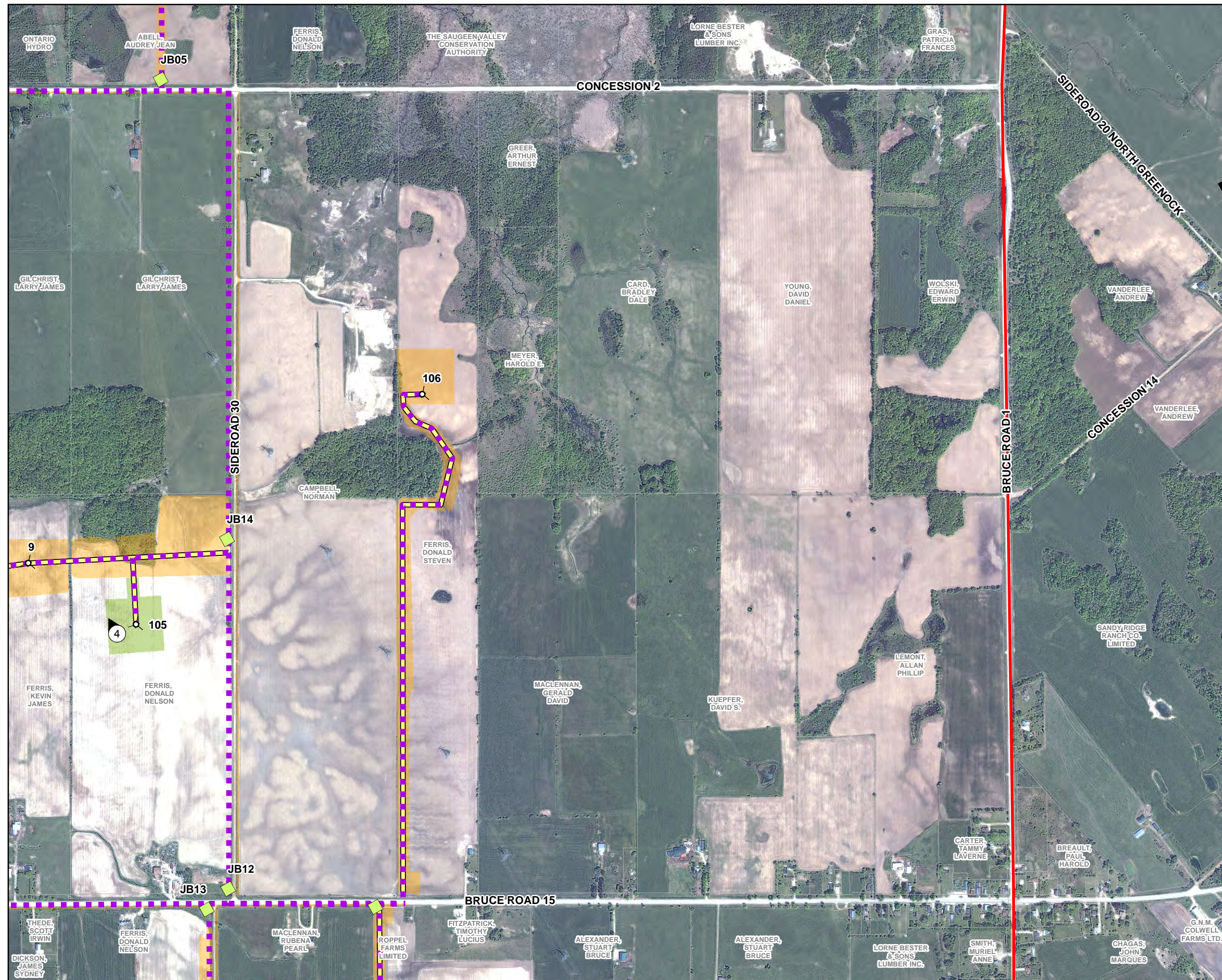
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Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4  
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-11	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
		REVIEW			





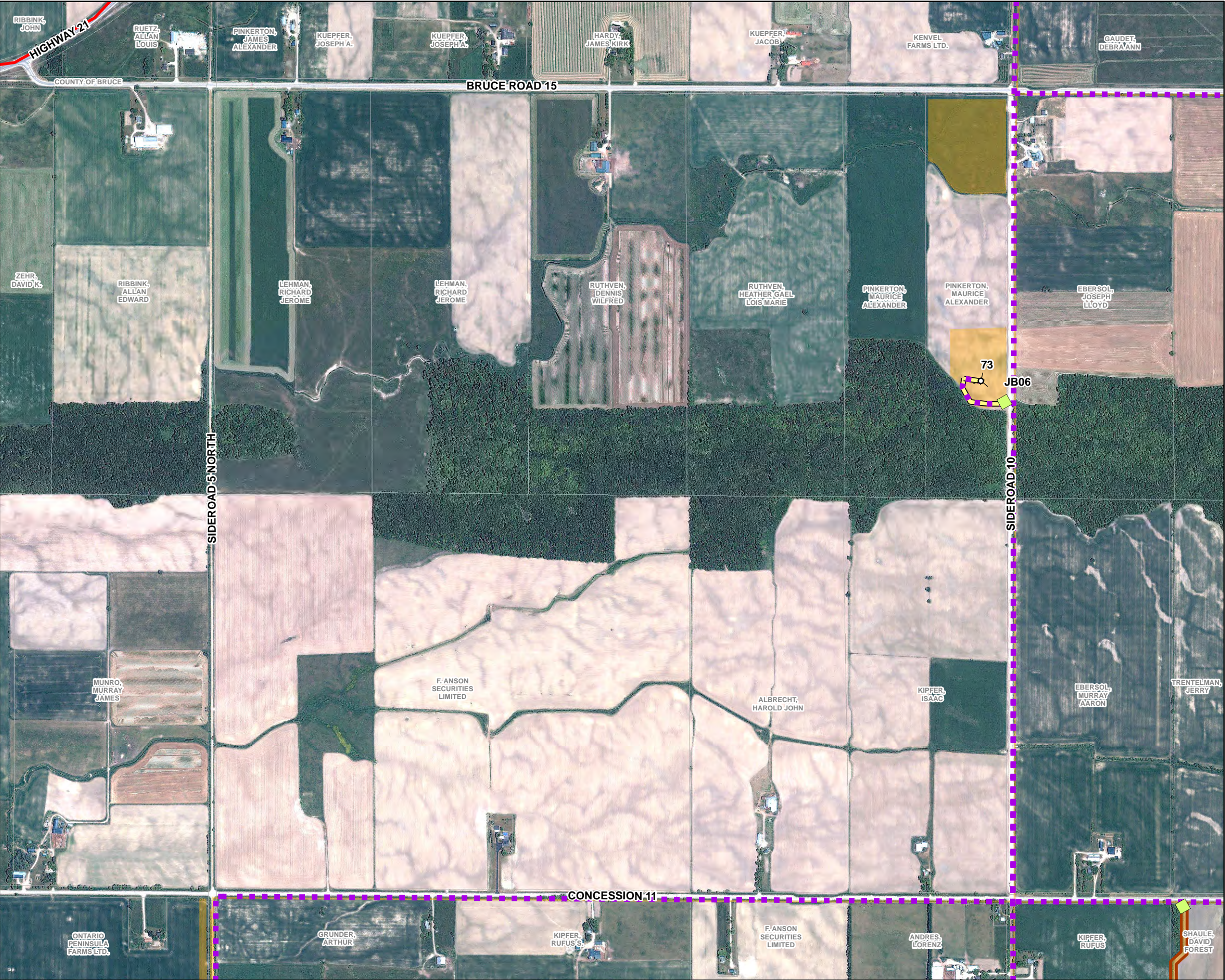
 **Golder Associates**  
Mississauga, Ontario







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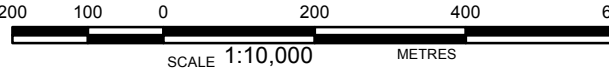



- LEGEND**
- Proposed Turbine Location
  - Photo Location
  - MET Tower
  - Junction Boxes
  - Transformer
  - Crane Walk
  - Collector Cable
  - Access Road
  - Stage 2 Pedestrian Survey at 5m Intervals
  - Stage 2 Test Pitting at 5m Intervals
  - Area of Steep Slope – Not Assessed
  - Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
  - Land Parcel
  - Project Area
  - Staging/Laydown Area
  - Substation



**REFERENCE**

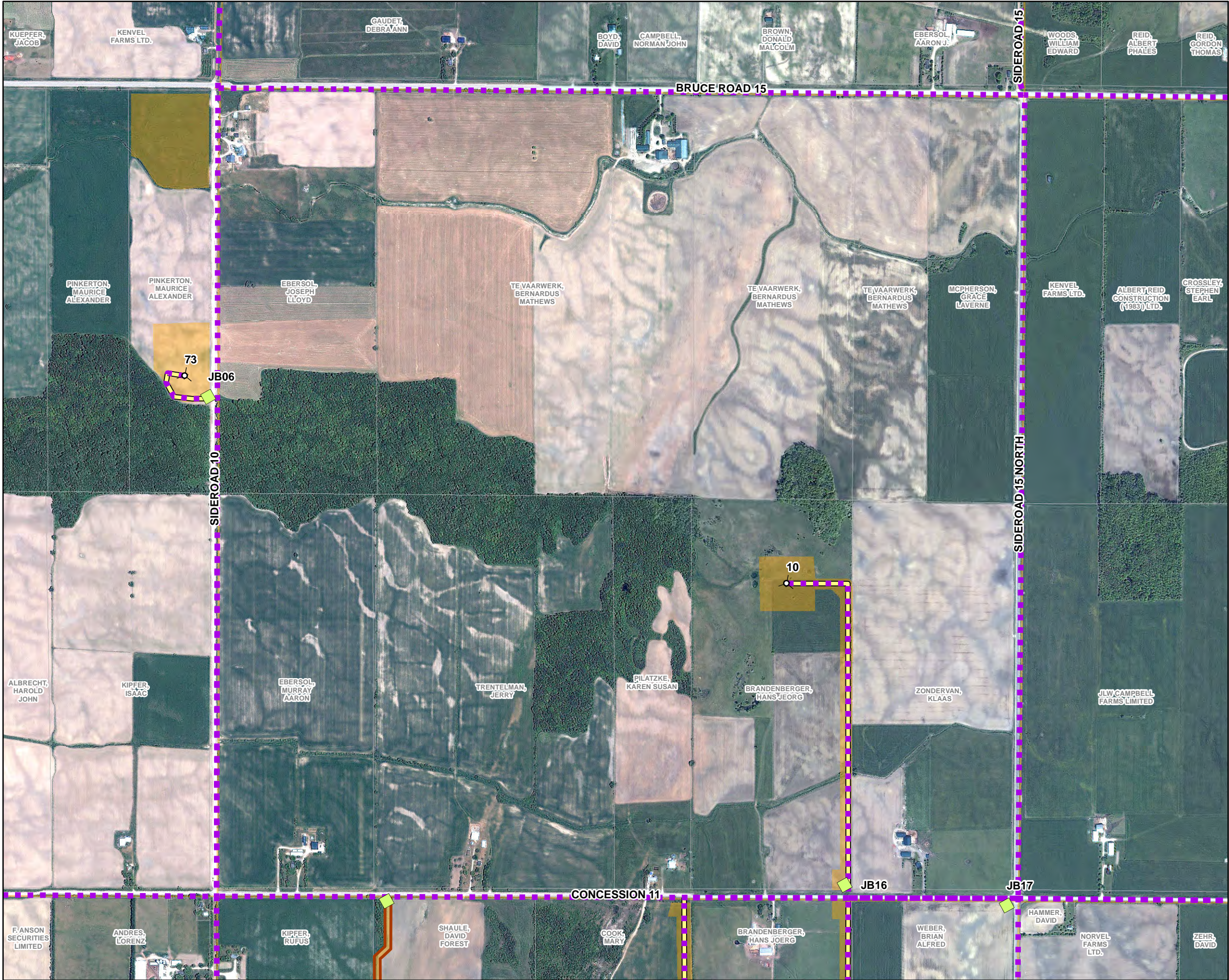
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-14	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
		REVIEW			



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**LEGEND**

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

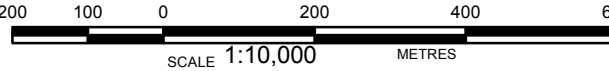
Staging/Laydown Area

Substation



**REFERENCE**

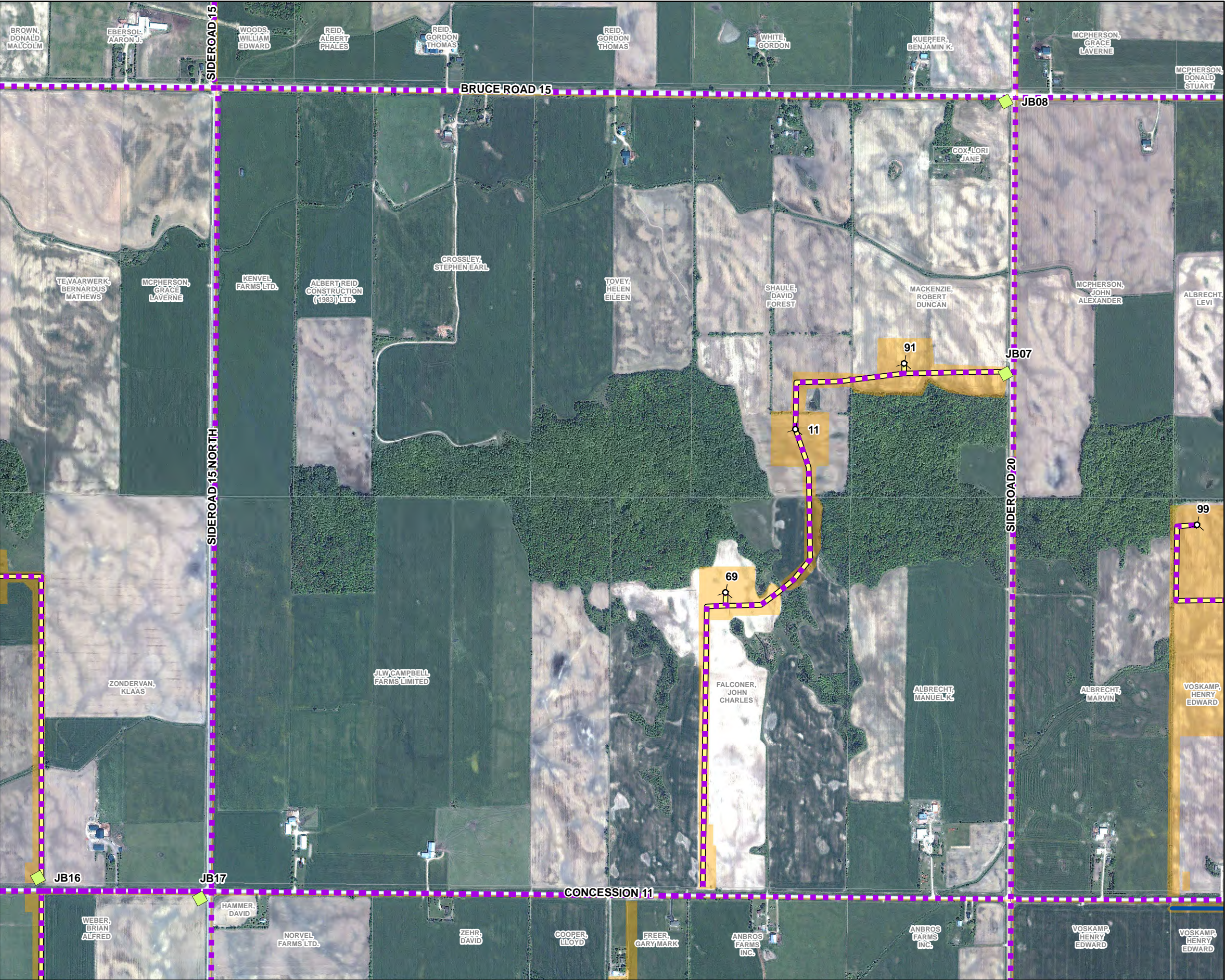
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-15	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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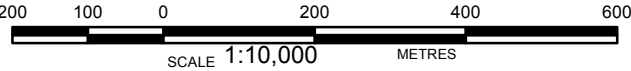
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- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



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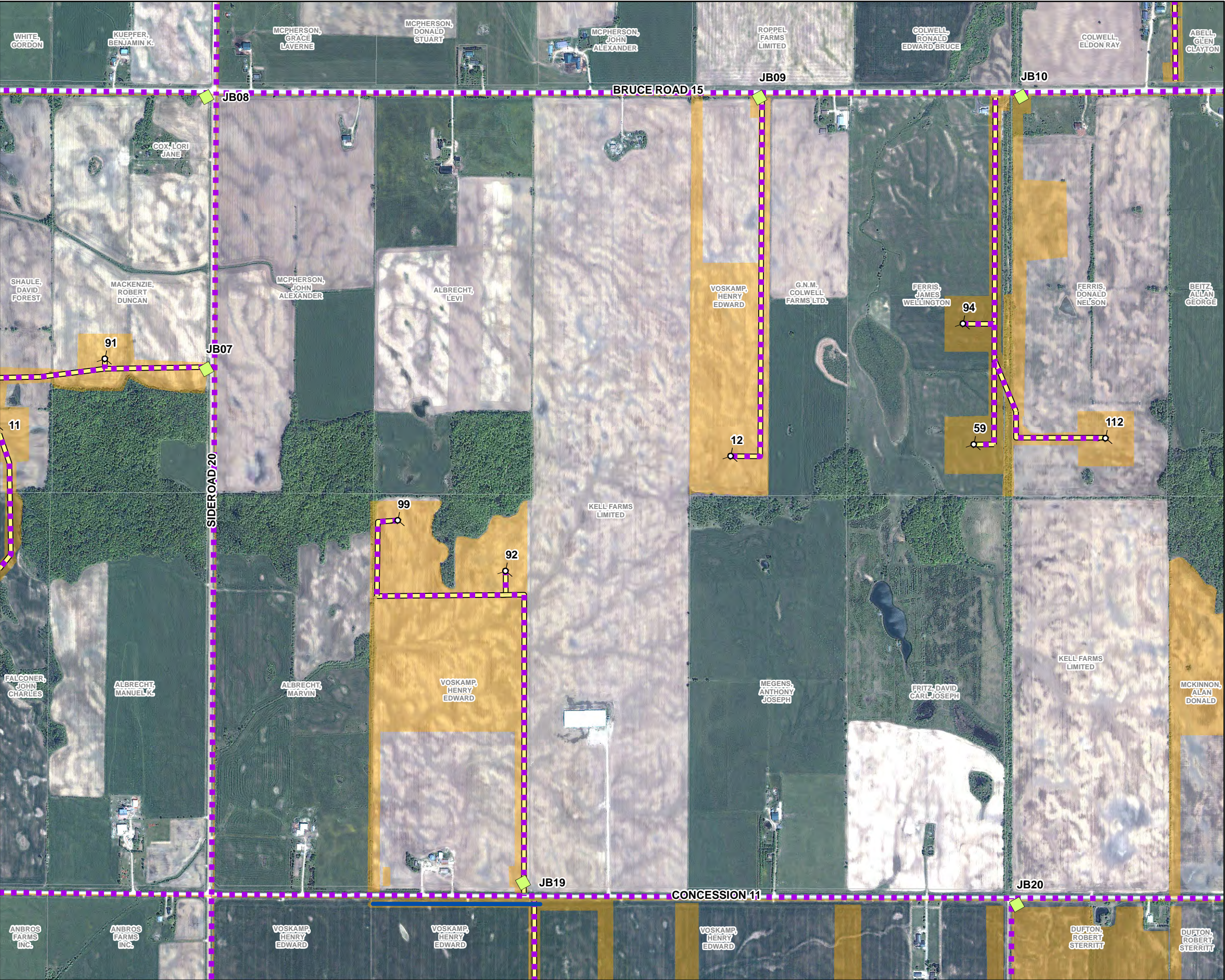
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-16	
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
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- Project Area
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- Substation



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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
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	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
		REVIEW			



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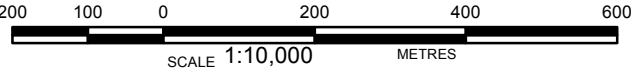
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
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- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



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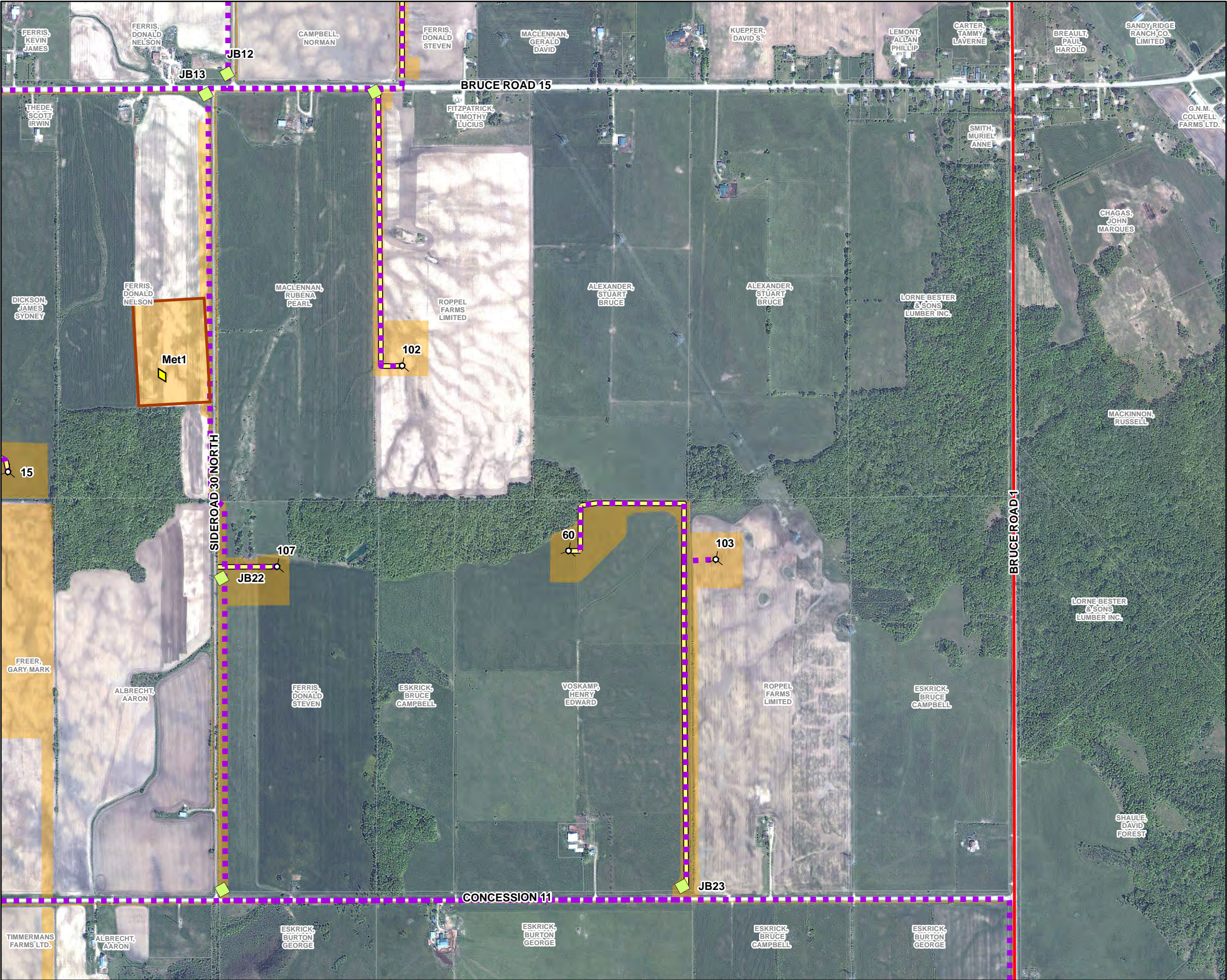
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-18	
	CHECK	JM	5 Jul. 2012		
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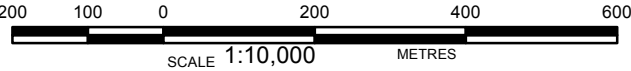
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
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- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



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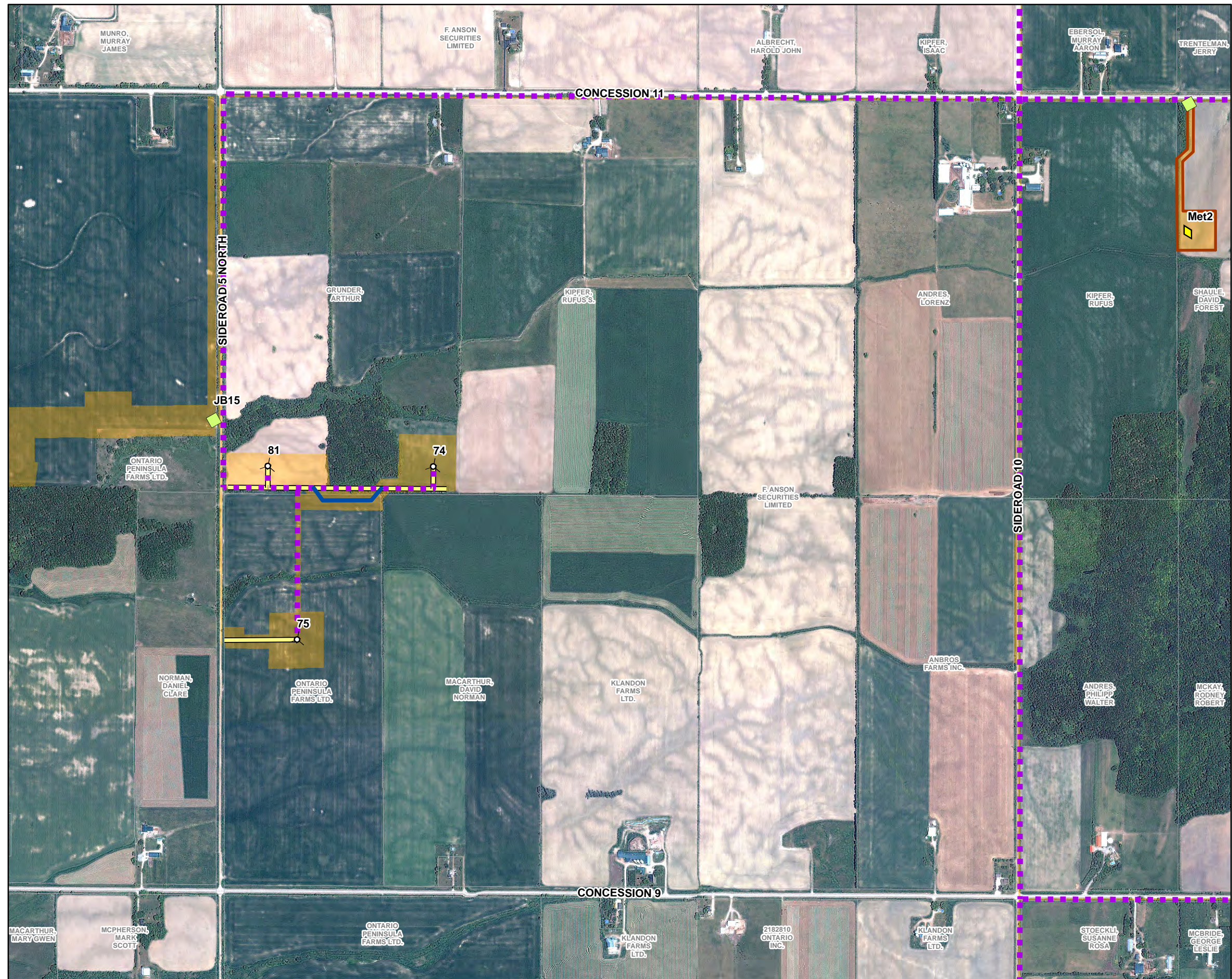



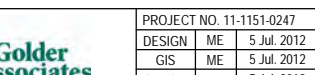
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TITLE		STAGE 2 SURVEY METHODS			
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	DESIGN	ME	5 Jul. 2012	FIGURE 6-19	
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		REVIEW			









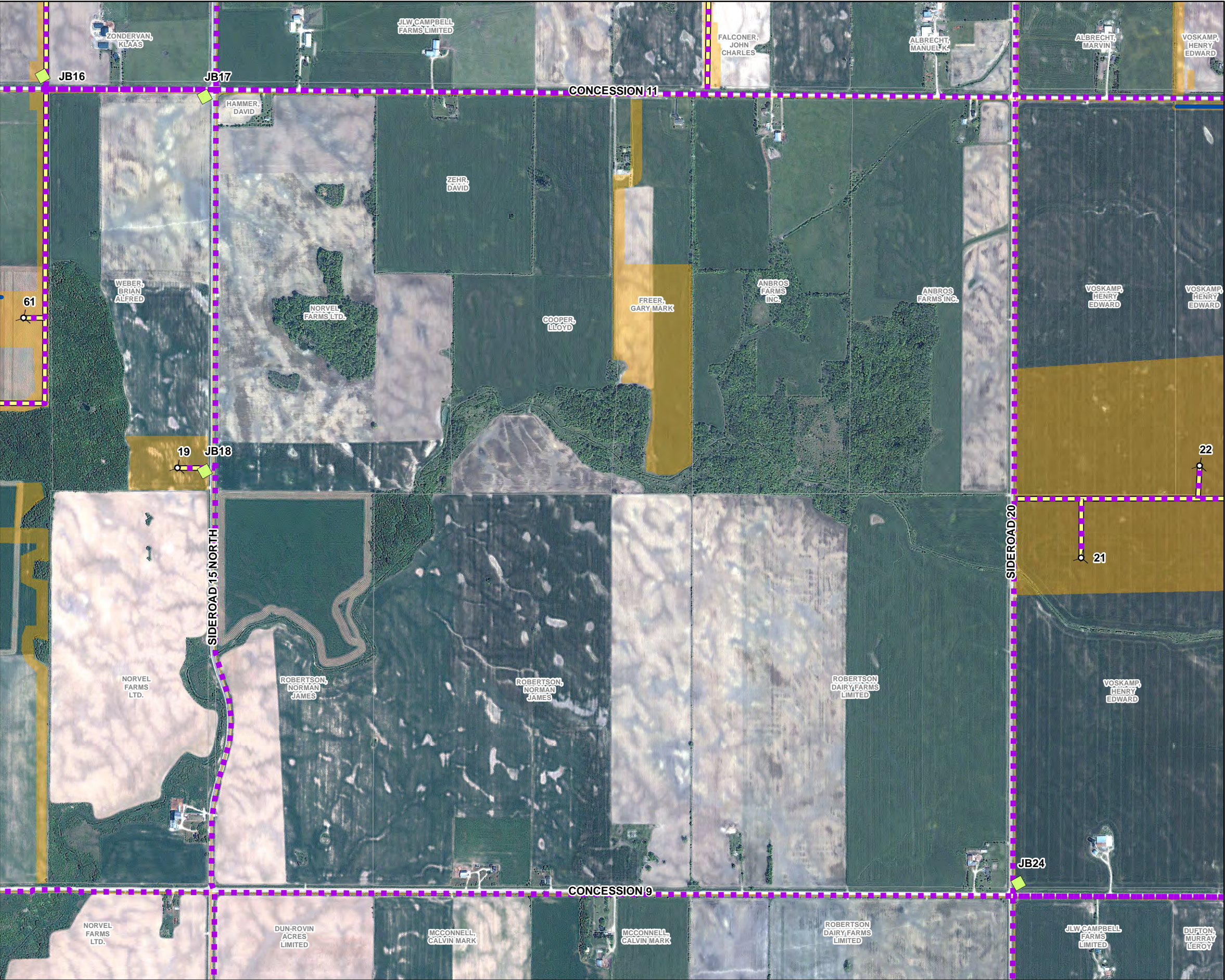
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ARMOW WIND PROJECT				
TITLE				
STAGE 2 SURVEY METHODS				
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	DESIGN	ME	5 Jul. 2012	 <p>FIGURE 6-2</p>
	GIS	ME	5 Jul. 2012	
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	REVIEW			







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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

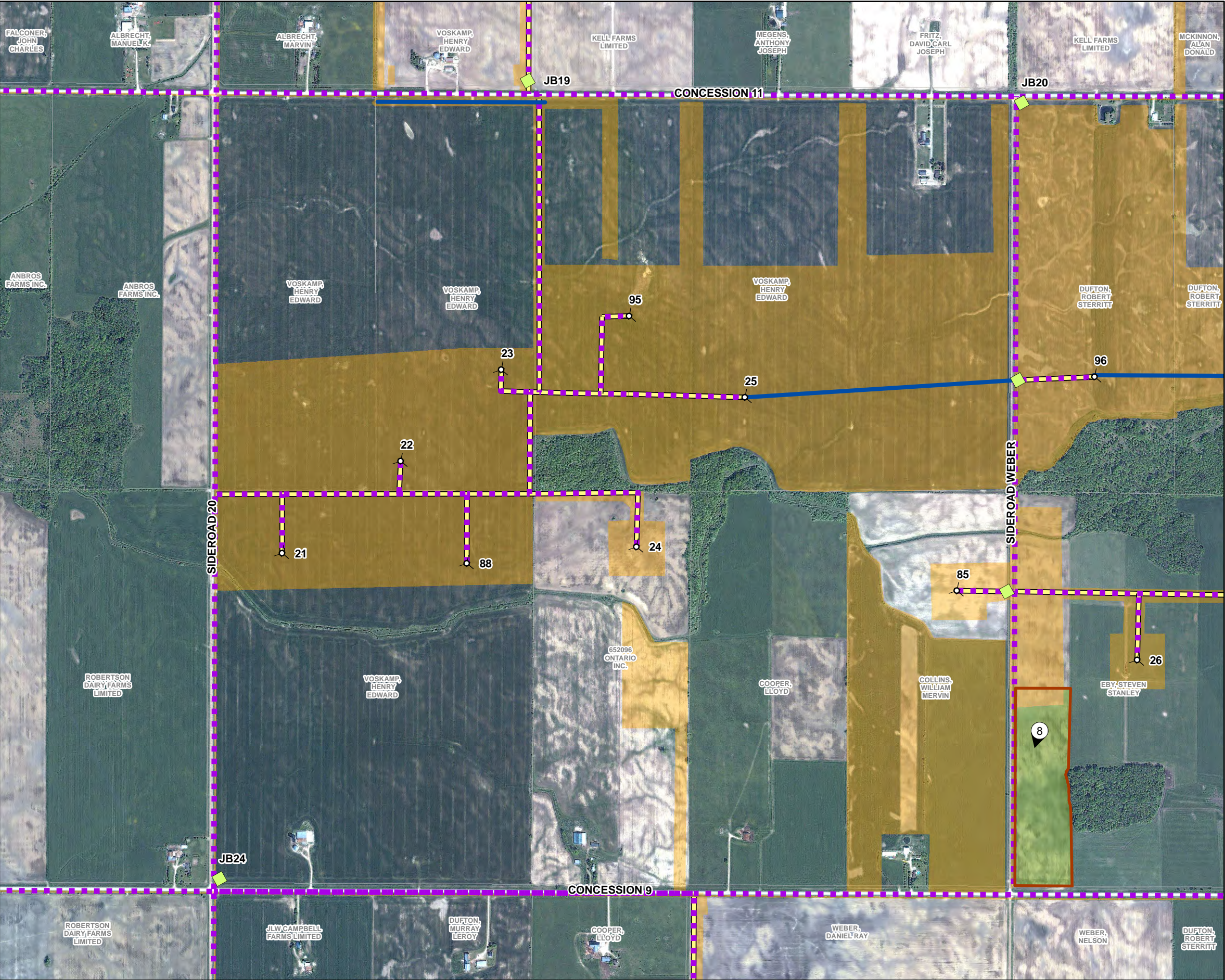
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-23	
	GIS	ME	5 Jul. 2012		
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	REVIEW				



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LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

Staging/Laydown Area

Substation



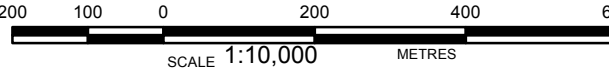
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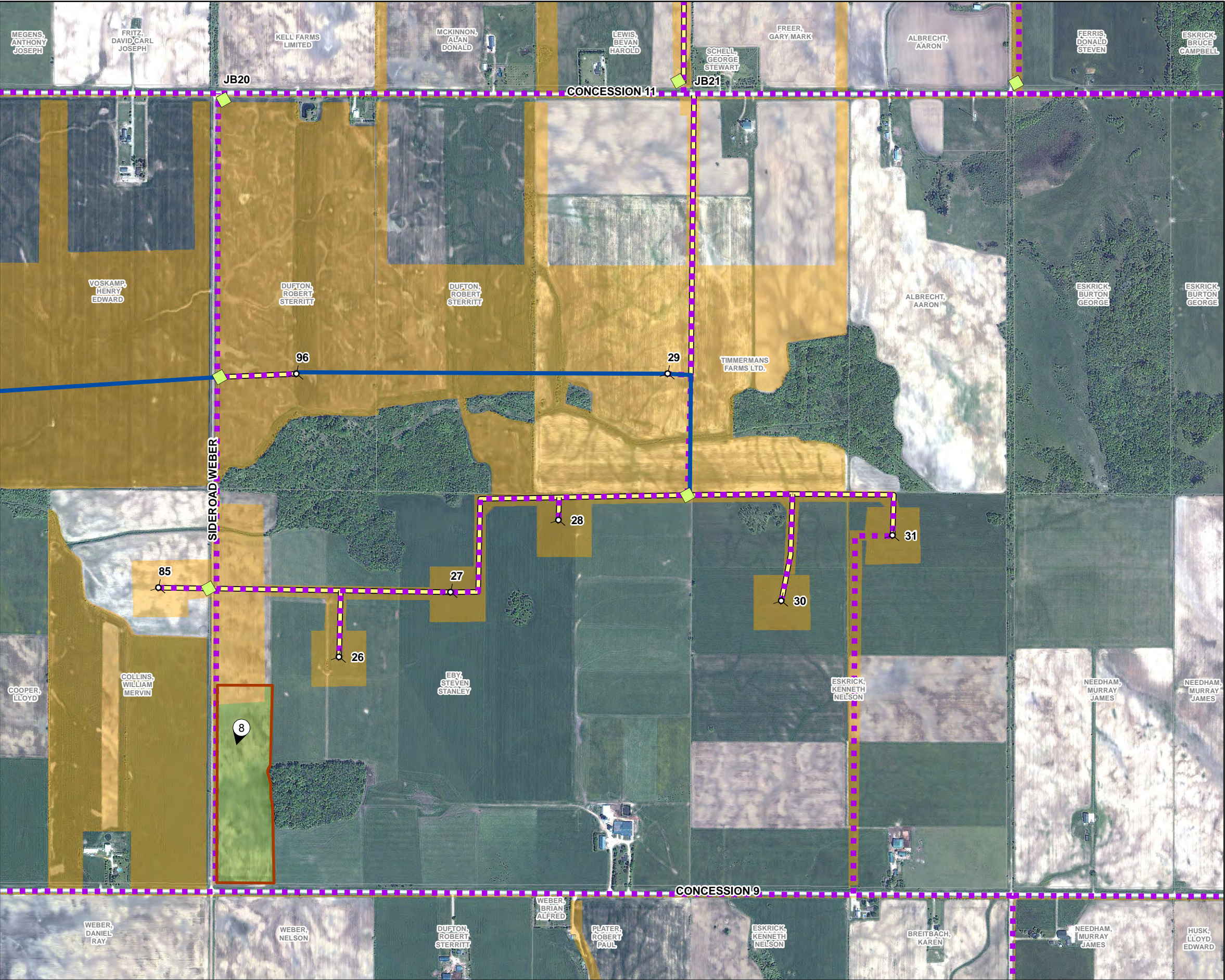
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
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	DESIGN	ME	5 Jul. 2012	FIGURE 6-24	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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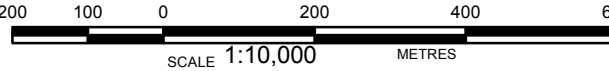
**LEGEND**


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



**REFERENCE**

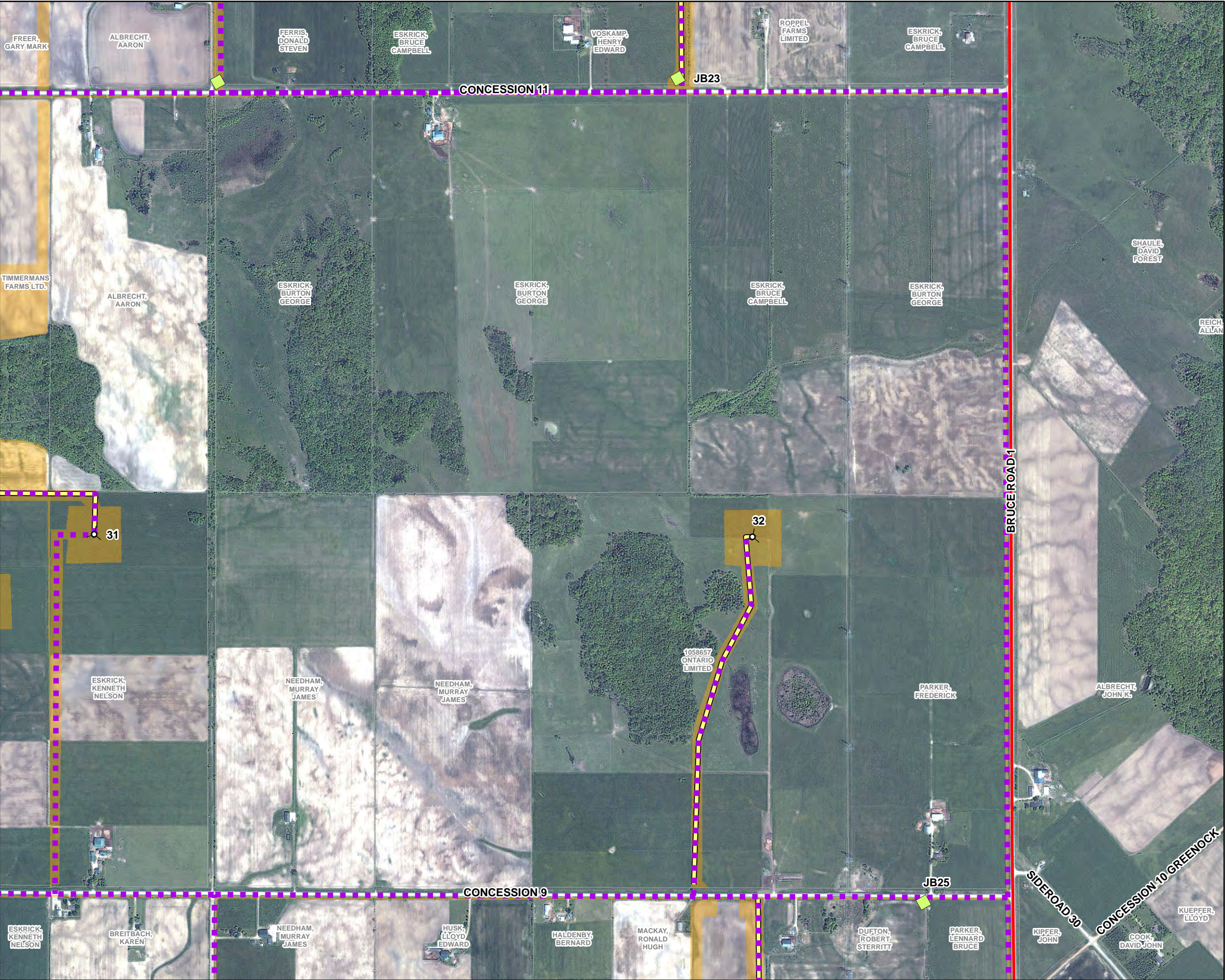
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
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	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		



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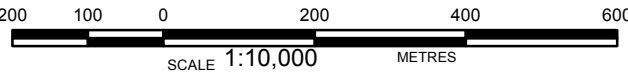
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



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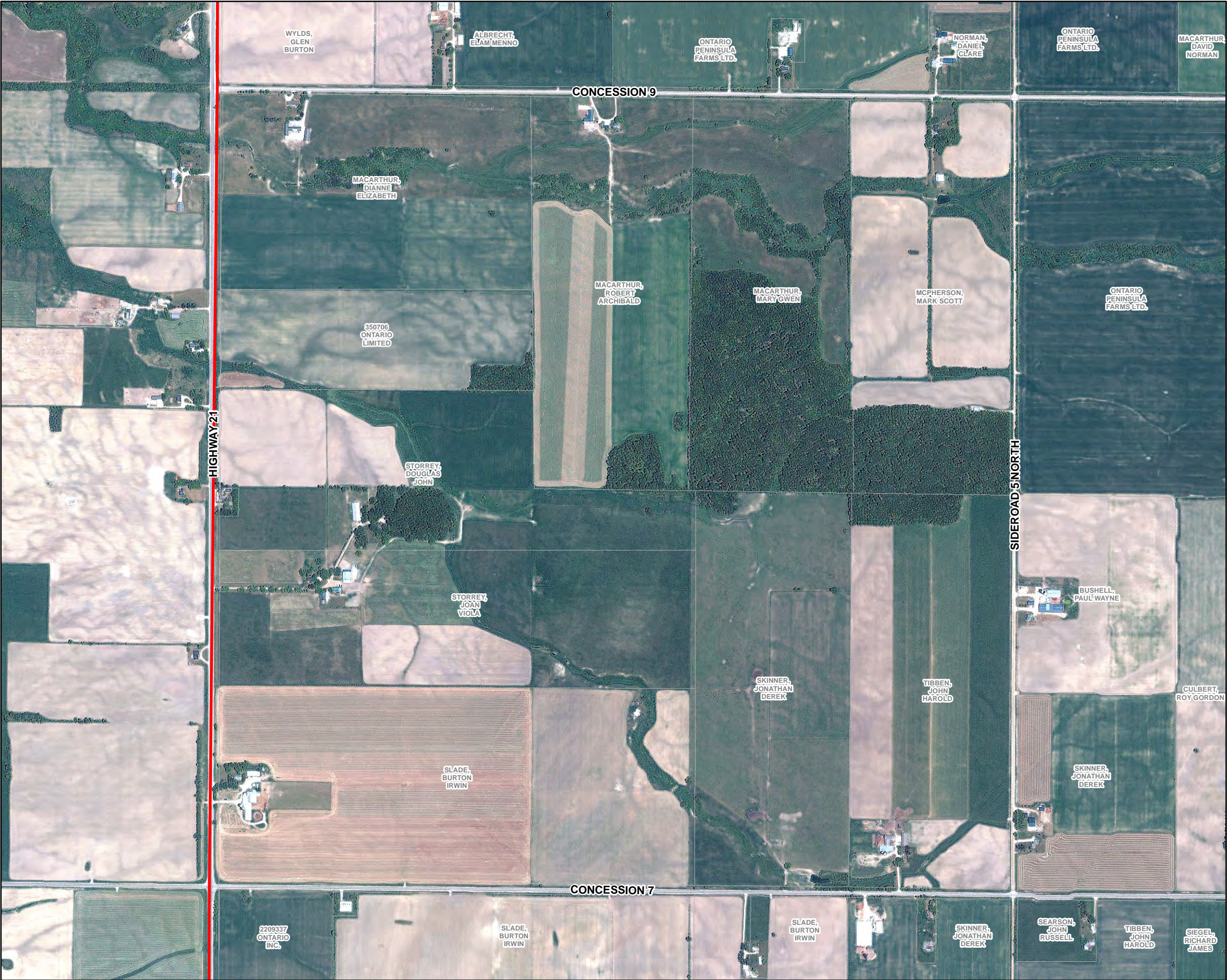
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-26	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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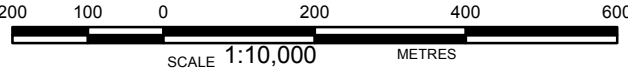
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

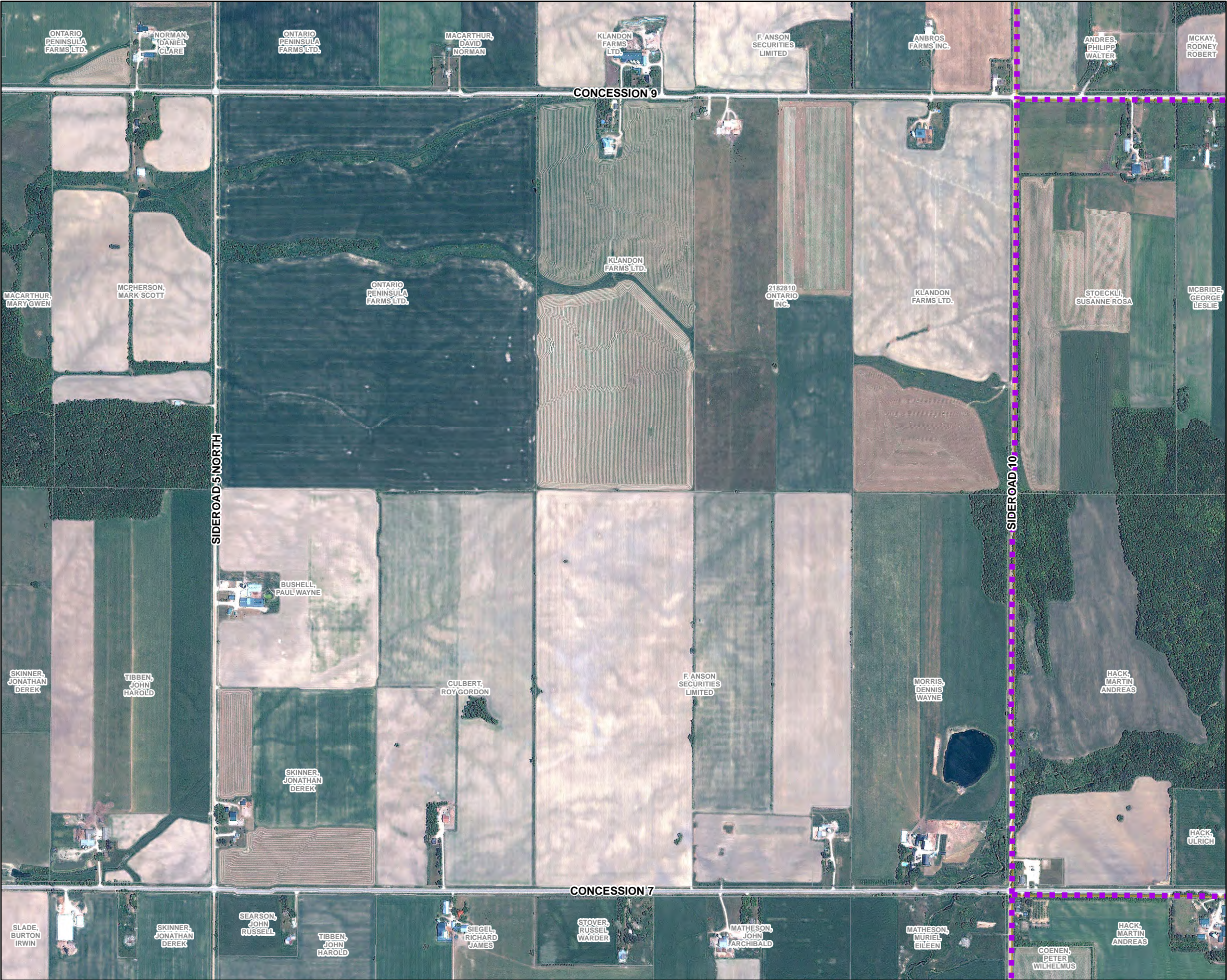
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PROJECT	ARMOW WIND PROJECT			
TITLE	STAGE 2 SURVEY METHODS			
 Mississauga, Ontario	PROJECT NO. 11-1151-0247			
	DESIGN	ME	5 Jul. 2012	SCALE AS SHOWN    REV. 0.0
	GIS	ME	5 Jul. 2012	
	CHECK	JM	5 Jul. 2012	
	REVIEW			
FIGURE 6-27				



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**LEGEND**

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

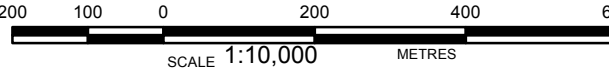
Staging/Laydown Area


Substation



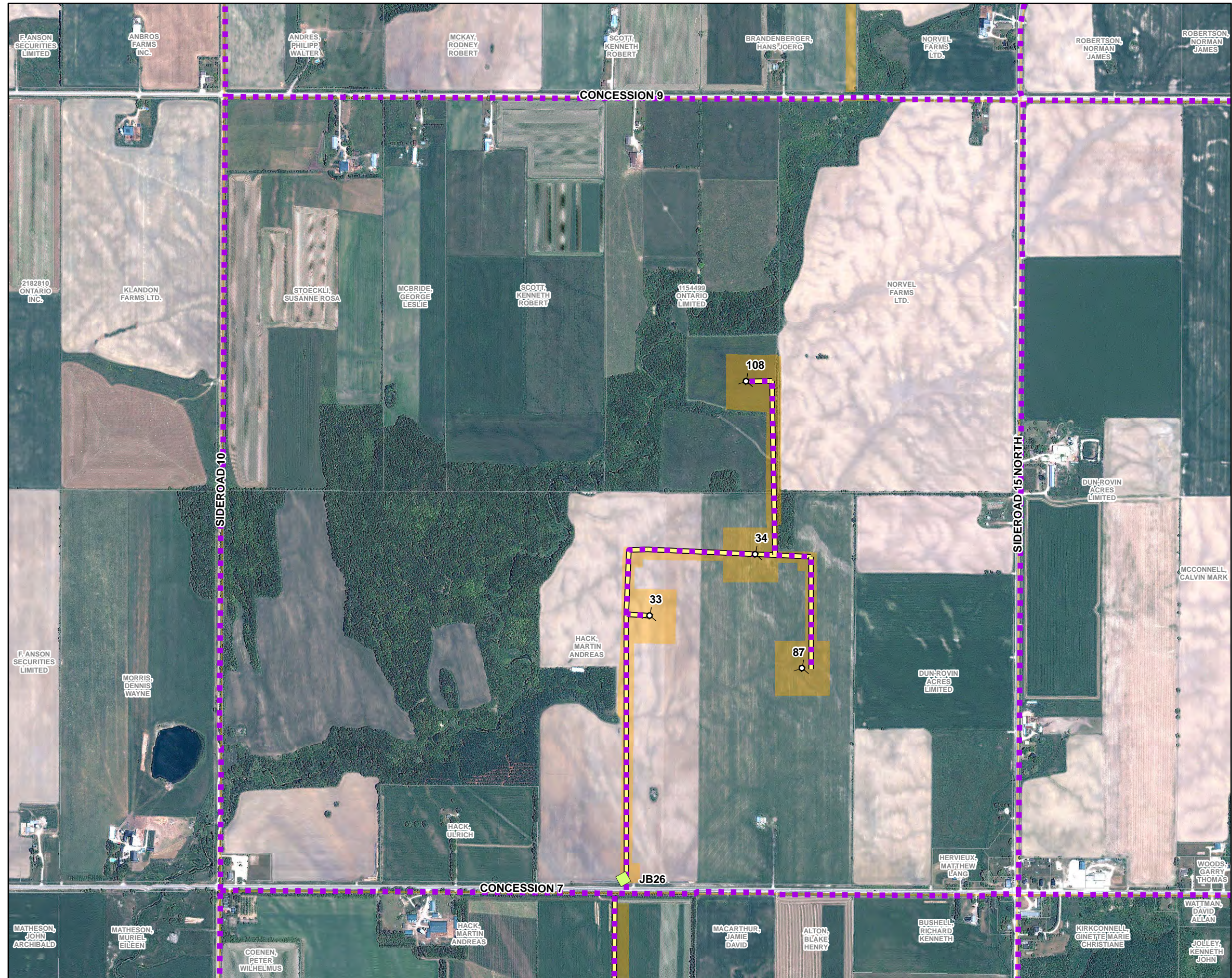
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Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4  
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT	ARMOW WIND PROJECT			
TITLE	STAGE 2 SURVEY METHODS			
 <div>Golder Associates Mississauga, Ontario</div>	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0
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	CHECK	JM	5 Jul. 2012	
	REVIEW			

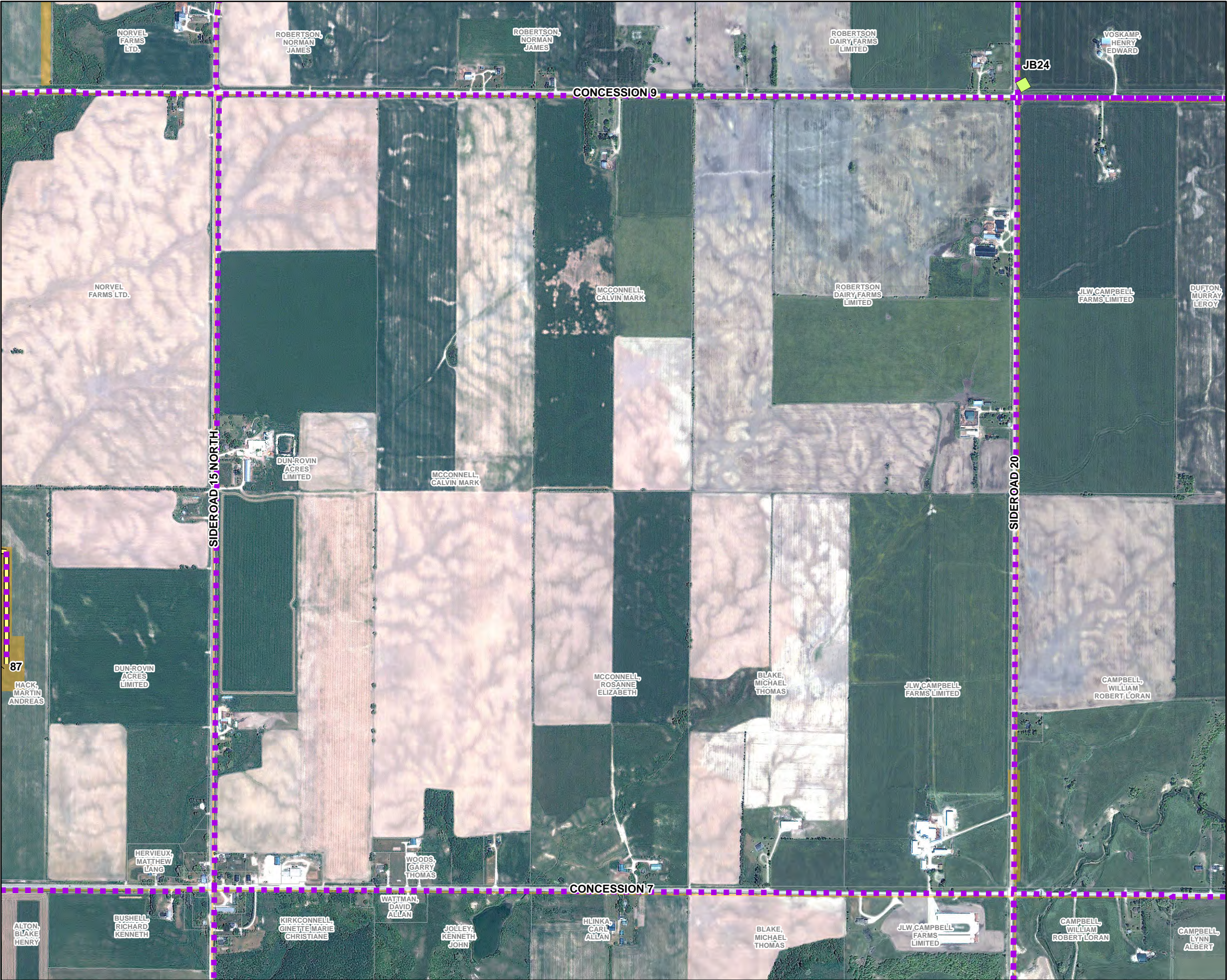




PROJECT	ARMOW WIND PROJECT		
TITLE	STAGE 2 SURVEY METHODS		



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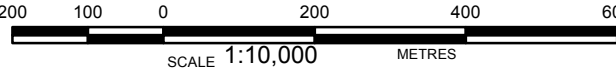
**LEGEND**


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



**REFERENCE**

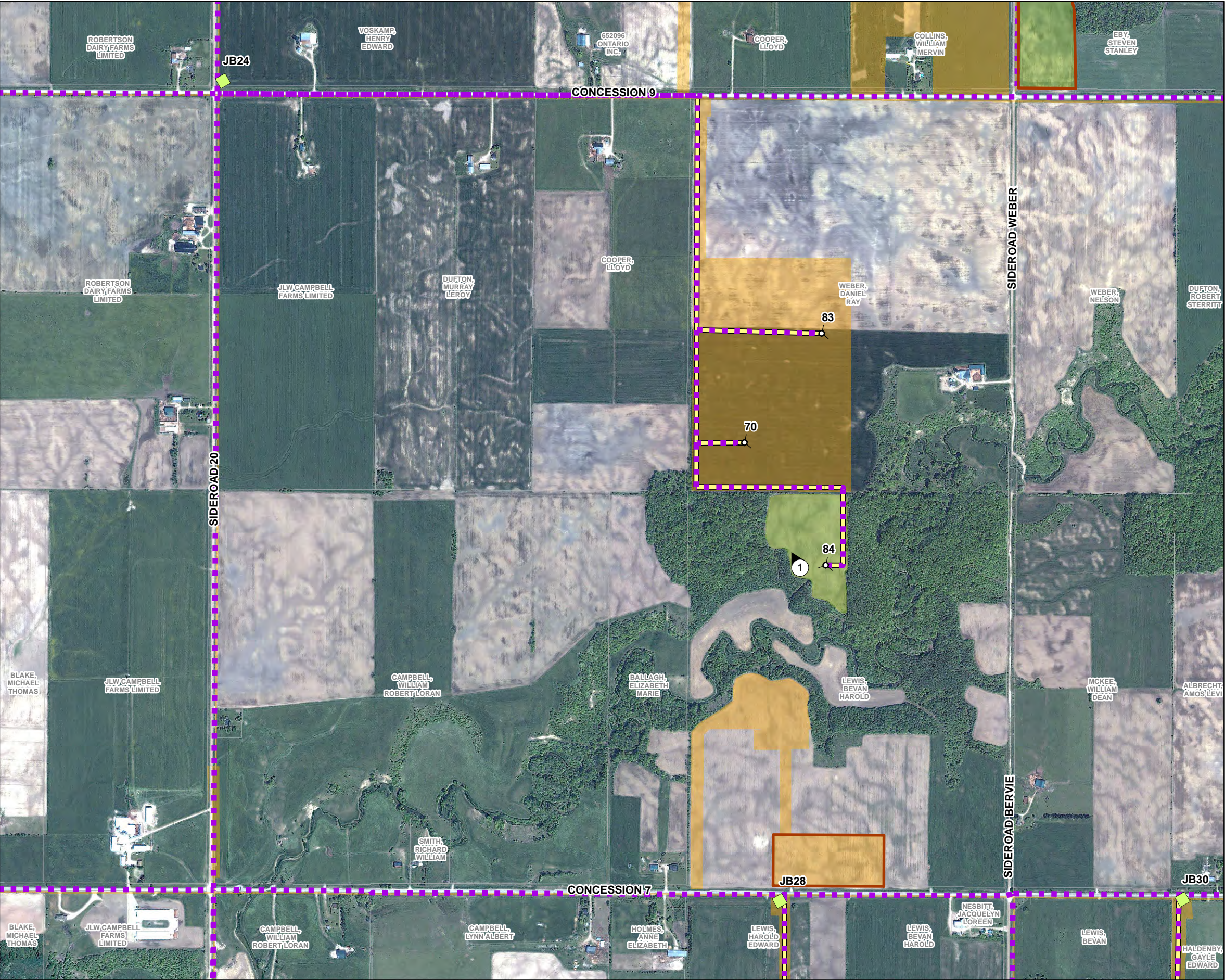
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT				ARMOW WIND PROJECT			
TITLE				STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247			SCALE AS SHOWN	REV. 0.0		
	DESIGN	ME	5 Jul. 2012	FIGURE 6-30			
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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
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- Substation



REFERENCE

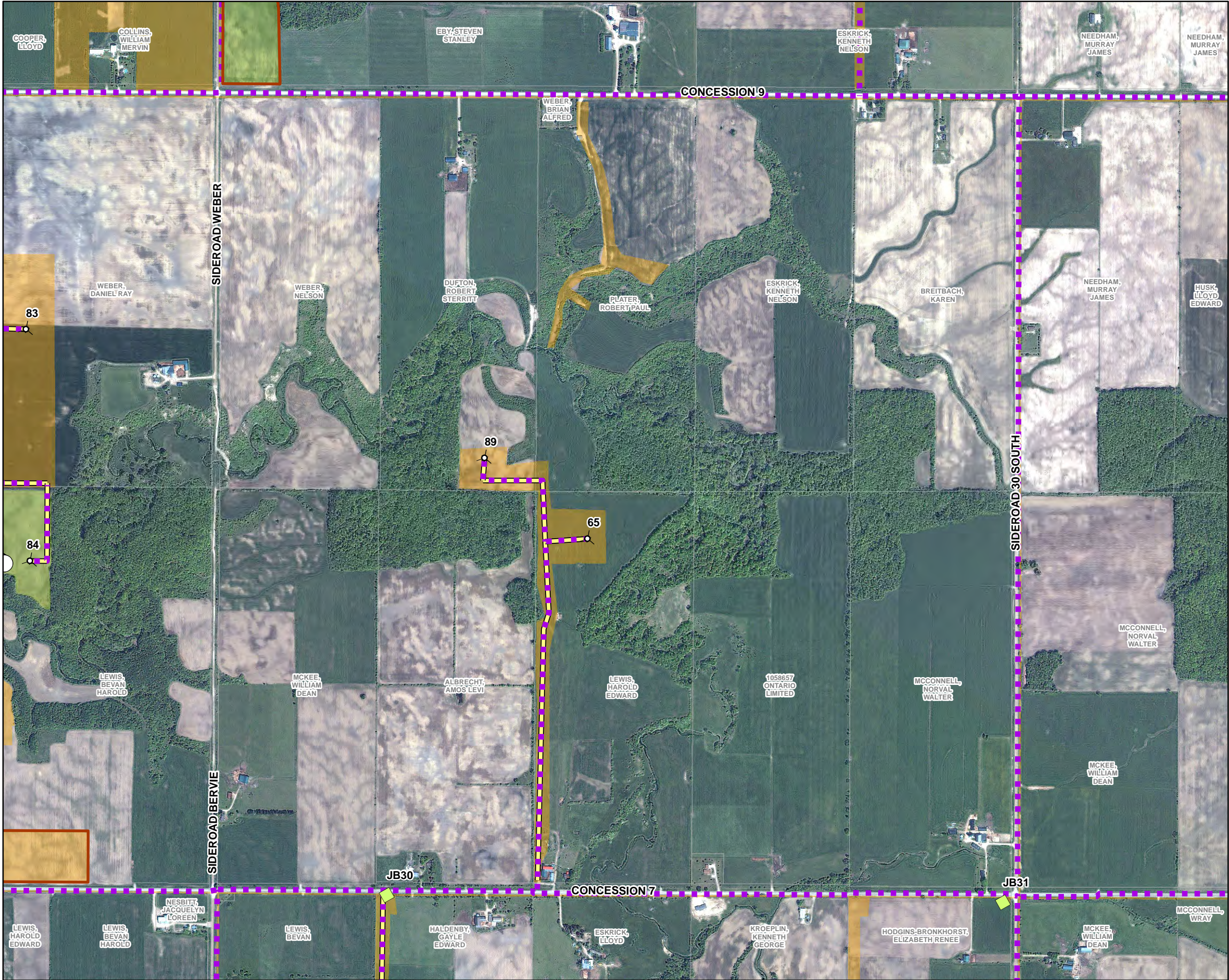
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Produced by Golder Associates Ltd under licence from  
Ontario Ministry of Natural Resources, © Queens Printer 2008  
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-31	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
		REVIEW			



G:\Projects\2011\11-1151-0247\_Samsung\Armow\GIS\MXDs\Reporting\Archaeology\Stage2\Stage2\_May2012\SurveyMethods\Fig - 6-32 .mxd



LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

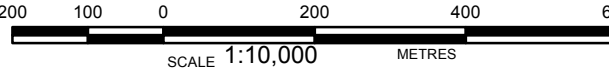
Staging/Laydown Area

Substation



REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4  
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Ontario Ministry of Natural Resources, © Queens Printer 2008  
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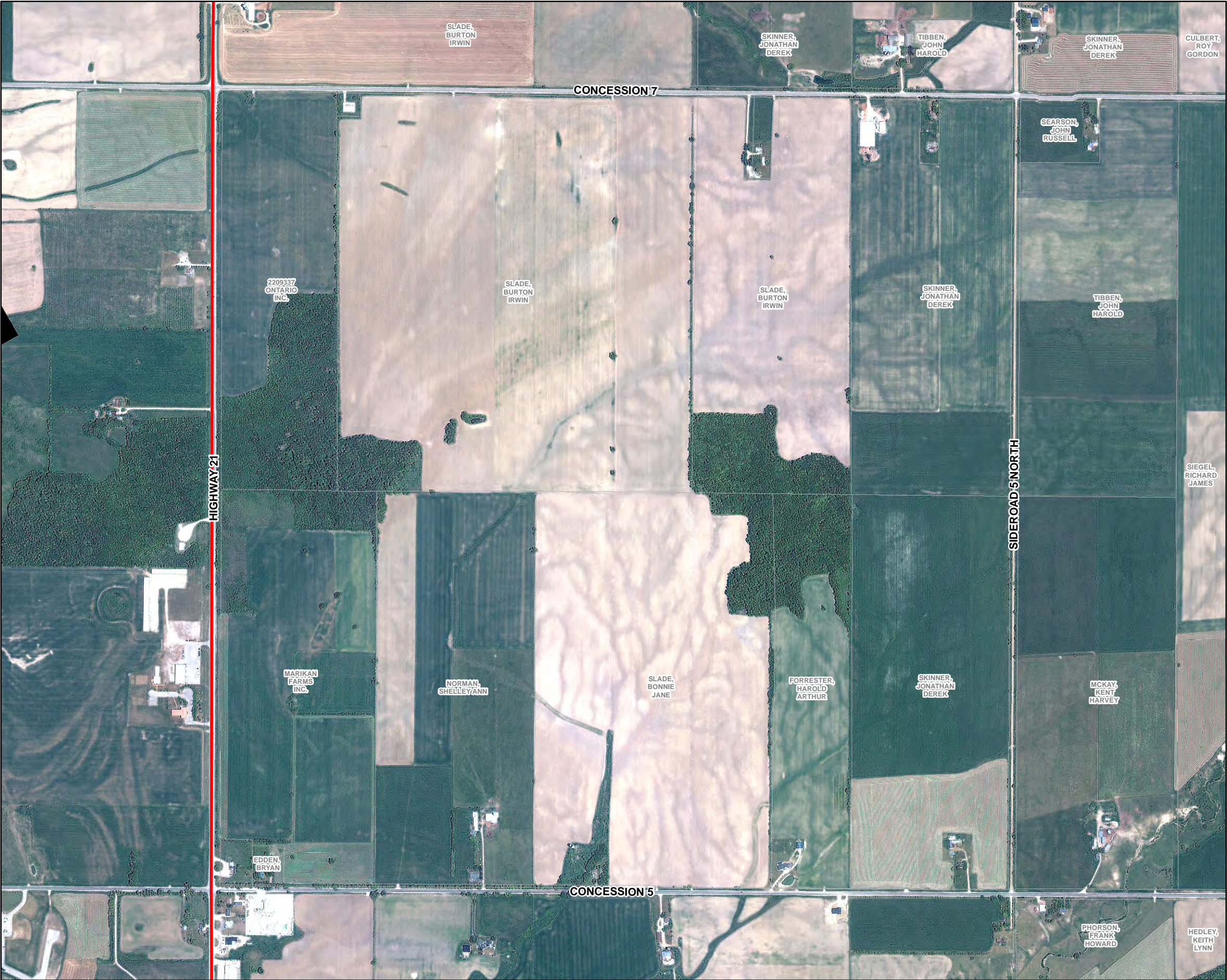
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TITLE	STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247			
	DESIGN	ME	5 Jul. 2012	SCALE AS SHOWN    REV. 0.0
	GIS	ME	5 Jul. 2012	
	CHECK	JM	5 Jul. 2012	
	REVIEW			
FIGURE 6-32				







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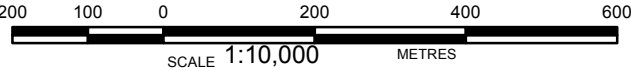
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

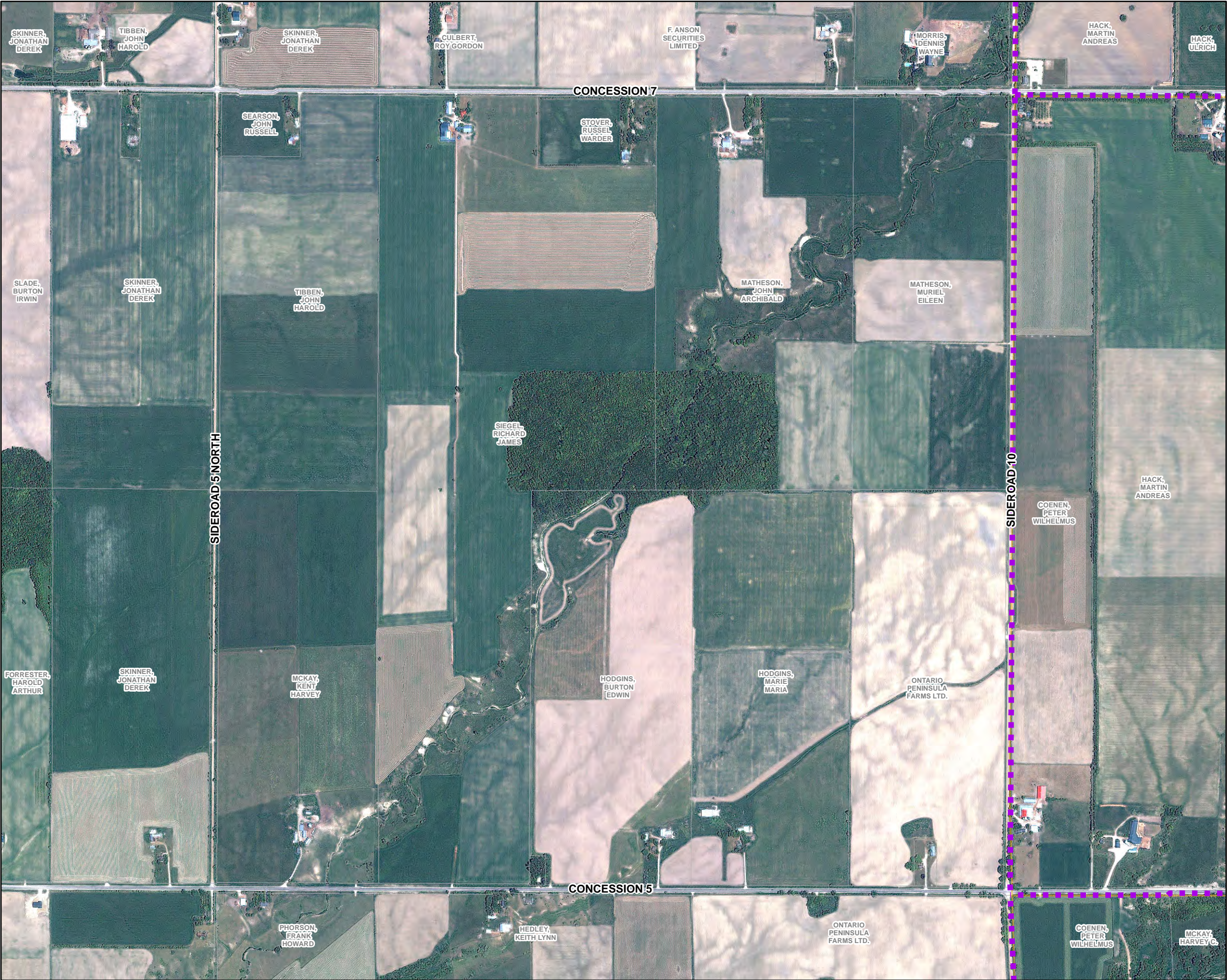
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17




PROJECT				ARMOW WIND PROJECT			
TITLE				STAGE 2 SURVEY METHODS			
 <b>Golder Associates</b> Mississauga, Ontario	PROJECT NO. 11-1151-0247			SCALE AS SHOWN		REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-34			
	GIS	ME	5 Jul. 2012				
	CHECK	JM	5 Jul. 2012				
	REVIEW						





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LEGEND


 Proposed Turbine Location


 Photo Location


 MET Tower


 Junction Boxes


 Transformer


 Crane Walk


 Collector Cable


 Access Road


 Stage 2 Pedestrian Survey at 5m Intervals


 Stage 2 Test Pitting at 5m Intervals


 Area of Steep Slope – Not Assessed

 Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

 Land Parcel

 Project Area

 Staging/Laydown Area

 Substation



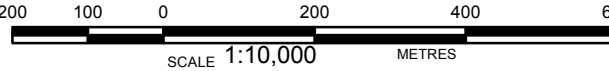
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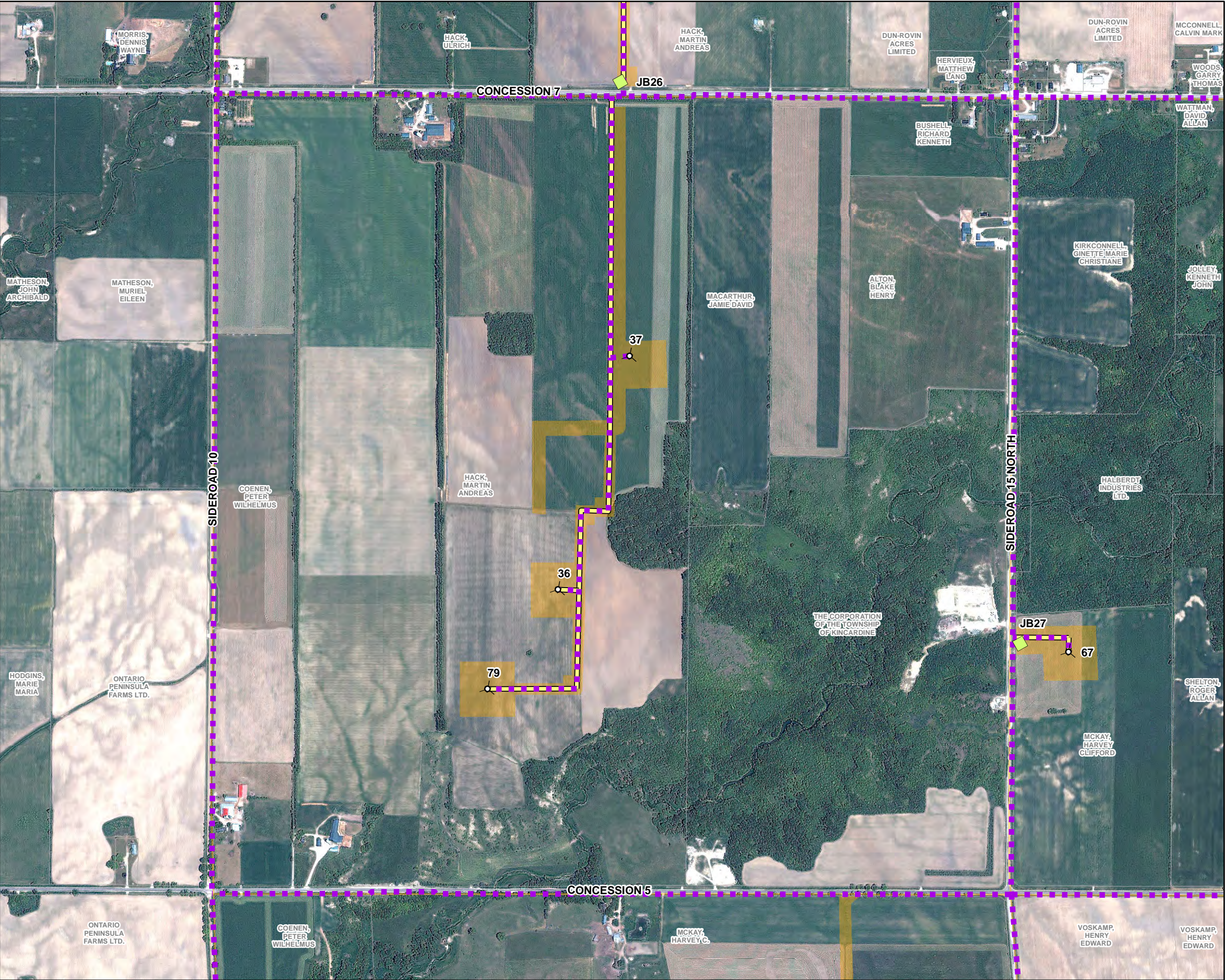
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
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	DESIGN	ME	5 Jul. 2012	FIGURE 6-35	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		



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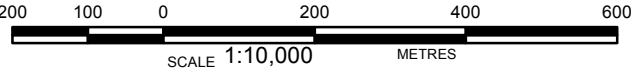
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

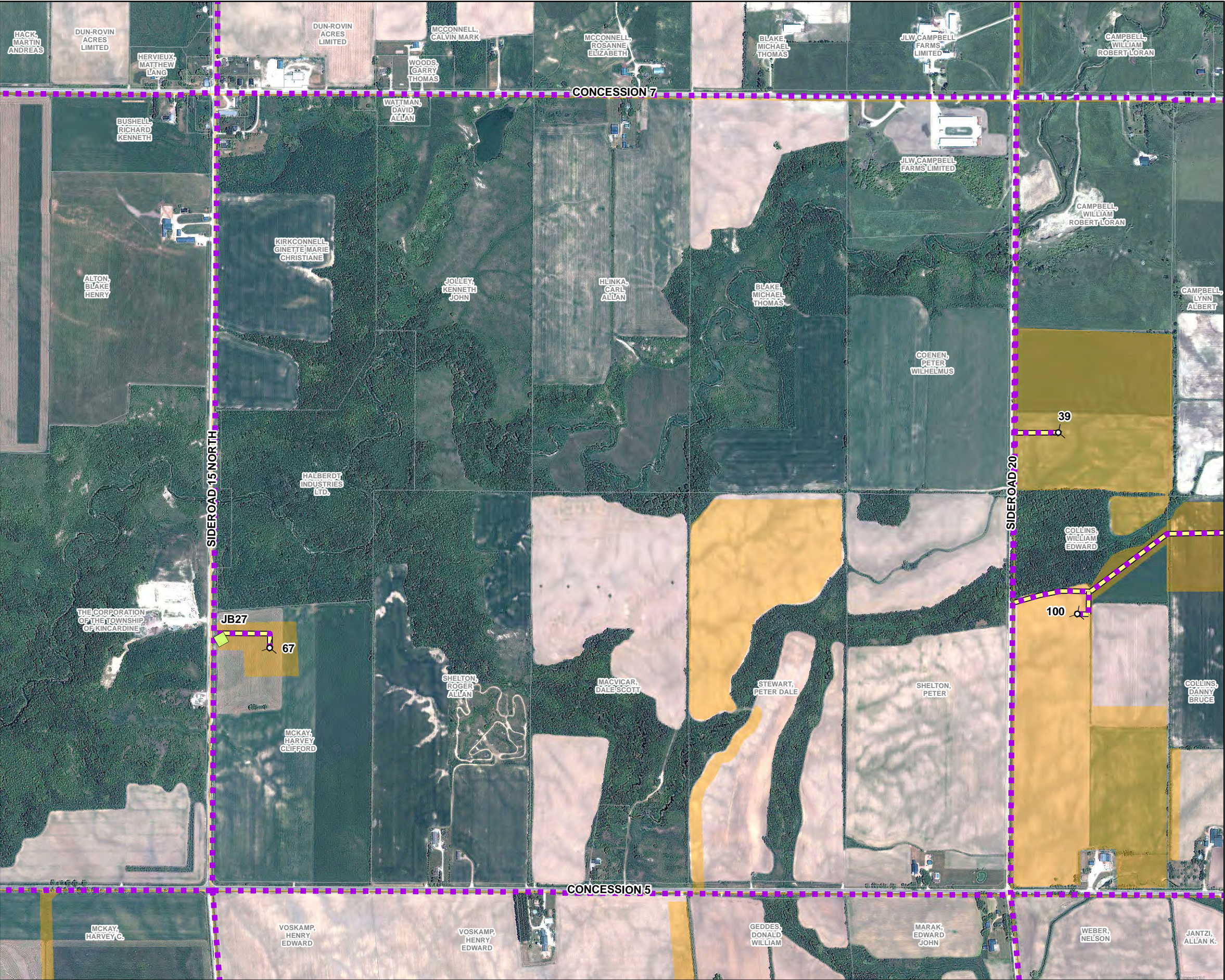
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT	ARMOW WIND PROJECT			
TITLE	STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0
	DESIGN	ME	5 Jul. 2012	FIGURE 6-36
	GIS	ME	5 Jul. 2012	
	CHECK	JM	5 Jul. 2012	
	REVIEW			



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LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

Staging/Laydown Area

Substation



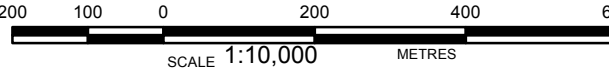
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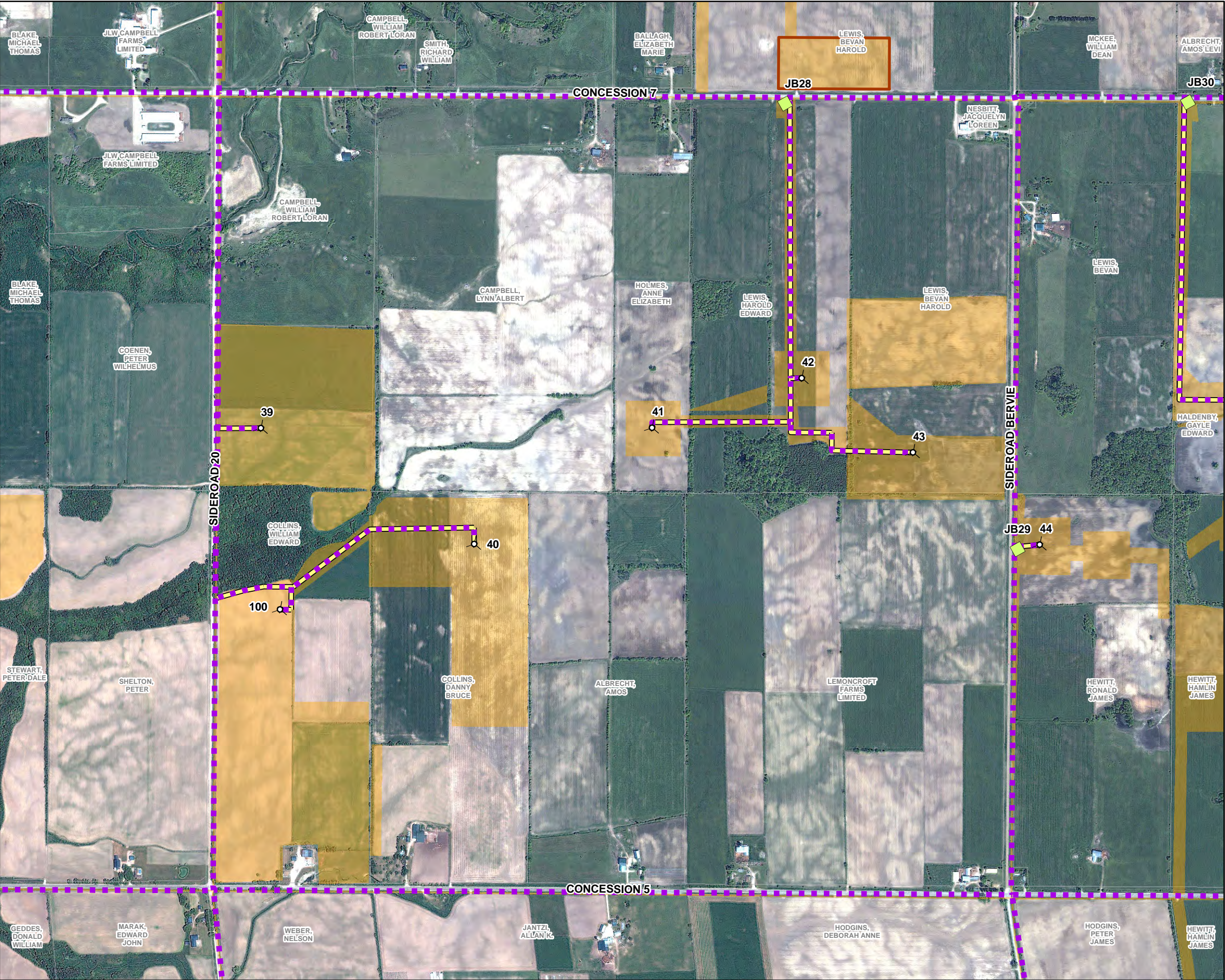
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PROJECT	ARMOW WIND PROJECT			
TITLE	STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0
	DESIGN	ME	5 Jul. 2012	FIGURE 6-37
	GIS	ME	5 Jul. 2012	
	CHECK	JM	5 Jul. 2012	
		REVIEW		



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LEGEND

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

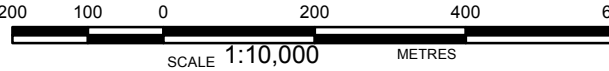
Staging/Laydown Area

Substation



REFERENCE

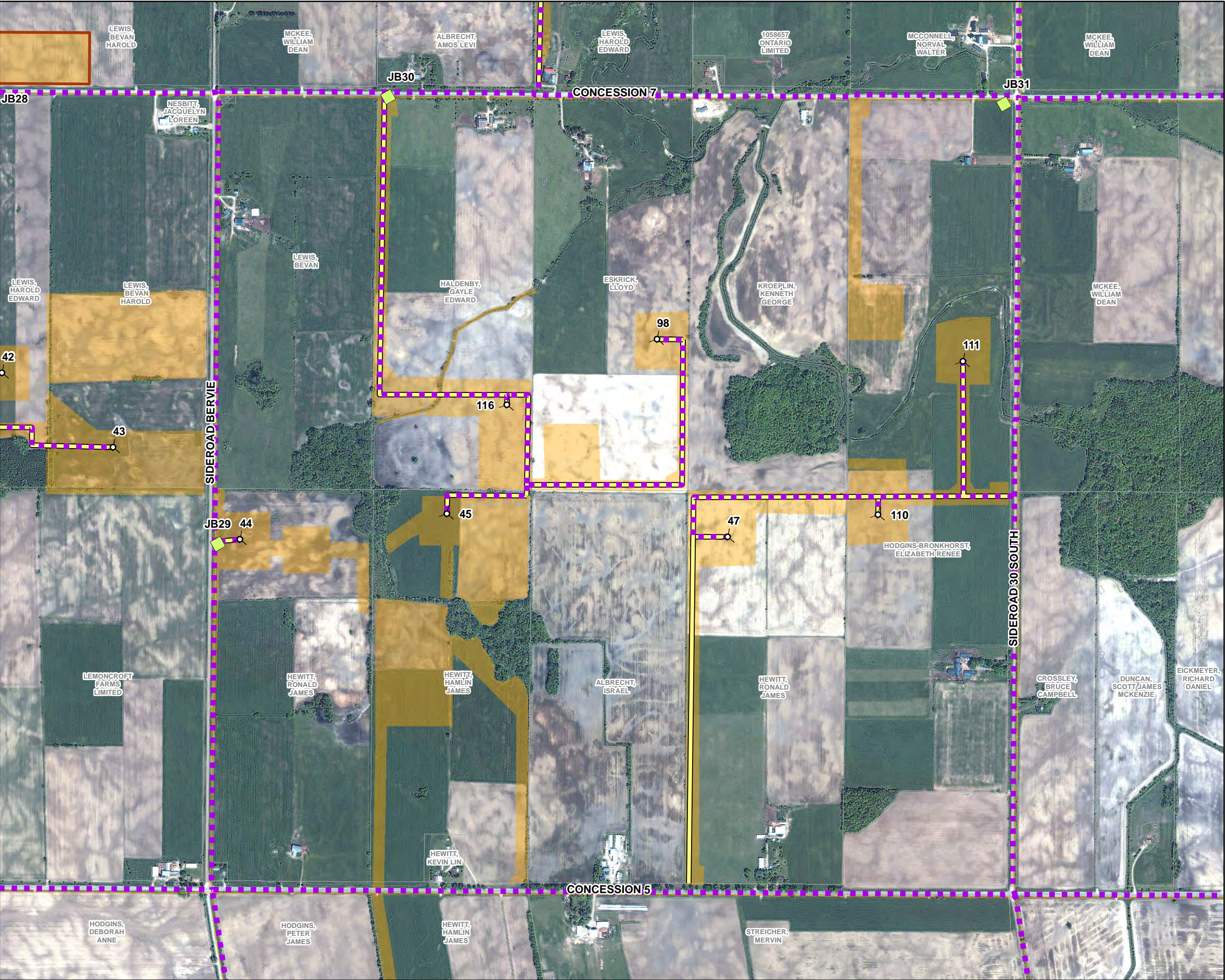
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-38	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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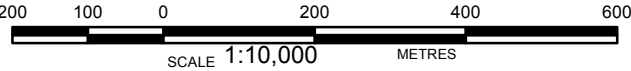
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

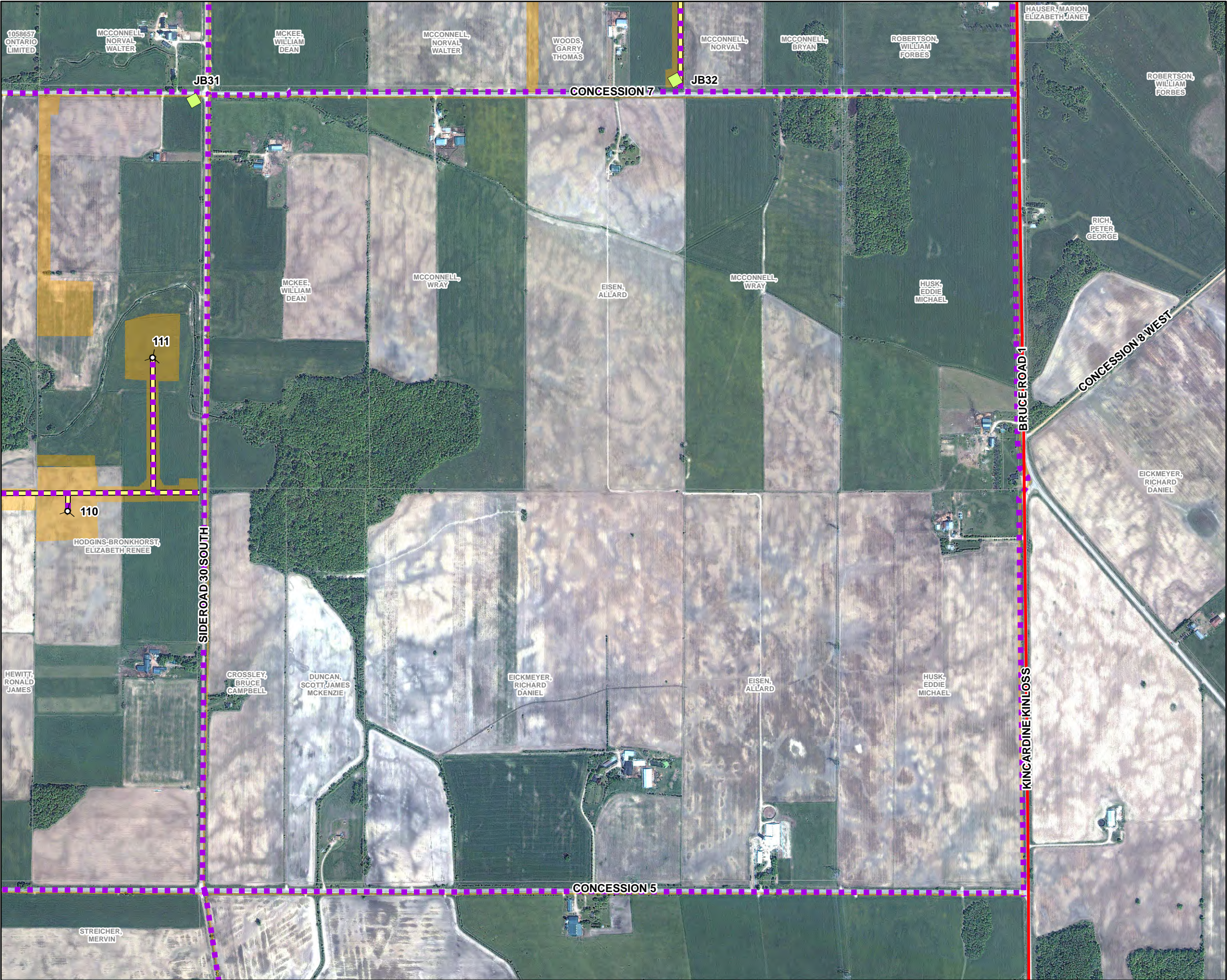
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT				ARMOW WIND PROJECT				
TITLE				STAGE 2 SURVEY METHODS				
 <b>Golder Associates</b> Mississauga, Ontario				PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
				DESIGN	ME	5 Jul. 2012	FIGURE 6-39	
				GIS	ME	5 Jul. 2012		
				CHECK	JM	5 Jul. 2012		
				REVIEW				



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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

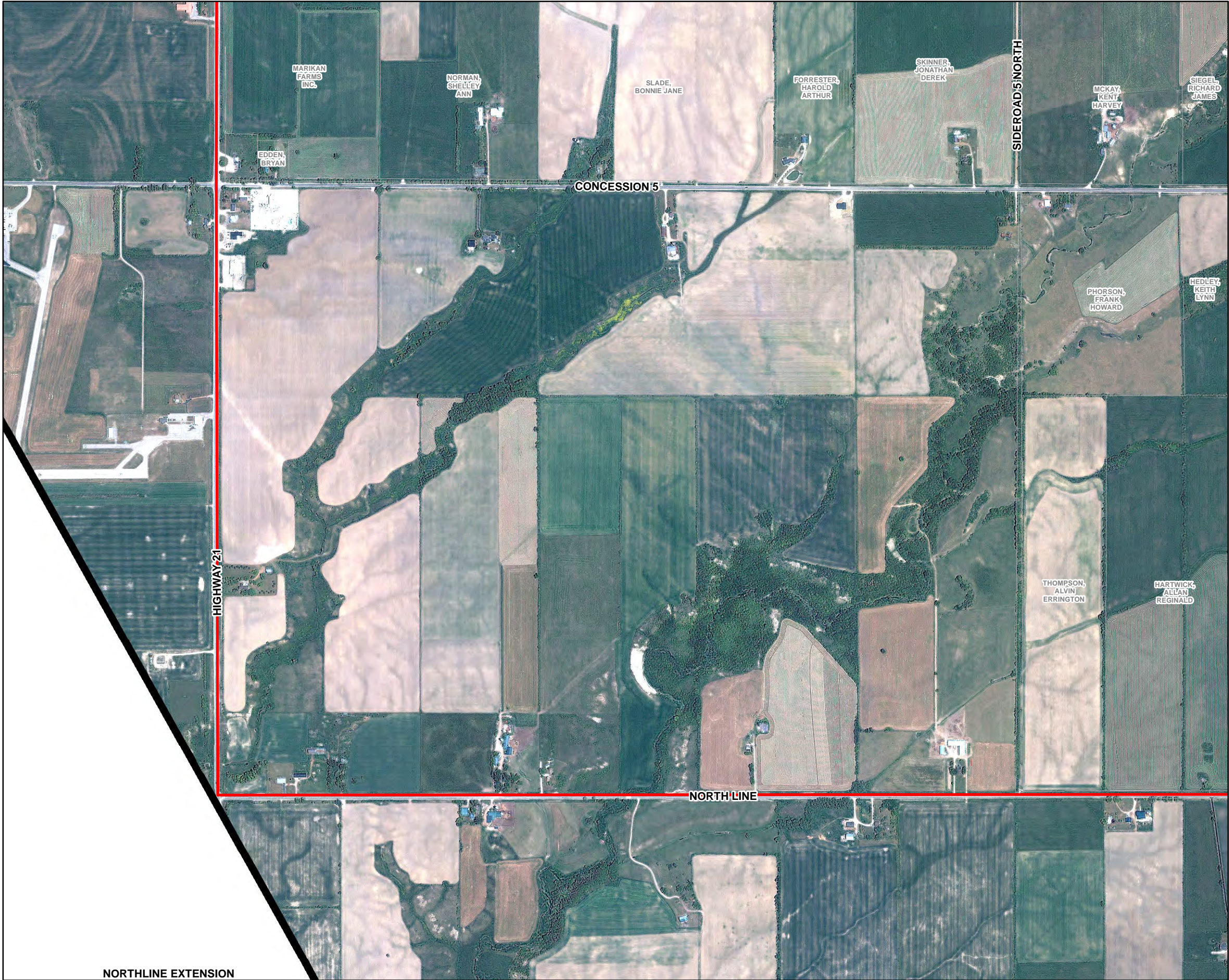
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PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
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	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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**LEGEND**

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

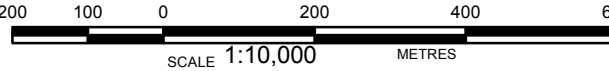
Staging/Laydown Area

Substation



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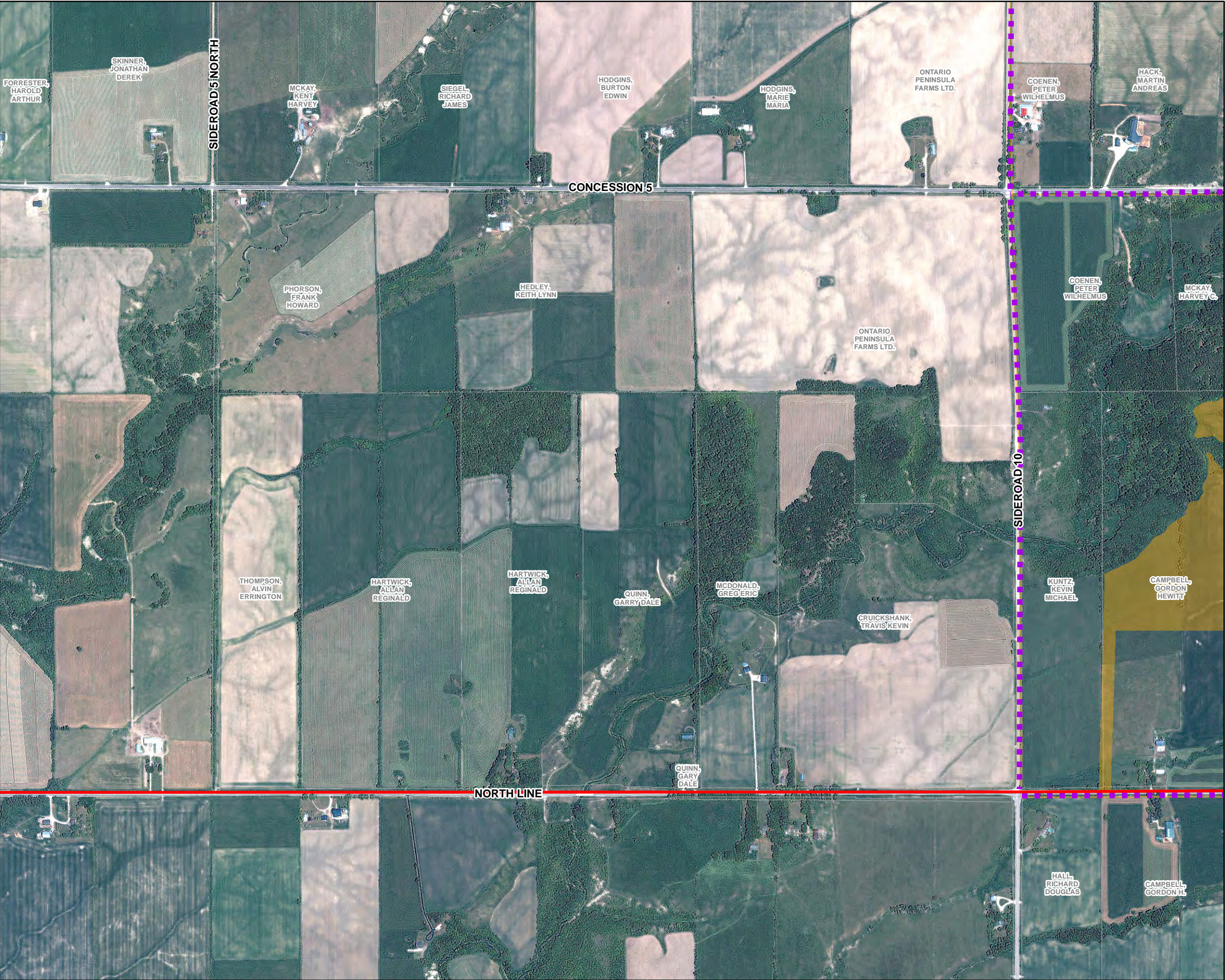
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
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	GIS	ME	5 Jul. 2012		
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	REVIEW				



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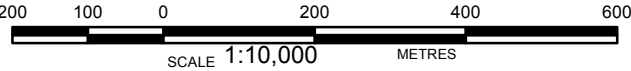
LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



REFERENCE

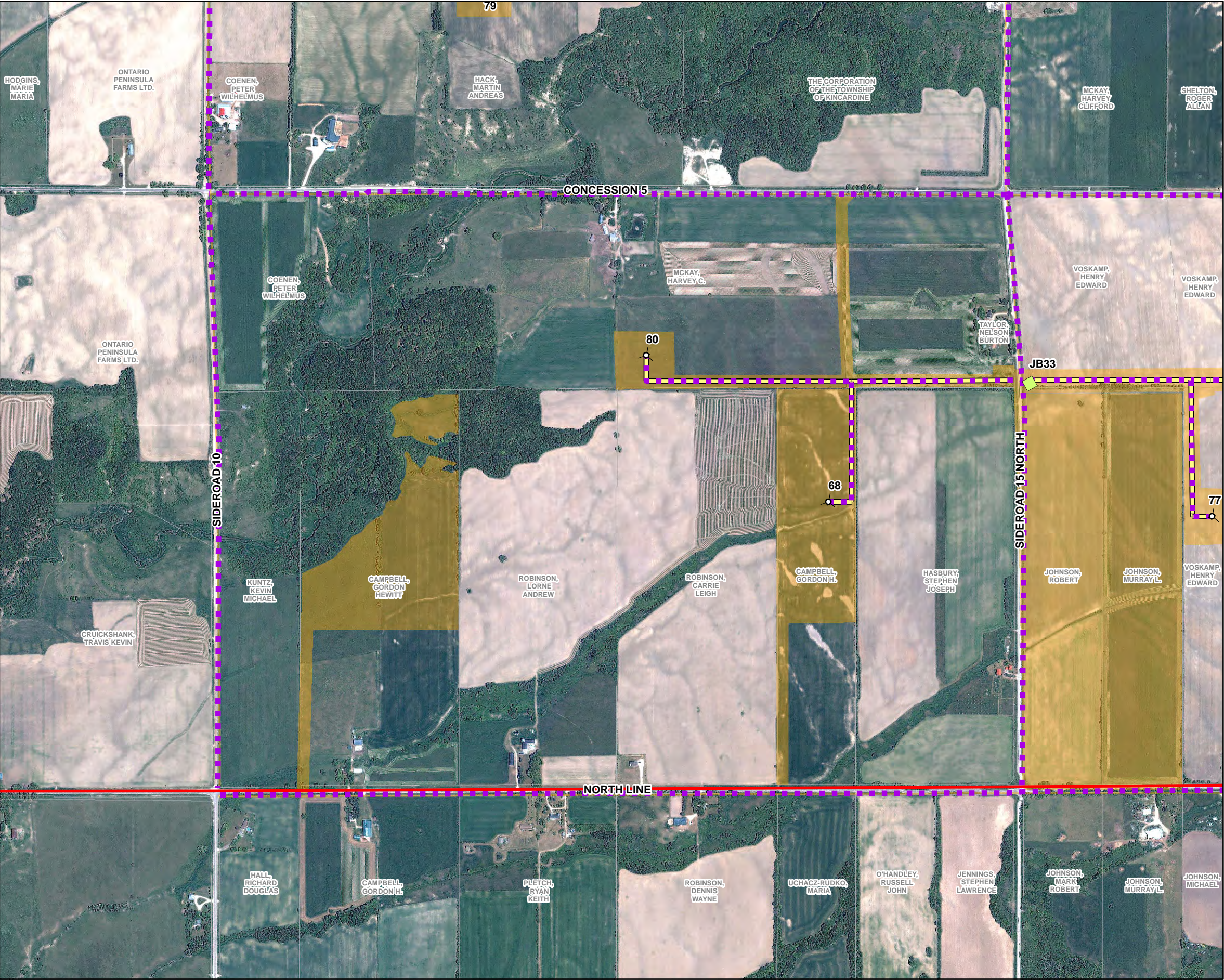
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
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	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				



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**LEGEND**

Proposed Turbine Location

Photo Location

MET Tower

Junction Boxes

Transformer

Crane Walk

Collector Cable

Access Road

Stage 2 Pedestrian Survey at 5m Intervals

Stage 2 Test Pitting at 5m Intervals

Area of Steep Slope – Not Assessed

Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)

Land Parcel

Project Area

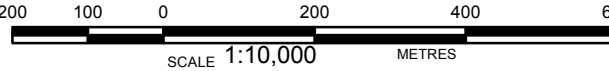
Staging/Laydown Area

Substation



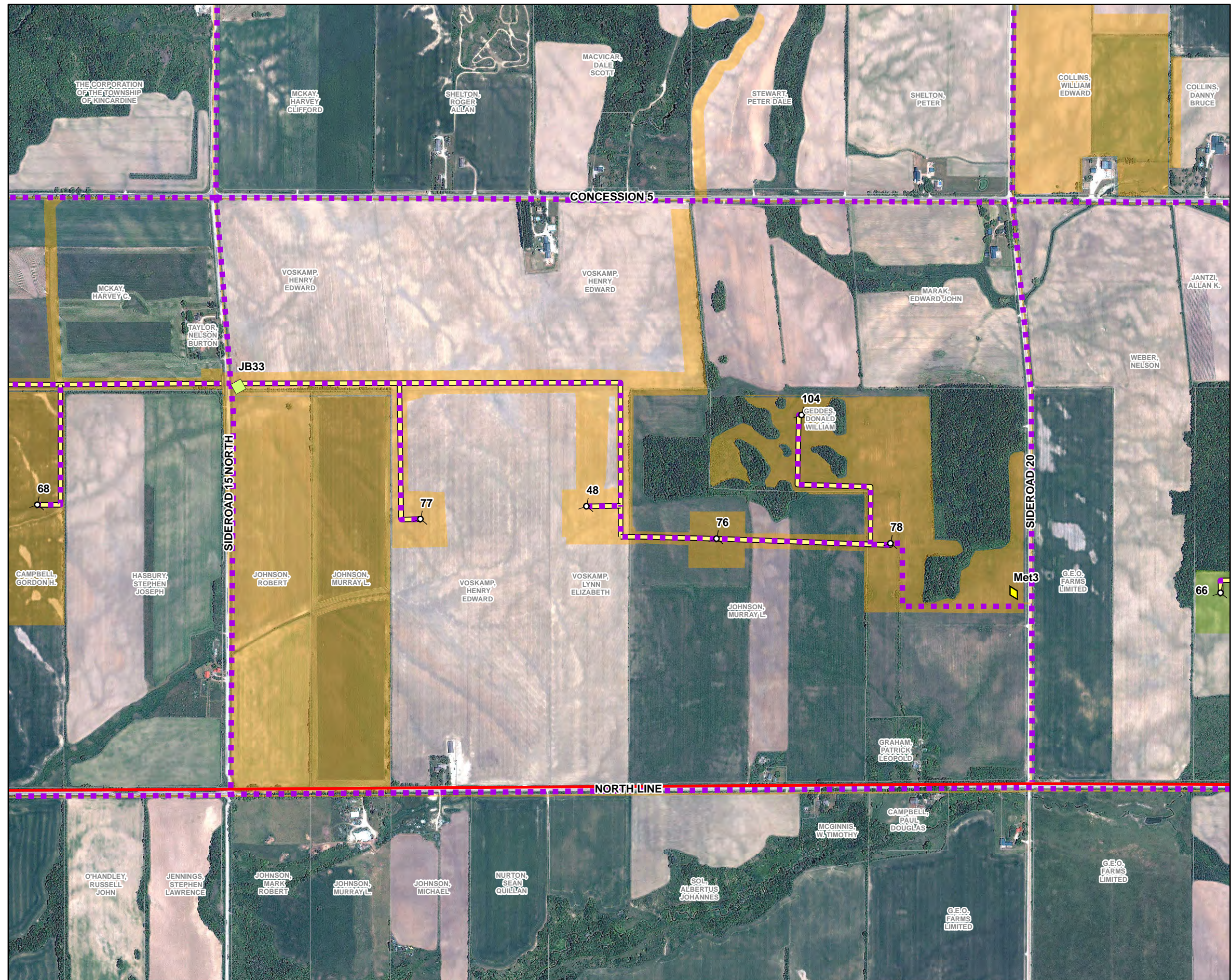
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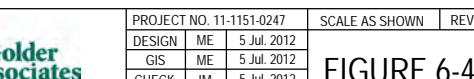
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT	ARMOW WIND PROJECT			
TITLE	STAGE 2 SURVEY METHODS			
Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0
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	GIS	ME	5 Jul. 2012	
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	REVIEW			

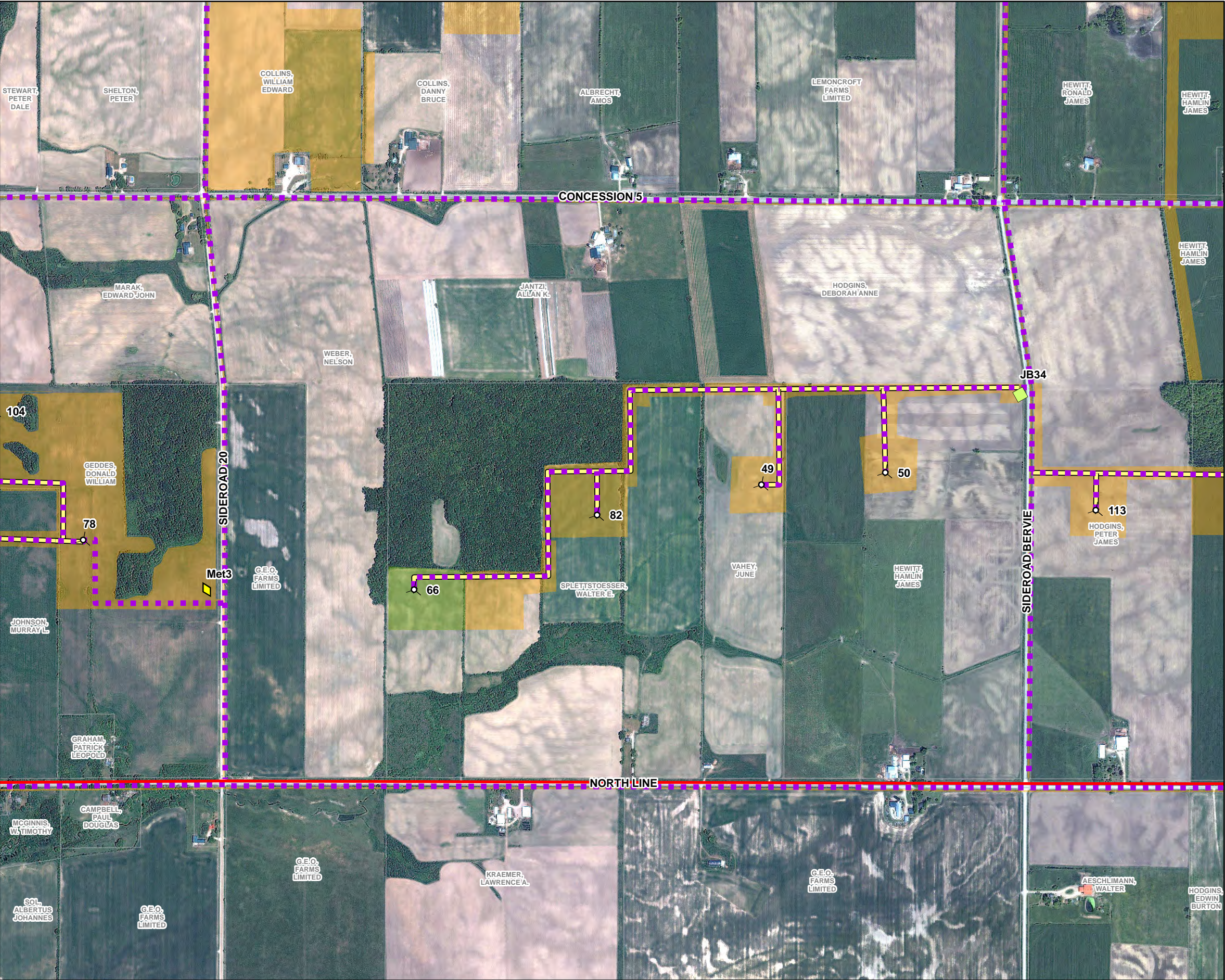




PROJECT				
ARMOW WIND PROJECT				
TITLE				
STAGE 2 SURVEY METHODS				
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	DESIGN	ME	5 Jul. 2012	
	GIS	ME	5 Jul. 2012	
	CHECK	JM	5 Jul. 2012	
	REVIEW			



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LEGEND


- Proposed Turbine Location
- Photo Location
- MET Tower
- Junction Boxes
- Transformer
- Crane Walk
- Collector Cable
- Access Road
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pitting at 5m Intervals
- Area of Steep Slope – Not Assessed
- Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)
- Land Parcel
- Project Area
- Staging/Laydown Area
- Substation



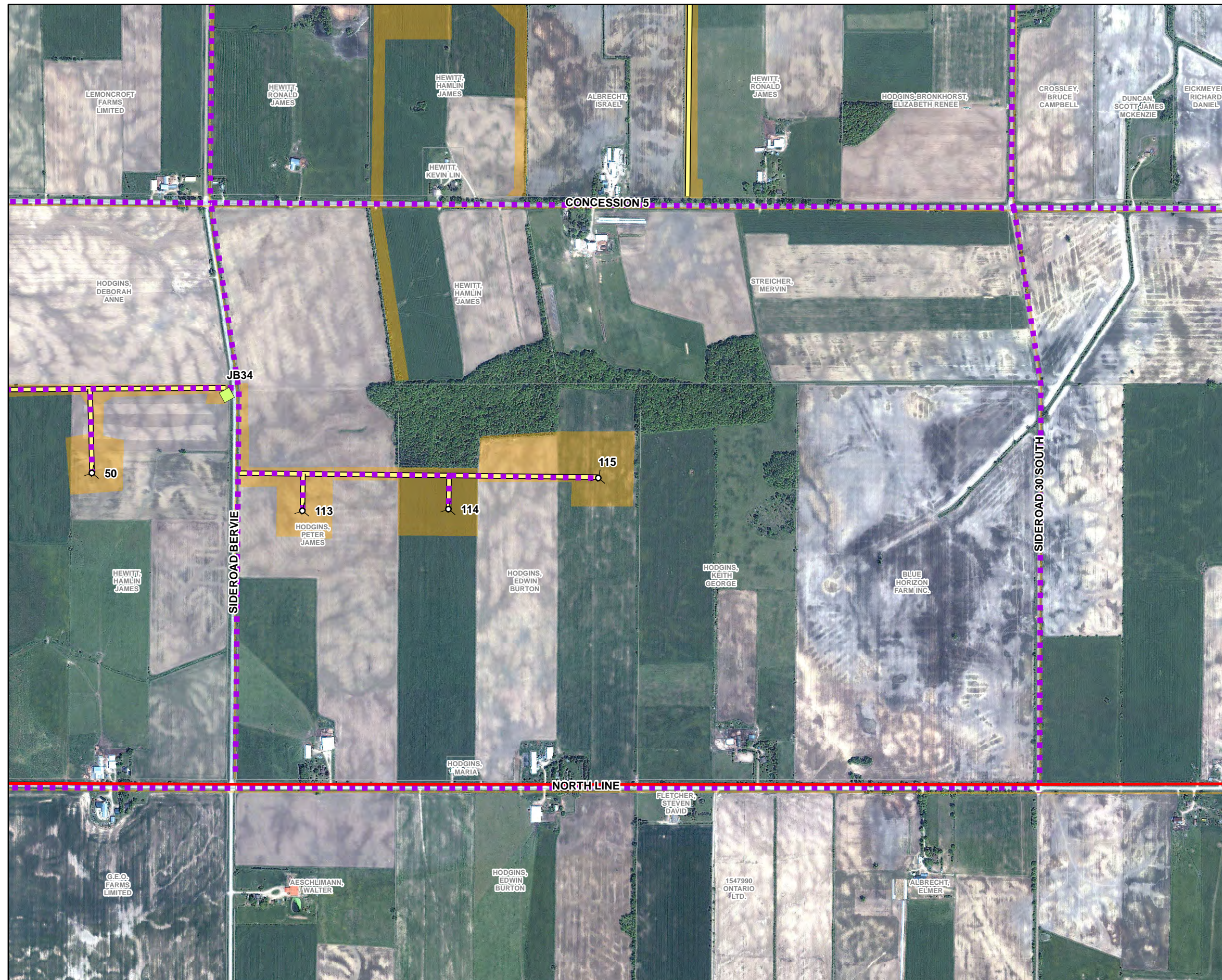
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Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4  
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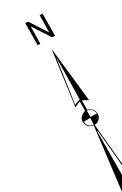
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TITLE	STAGE 2 SURVEY METHODS			
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	REVIEW			





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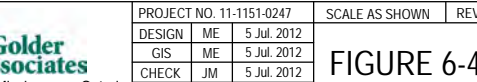
-  Proposed Turbine Location
-  Photo Location
-  MET Tower
-  Junction Boxes
-  Transformer
-  Crane Walk
-  Collector Cable
-  Access Road
-  Stage 2 Pedestrian Survey at 5m Intervals
-  Stage 2 Test Pitting at 5m Intervals
-  Area of Steep Slope – Not Assessed
-  Previous Archaeological Assessment  
(reported under P084-230-2011 and P243-256-2011)
-  Land Parcel
-  Project Area
-  Staging/Laydown Area
-  Substation



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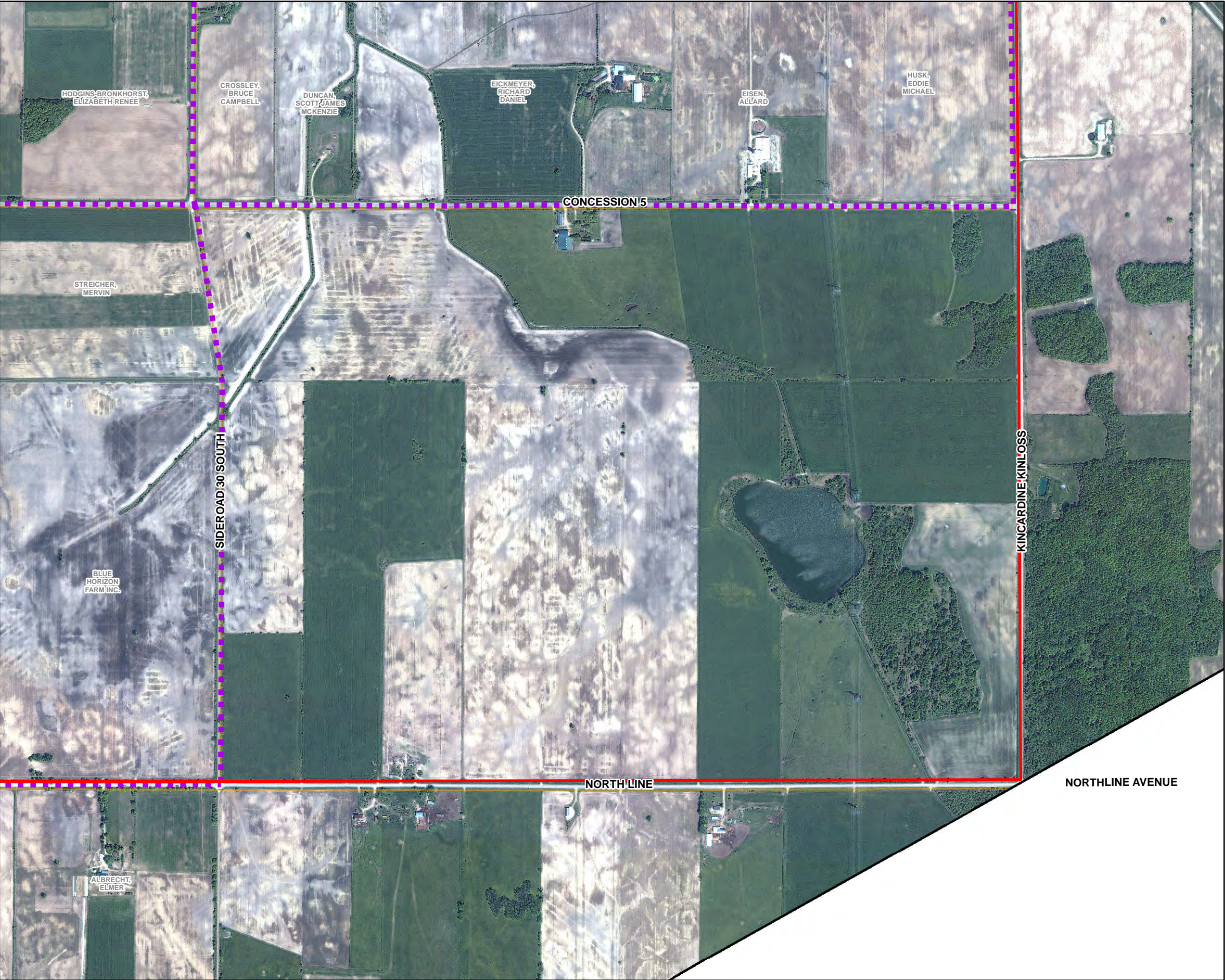
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17




PROJECT		SCALE		REV.	
ARMOW WIND PROJECT					
TITLE					
STAGE 2 SURVEY METHODS					
 <b>Golder Associates</b> Mississauga, Ontario		PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0
		DESIGN	ME	5 Jul. 2012	 <b>FIGURE 6-46</b>
		GIS	ME	5 Jul. 2012	
		CHECK	JM	5 Jul. 2012	
		REVIEW			





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LEGEND


 Proposed Turbine Location


 Photo Location


 MET Tower


 Junction Boxes


 Transformer


 Crane Walk


 Collector Cable


 Access Road


 Stage 2 Pedestrian Survey at 5m Intervals


 Stage 2 Test Pitting at 5m Intervals


 Area of Steep Slope – Not Assessed

 Previous Archaeological Assessment (reported under P084-230-2011 and P243-256-2011)

 Land Parcel

 Project Area

 Staging/Laydown Area

 Substation



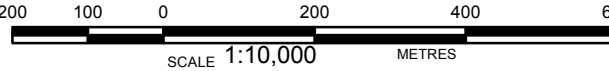
REFERENCE


Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4

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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



PROJECT		ARMOW WIND PROJECT			
TITLE		STAGE 2 SURVEY METHODS			
 Golder Associates Mississauga, Ontario	PROJECT NO. 11-1151-0247		SCALE AS SHOWN	REV. 0.0	
	DESIGN	ME	5 Jul. 2012	FIGURE 6-47	
	GIS	ME	5 Jul. 2012		
	CHECK	JM	5 Jul. 2012		
	REVIEW				





## **10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT**

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Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*.





## STAGE 2 ARCHAEOLOGICAL ASSESSMENT SP ONTARIO ARMOW ENERGY PROJECT

### Report Signature Page

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