














Feature ID & Distance to Project Component (refer to Figures 4-7 for location of each water feature)	Description of Water Feature (ELC units shown on Figures a-c in Appendix B)	Date of Field Investigation (field notes in Appendix C0)	Photographic Records from Field Investigation		Type of REA Water Body Feature (as defined by O. Reg. 359/09)
			Upstream	Downstream	
Feature ID (source of information)	W41 (site investigation, aerial photography)				
 <p>W41 – 14m to underground electrical collection in existing road right of way.</p>	<p>Property access was not provided for the property where this feature was located and for that reason a roadside survey was conducted.</p> <p>This feature was determined through site investigation to be a dugout pond. W41 was determined not to meet the definition of a ‘water body’ as outlined in O. Reg. 359/09.</p>	June 14, 2012	 <p>Dugout pond at W41</p>		W41 - not carried forward as a water body



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			Upstream	Downstream	
Feature ID (source of information)	W42 (NRVIS data layer (MNR), aerial photography)				
 <p>W42 – 81m from underground electrical collection in existing road right of way.</p>	<p>Property access was not provided for the property where this feature was located and for that reason an alternative site investigation through review of aerial photography and background information was conducted.</p> <p>This feature was determined to be a cattail shallow marsh through ELC analysis. This classification is consistent with other features of similar appearance that were field surveyed; and, as no open water component was noted through aerial photography W42 was determined not to meet the definition of a ‘water body’ as outlined in O. Reg. 359/09. This feature was identified as part of a significant wetland in the NHA process (see mapping in Appendix B).</p>	June 14, 2012	 <p>Aerial photography demonstrates W42 to be a mix of open water and emergent vegetation. Based on ELC this feature was determined to be dominated by emergent vegetation and similar to other cattail shallow marshes in the area.</p>	W42 - not carried forward as a water body	

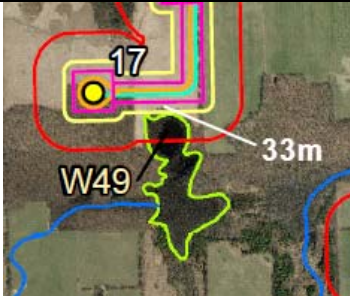

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			Upstream	Downstream	
Feature ID (source of information)	W43 (site investigation)				
 <p>W43 – 16m from underground electrical collection and access road to Turbine 14</p>	<p>This feature was determined during site investigation to be a dugout pond. W43 was determined not to meet the definition of a 'water body' as outlined in O. Reg. 359/09.</p>	<p>May 15, 2012</p>	 <p>Dugout pond at W43 on edge of agricultural field – May 15, 2012</p>	<p>W43 - not carried forward as a water body</p>	



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			Upstream	Downstream	
Feature ID (source)	W44 (NRVIS data layer (MNR), aerial photography)				
  W44 – 36m from underground electrical collection in existing road right of way	Property access was not provided for the property where this feature was located and for that reason an alternative site investigation through review of aerial photography and background information was conducted. This feature was determined to be part of ELC unit 405 a white cedar coniferous forest. The forest was dominated by eastern white cedar which is often the result of secondary growth from managed sites. No evidence of an open water component was provided by aerial photography. W44 was determined not to meet the definition of a ‘water body’ as outlined in O. Reg. 359/09.	June 14, 2012	 Through use of aerial photography the surface area of this feature was determined to be dominated by vegetation and was treated as a wetland feature.		W44 - not carried forward as a water body



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			Upstream	Downstream	
Feature ID (source of information)	W46 (site investigation)				
 <p>W46 – 86m to underground electrical collection and access road to Turbine 13</p>	<p>This area was determined through site investigation to be an area of seepage, as was evident from the iron staining. W46 is within a willow swamp thicket (ELC unit 106) dominated by willows and red-osier dogwood. The seepage area is dominated by watercress and spike rush with Loesel's tway blade around the perimeter. This feature was also identified through the NHA process to be a significant wetland (see mapping in Appendix B).</p>	<p>May 15, 2012</p>	 <p>Seepage area identified May 15, 2012.</p>	<p>W46 - seepage area</p>	

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			Upstream	Downstream	
Feature ID (source of information)	W47 (site investigation)				
 <p>W47 – 45m from Turbine 14 and associated underground electrical collection and access road.</p>	<p>This area was determined through site investigation to be an area of seepage, as was evident from the marsh marigolds and cold water temperatures (temperature of 11C on May 15, 2012). W47 is within a forb mineral deciduous swamp dominated by such as spotted joe-pye weed, buttercup, lance leaved goldenrod, ferns and sedges. This feature was also identified through the NHA process to be a significant wetland (see mapping in Appendix B).</p>	<p>May 15, 2012</p>	 <p>Seepage area identified May 15, 2012.</p>	<p>W47 - seepage area</p>	

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			Upstream	Downstream	
Feature ID (source of information)	W48 (site investigation, aerial photography)				
 <p>W48 - 167m from Turbine 8 and access road and underground electrical collection.</p>	<p>Feature was determined to be greater than 120m from the final project location.</p>	<p>May 16, 2012 July 24, 2012</p>	 <p>Vernal pool within ELC unit 57.</p>	<p>W48 > 120m from Project Location; not assessed further</p>	

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			Upstream	Downstream	
Feature ID (source of information)	W49 (site investigation, aerial photography)				
 <p>W49 – 33m from access road and underground electrical collection line to Turbine 17.</p>	<p>This feature was identified as an open water feature as part of a larger wetland unit during site investigation. The pond is surrounded by predominantly red maples and occasional white elm. Species found around or emerging from the open water include sedges, manna grass, water parsnip, reed-canary grass, and sensitive fern. Abundant cover is available within the pond in the form of woody debris and vegetation. American toad, Midland painted turtle, spring peeper, leopard frog, green frog and Northern leopard frog documented during site investigations. No fish observed from pond edges; however, review of background information (Natural Environment Technical Report as part of an Aggregate Extraction Application for the property) documents baitfish within the pond. This feature was also identified as significant wildlife habitat within the NHA process.</p>	May 16, 2012	 <p>Pond condition on May 16, 2012. Photo taken facing south.</p>	W49- pond	

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			Upstream	Downstream	
Feature ID (source of information)	W50 (NRVIS data layer (MNR), aerial photography)				
 <p>W50 – 0m from underground electrical collection in existing road right of way</p>	<p>This feature was classified as a cattail shallow marsh (ELC unit 289) during field surveys. It is a broad leaved cattail dominated wetland with a few tamarack, white cedar, and balsam poplar scattered along the edge. Abundant bull-head pond lily was also be found in the ground layer. Green frog, leopard frog and basking Midland painted turtle observed during site visit. Hydrophytic vegetation was dominant within the feature; therefore it was treated as a wetland and addressed within the NHA as a significant wetland (see mapping in Appendix B). W50 was determined not to meet the definition of a ‘water body’ as outlined in O. Reg. 359/09.</p>	June 14, 2012	 <p>W50 - Shallow cattail marsh (ELC unit 289), June 14, 2012.</p>	W50- not carried forward as a water body	

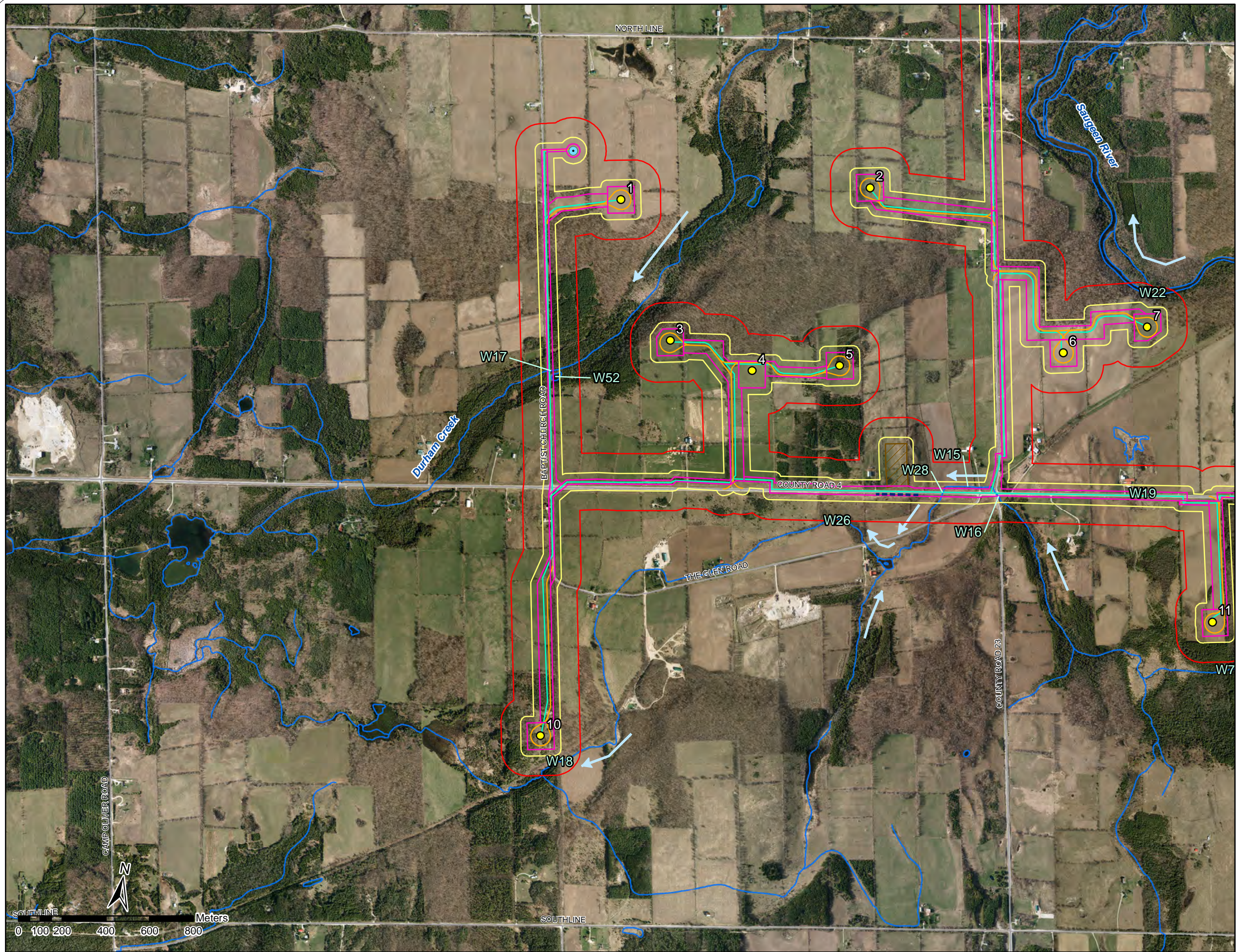
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			Upstream	Downstream	
Feature ID (source of information)	W52 (NRVIS data layer (MNR), aerial photography)				
 <p>W52 – 0m from underground electrical collection in existing road right of way.</p>	<p>Property access was not provided for the property where this feature was located and for that reason an alternative site investigation through review of aerial photography and background information was conducted.</p> <p>The structure, shape and surrounding features shown through aerial photography suggest this feature is a dugout pond. W52 was determined not to meet the definition of a 'water body' as outlined in O. Reg. 359/09.</p>	June 14, 2012	 <p>Aerial image of W52.</p>	W52- not carried forward as a water body	

Notes:

NHA – East Durham Wind Energy Centre Natural Heritage Assessment (LGL 2012)

ELC mapping and descriptive table provided in Appendix B.

Mapping of significant wetlands other wetlands identified and addressed within the NHA are included in Appendix B.



LEGEND

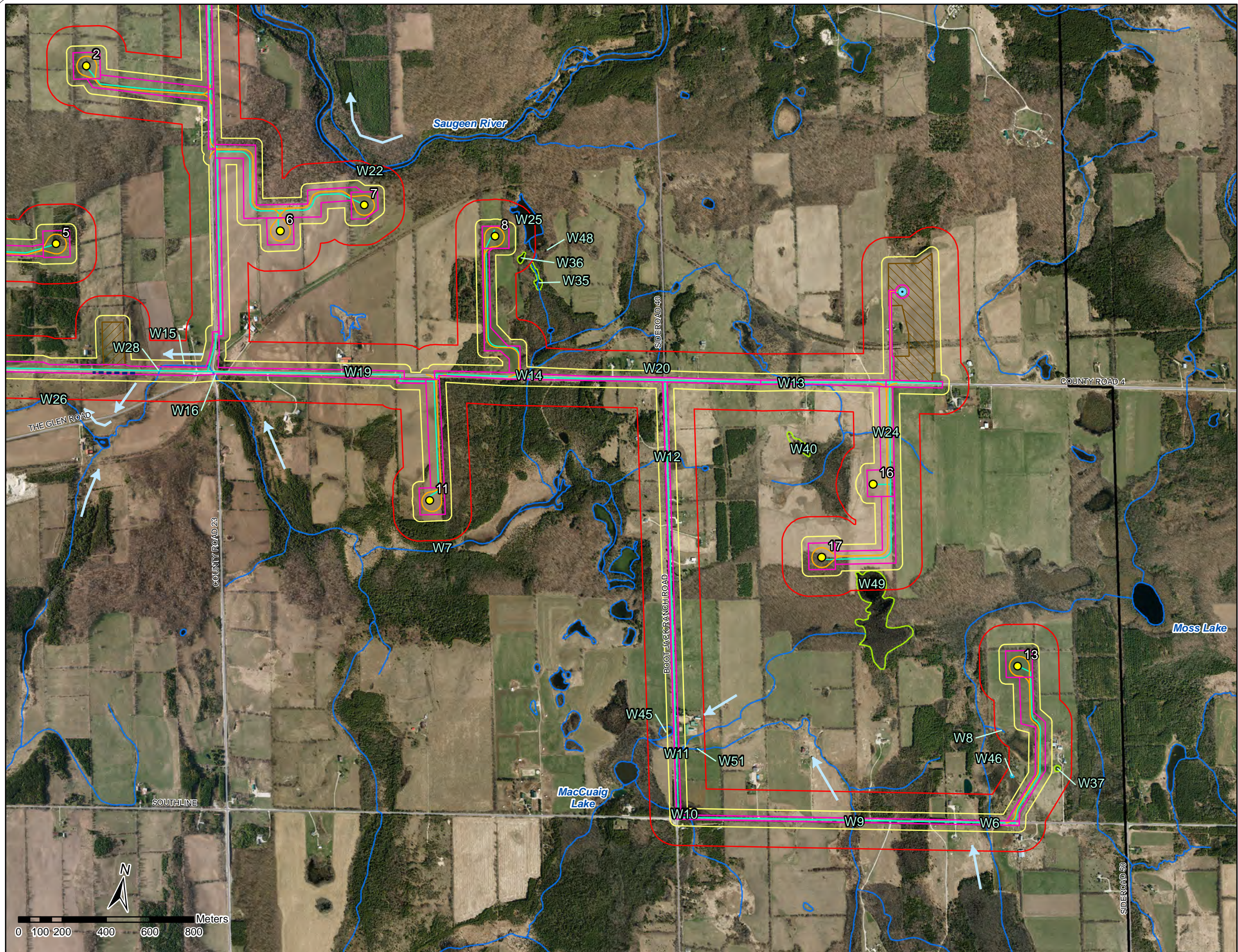
- W Water Feature
- Flow Direction
- Site Plan (2012-11-21)**
- Turbine
- MET Tower
- Access Road
- Construction Disturbance
- Underground Collection
- - - Overhead Transmission
- MET Tower 200ft Disturbance Area
- Substation
- Laydown Area
- 30m Buffer from Project Components
- 120m Buffer from Project Components
- Study Area (Dec 2011)
- Watercourse (LIO, 2012-06-19)
- Waterbody (LIO, 2012-06-19)

Water Features Identified Through Records Review & Site Investigation



Project	TA8119	Figure	4
Date	Dec, 2012	Prepared By:	KC
Scale	1:17,000	Verified By:	LKR





LEGEND

- W Water Feature
- Flow Direction
- Site Plan (2012-11-21)**
- Turbine
- MET Tower
- Access Road
- Construction Disturbance
- Underground Collection
- - - Overhead Transmission
- MET Tower 200ft Disturbance Area
- Substation
- Laydown Area
- 30m Buffer from Project Components
- 120m Buffer from Project Components
- Study Area (Dec 2011)
- ELC Plant Community Boundary
- Watercourse (LIO, 2012-06-19)
- Waterbody (LIO, 2012-06-19)

Water Features Identified Through Records Review & Site Investigation



Project	TA8119	Figure	5
Date	Dec, 2012	Prepared By:	KC
Scale	1:17,000	Verified By:	LKR