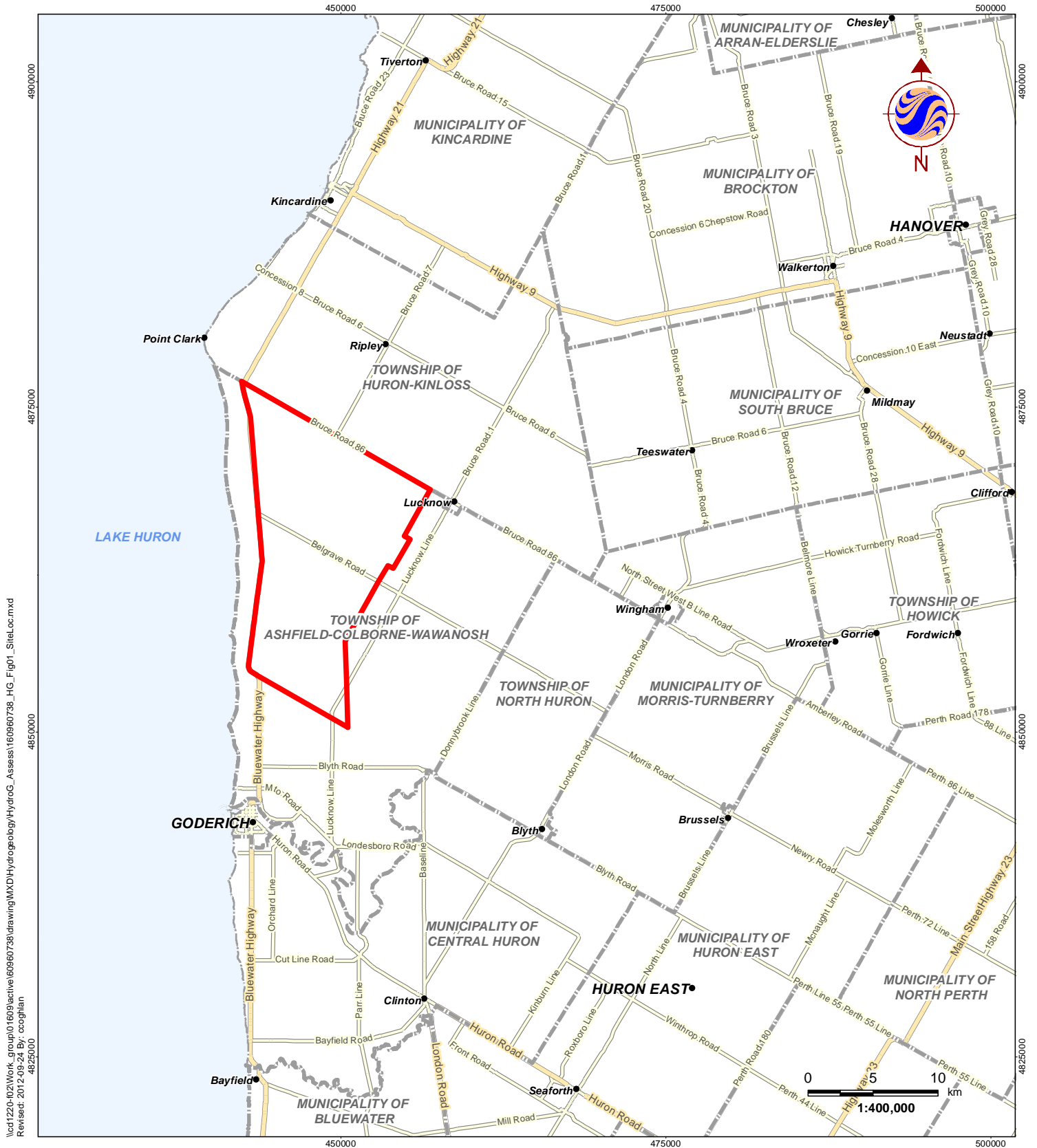




APPENDIX A

FIGURES



I:\cd\1220-02\Work_group\01609\active\60960738\drawing\MXD\Hydrogeology\HydroG_Assess\160960738_HG_Fig01_Siteloc.mxd
 Revised: 2012-09-24 By: ccoghan
 4825000

September 2012
160960738



Stantec

Legend

- General Project Area
- Municipal Boundary
- Highway
- Major Road
- Waterbody

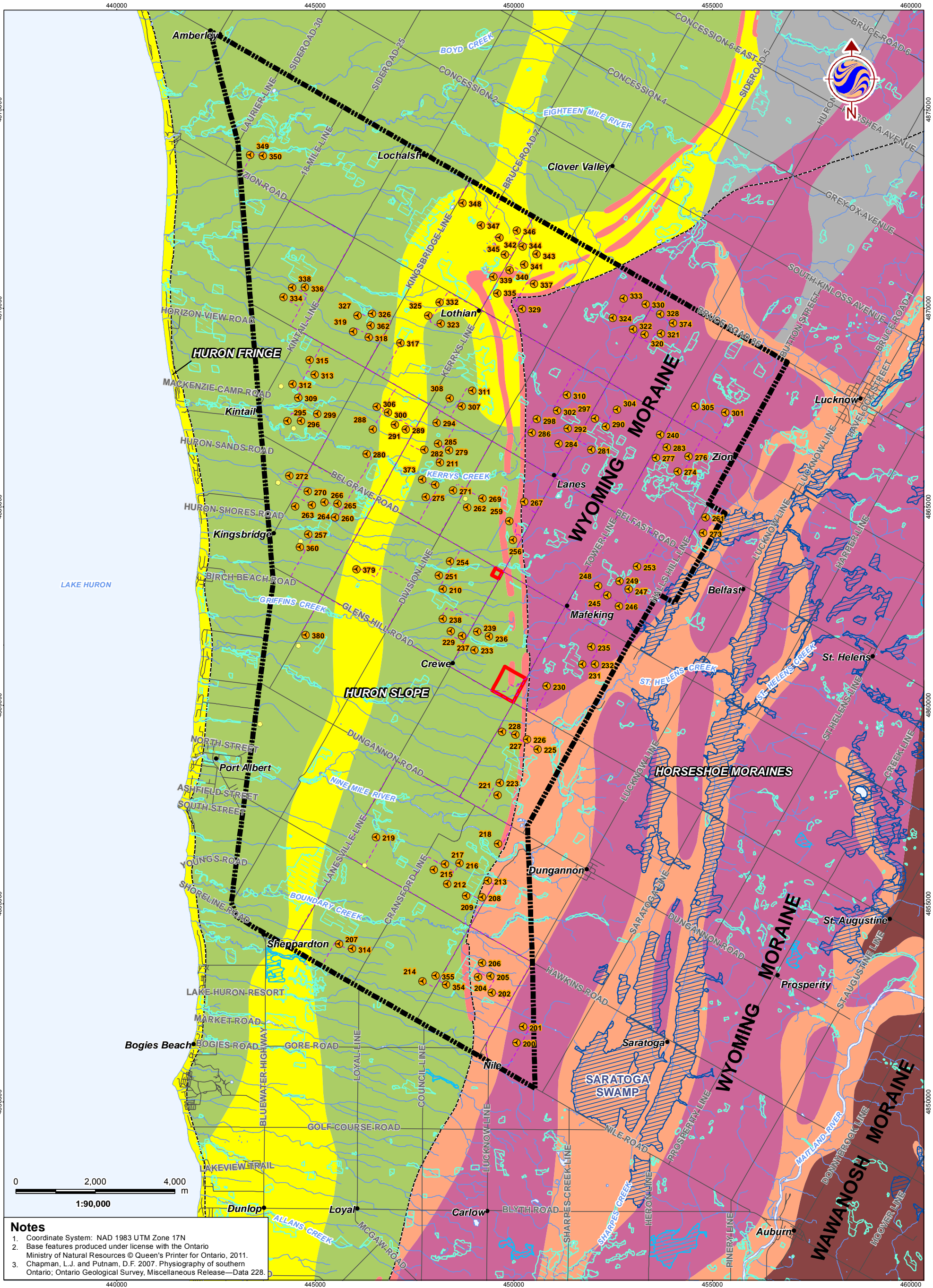
Client/Project
 Hydrogeological Assessment
 K2 Wind Ontario Limited Partnership
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Figure No.
1

Title
General Project Area

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
3. Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.

- | | |
|---|-----------------------------------|
| General Project Area | Provincially Significant Wetland |
| Proposed Project Components | Other/Locally Significant Wetland |
| Turbine Location | Unevaluated Wetland |
| MET Tower | Physiographic Region Boundary |
| Collector Line System | Physiography |
| Substation/Transformer Station Property | 5: Till Plains (Undrumlined) |
| Existing Features | 14: Beaches |
| Road | 3: Spillways |
| Watercourse | 11: Sand Plains |
| Waterbody | 4: Kame Moraines |
| | 8: Bevelled Till Plains |
| | 2: Till Moraines |

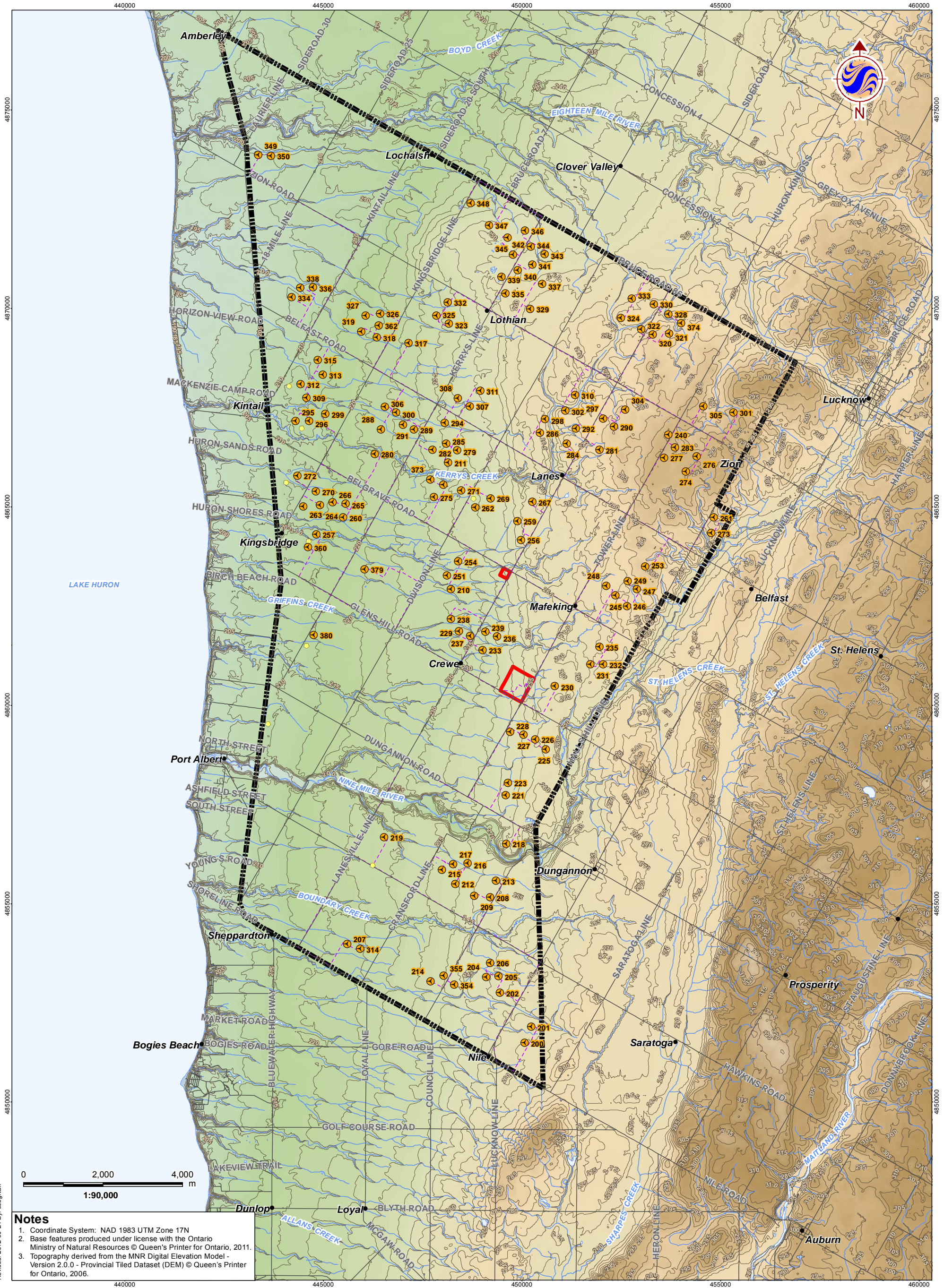
Client/Project
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 K2 Wind Ontario Limited Partnership
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Figure No.
 2

Title
Physiography



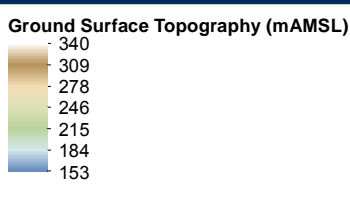
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 Revised: 2012-09-24 By: cooghan



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 Revised: 2012-09-24 By: cooghan

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
 3. Topography derived from the MNR Digital Elevation Model - Version 2.0.0 - Provincial Tiled Dataset (DEM) © Queen's Printer for Ontario, 2006.

- General Project Area**
- Proposed Project Components**
- Turbine Location
 - MET Tower
 - Collector Line System
 - Substation/Transformer Station Property
- Existing Features**
- Road
 - Topographic Contour (mAMSL)
 - Watercourse
 - Waterbody



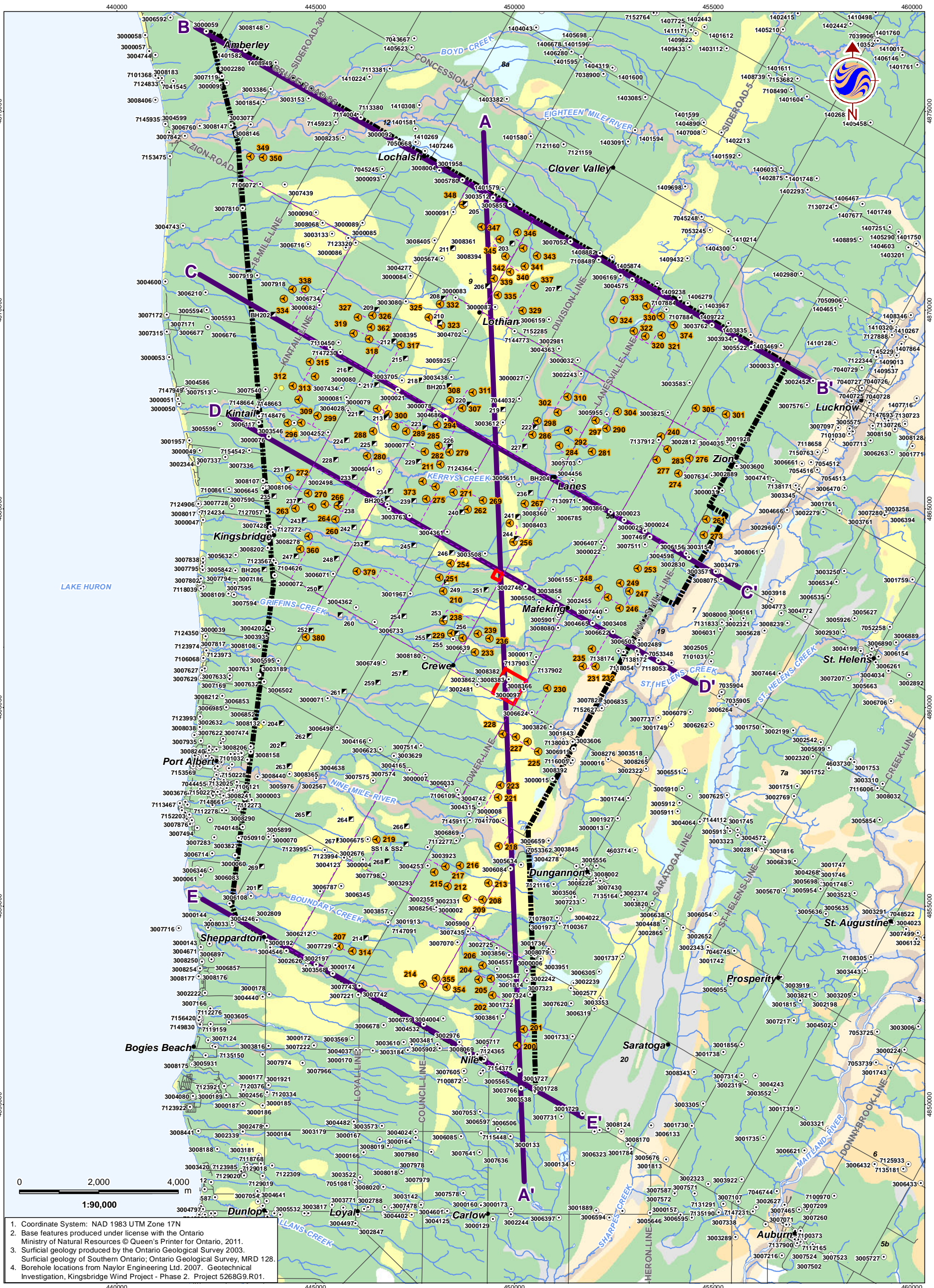
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
 3. Topography derived from the MNR Digital Elevation Model - Version 2.0.0 - Provincial Tiled Dataset (DEM) © Queen's Printer for Ontario, 2006.



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Figure No.
3

Title
Topography



1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
3. Surficial geology produced by the Ontario Geological Survey 2003. Surficial geology of Southern Ontario; Ontario Geological Survey, MRD 128.
4. Borehole locations from Naylor Engineering Ltd. 2007. Geotechnical Investigation, Kingsbridge Wind Project - Phase 2. Project 5268G9.R01.

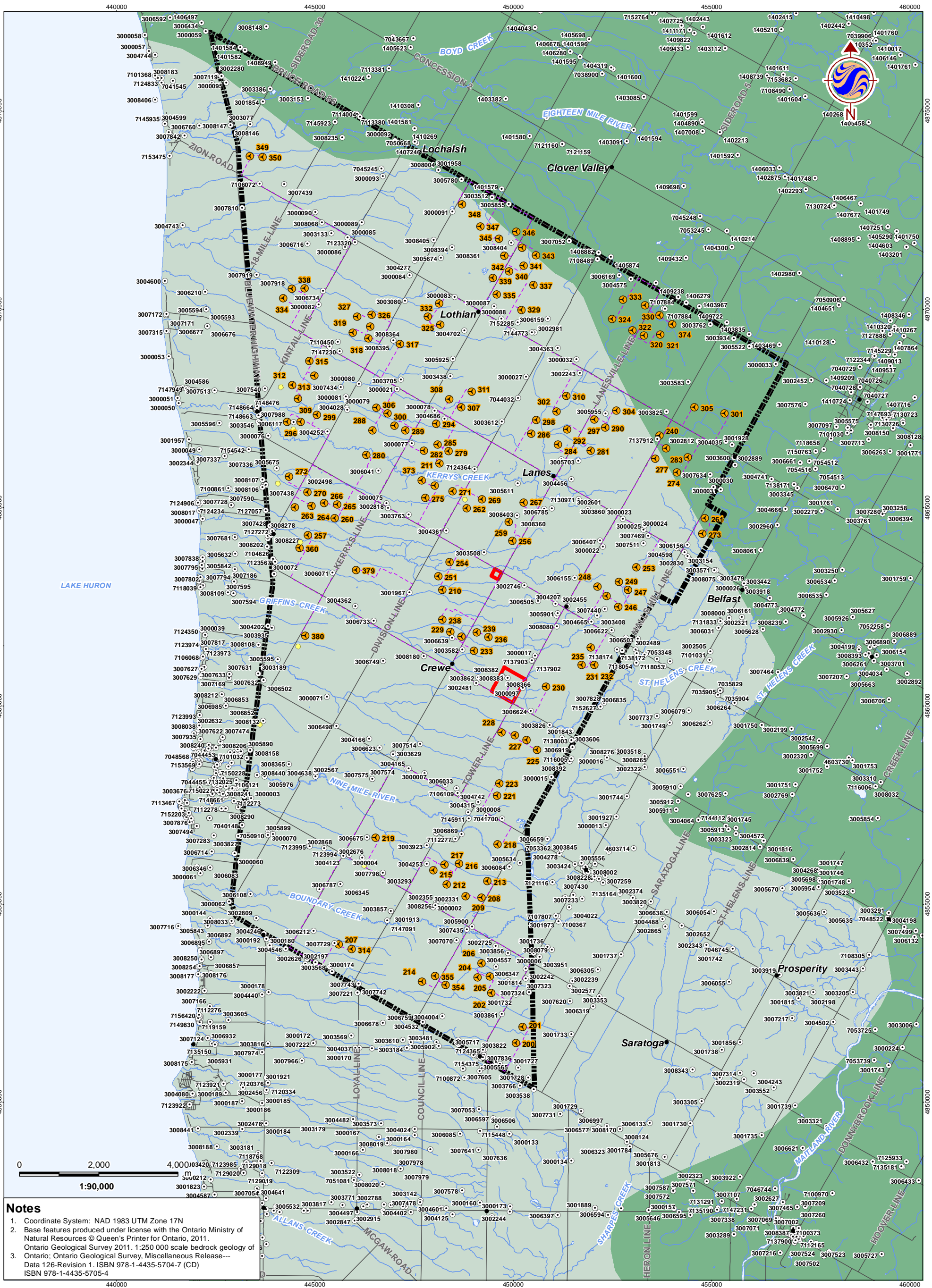


- General Project Area**
- Proposed Project Components**
- Turbine Location
 - MET Tower
 - Collector Line System
 - Substation/Transformer Station Property
- Existing Features**
- Road
 - Watercourse
 - Waterbody
- Hydrogeological Features**
- Borehole (Naylor)
 - MOE Water Well
- Surficial Geology**
- 20: Organic deposits
 - 19: Modern alluvial deposits
 - 12: Older alluvial deposits
 - 9: Glaciolacustrine deposits (sand & gravel)
 - 8a: Glaciolacustrine deposits (silt & clay)
 - 7a: Glaciofluvial deposits (sand & gravel)
 - 6: Ice-contact stratified deposits (sand & gravel)
 - 5b: Silty sand to sandy silt-textured till (Catfish Creek Till)
 - 5d: Clay to silt-textured till (St. Joseph's Till)
 - 3: Paleozoic bedrock

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Figure No.
 4

Surficial Geology



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011. Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release--- Data 126-Revision 1. ISBN 978-1-4435-5704-7 (CD) ISBN 978-1-4435-5705-4
- 3.



- General Project Area
- Proposed Project Components**
 - Turbine Location
 - Collector Line System
 - Substation/Transformer Station Property
- Existing Features**
 - Road
 - Watercourse
 - Waterbody
- Hydrogeological Features**
 - MOE Water Well

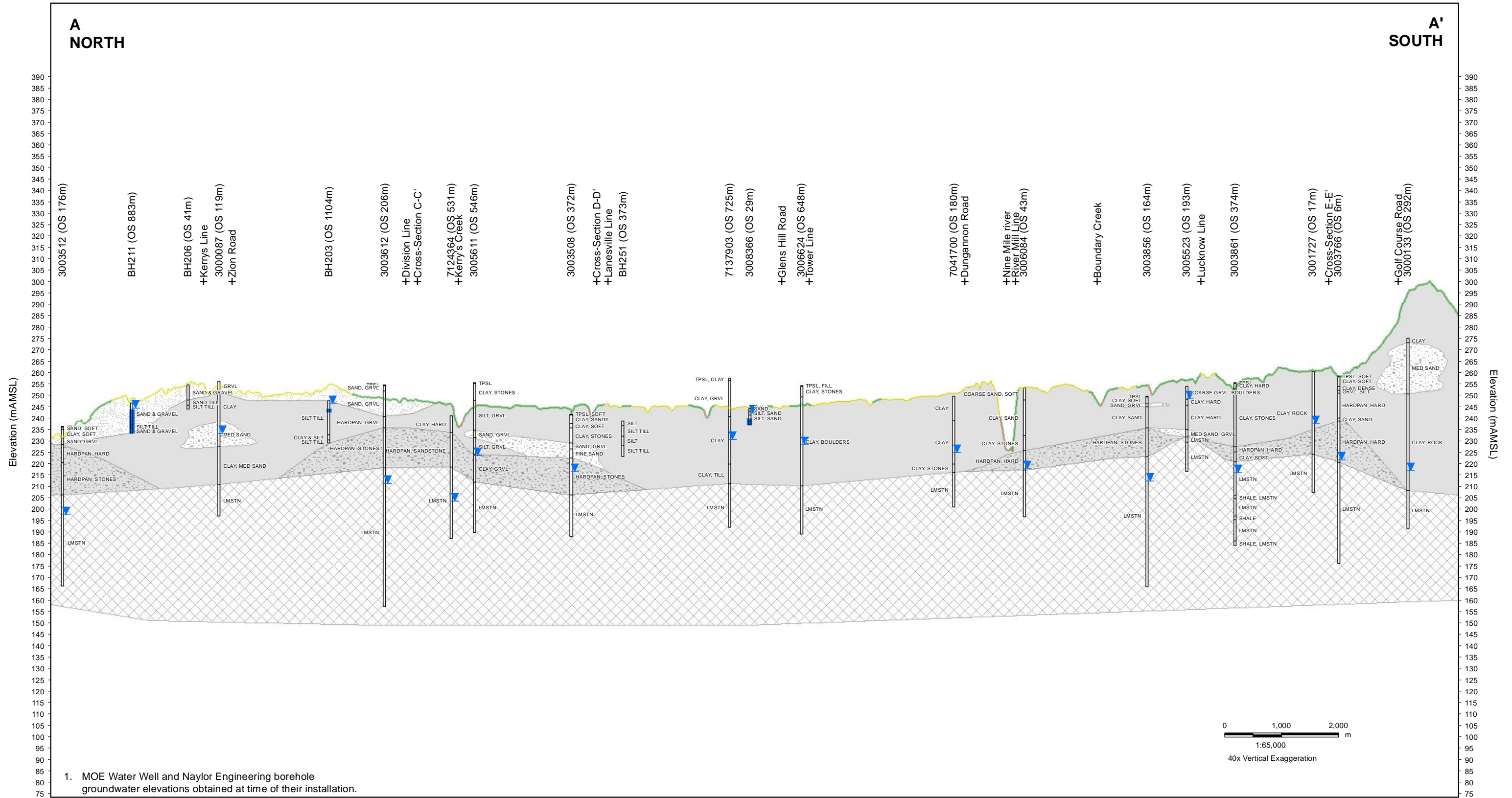
- Bedrock Geology**
 - 59c: Dundee Formation
 - 59d: Detroit River Group; Onondaga Formation

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Figure No.
5

Bedrock Geology

\\cd1220-02\Work_group\01609\active\160960738\drawing\MX\DI\Hydrogeology\HydroG_Assess\160960738_HG_Fig06_ssecAA.mxd
Revised: 2012-09-18 By: ccoghlan



1. MOE Water Well and Naylor Engineering borehole groundwater elevations obtained at time of their installation.



Stantec

Legend

- 2807874 (OS m)
- Well ID (Offset)
- Stratigraphy
- Water Level
- Well Screen

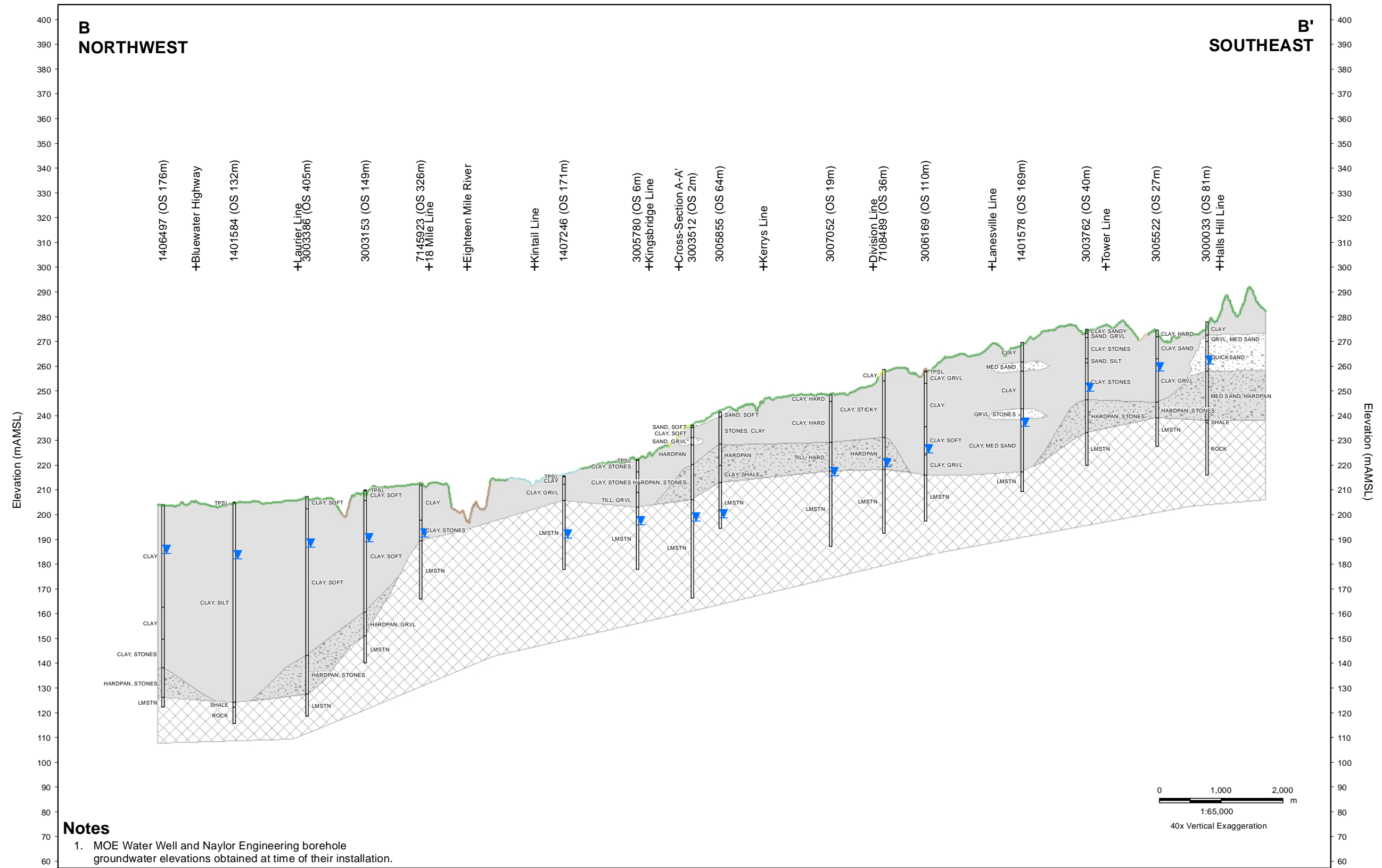
- + Crossings
- Surficial Geology**
- 19: Modern alluvial deposits
- 12: Older alluvial deposits
- 9: Glaciolacustrine deposits (sand & gravel)
- 8a: Glaciolacustrine deposits (silt & clay)
- 7a: Glaciofluvial deposits (sand & gravel)
- 5d: Clay to silt-textured till (St. Joseph's Till)

- HU-I (Glaciolacustrine Sand and Gravel)
- HU-II (St. Joseph's Till and Glaciolacustrine Silt and Clay)
- HU-VI (Catfish Creek Till)
- Glaciofluvial Sand and Gravel
- HU-VII/HU-VIII (Bedrock - Dundee Formation and Detroit River Group)

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K2 Wind Ontario Limited Partnership
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Figure No.
6

Title
Cross-Section A-A'

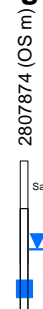


\\cd1220-0201609\active\60960738\drawing\MXD\Hydrogeology\HydroG_Assess\160960738_HG_Fig07_aSecB.mxd
Revised: 2012-08-08 By: ccoghlan

August, 2012
160960738



Legend



2807874 (OS m)
Well ID (Offset)
Stratigraphy
Water Level
Well Screen

+ Crossings

Surficial Geology

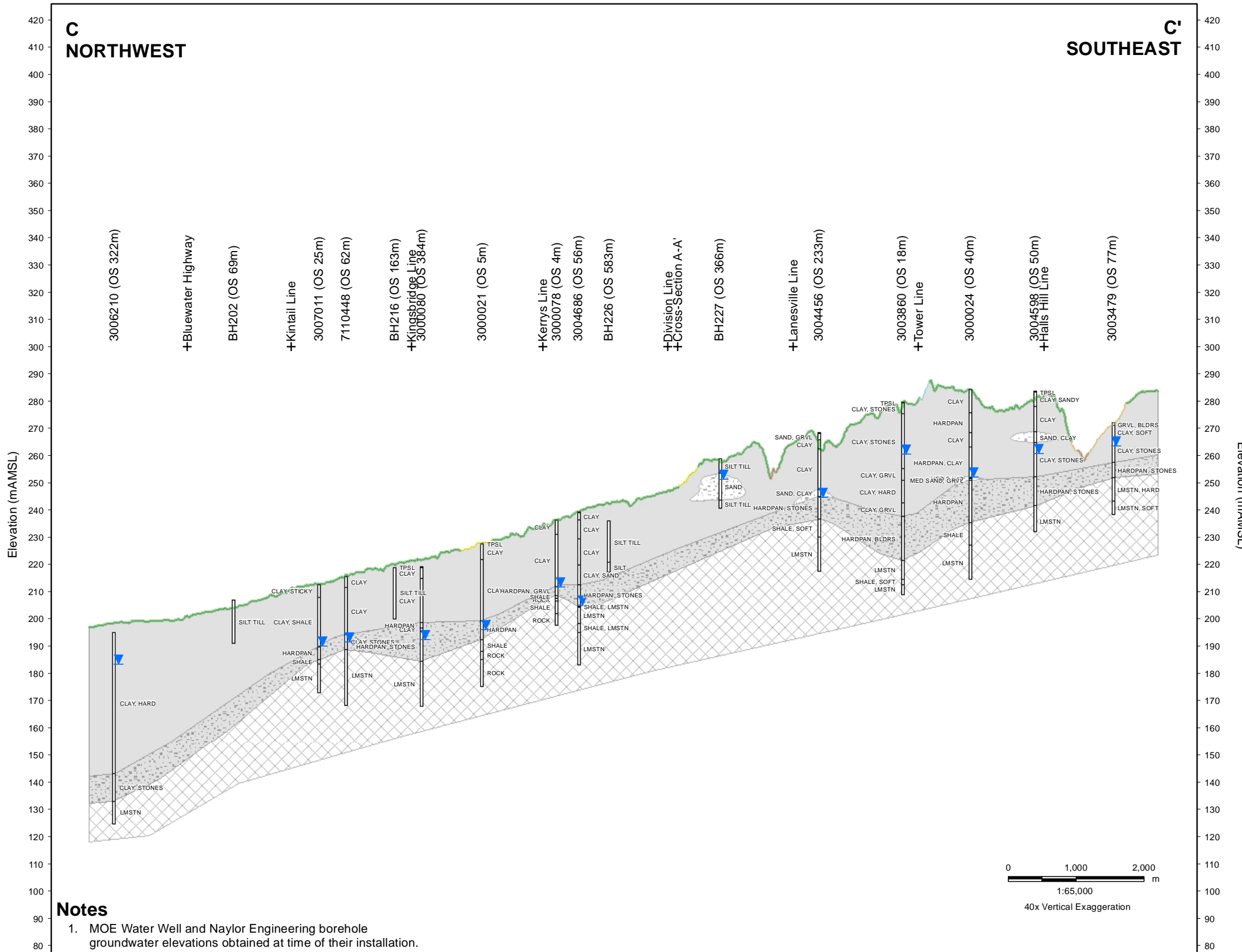
- 19: Modern alluvial deposits
- 12: Older alluvial deposits
- 9: Glaciolacustrine deposits (sand & gravel)
- 8a: Glaciolacustrine deposits (silt & clay)
- 7a: Glaciofluvial deposits (sand & gravel)
- 5d: Clay to silt-textured till (St. Joseph's Till)

- HU-I (Glaciolacustrine Sand and Gravel)
- HU-II (St. Joseph's Till and Glaciolacustrine Silt and Clay)
- HU-VI (Catfish Creek Till)
- Glaciofluvial Sand and Gravel
- HU-VII/HU-VIII (Bedrock - Dundee Formation and Detroit River Group)

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Hydrogeological Assessment
K2 Wind Ontario Limited Partnership
K2 Wind Power Project

Figure No.
7

Title
Cross-Section B-B'



Notes
 1. MOE Water Well and Naylor Engineering borehole groundwater elevations obtained at time of their installation.

\\cd1220-0201609active\60960738\drawing\MXD\Hydrogeology\HydroG_Assess\160960738_HG_Fig08_asecC.mxd
 Revised: 2012-08-08 By: ccoghlan

August, 2012
 160960738



Legend

- 2807874 (OS m)
- Well ID (Offset)
- Stratigraphy
- Water Level
- Well Screen

- + Crossings
- Surficial Geology**
- 19: Modern alluvial deposits
- 12: Older alluvial deposits
- 9: Glaciolacustrine deposits (sand & gravel)
- 8a: Glaciolacustrine deposits (silt & clay)
- 7a: Glaciofluvial deposits (sand & gravel)
- 5d: Clay to silt-textured till (St. Joseph's Till)

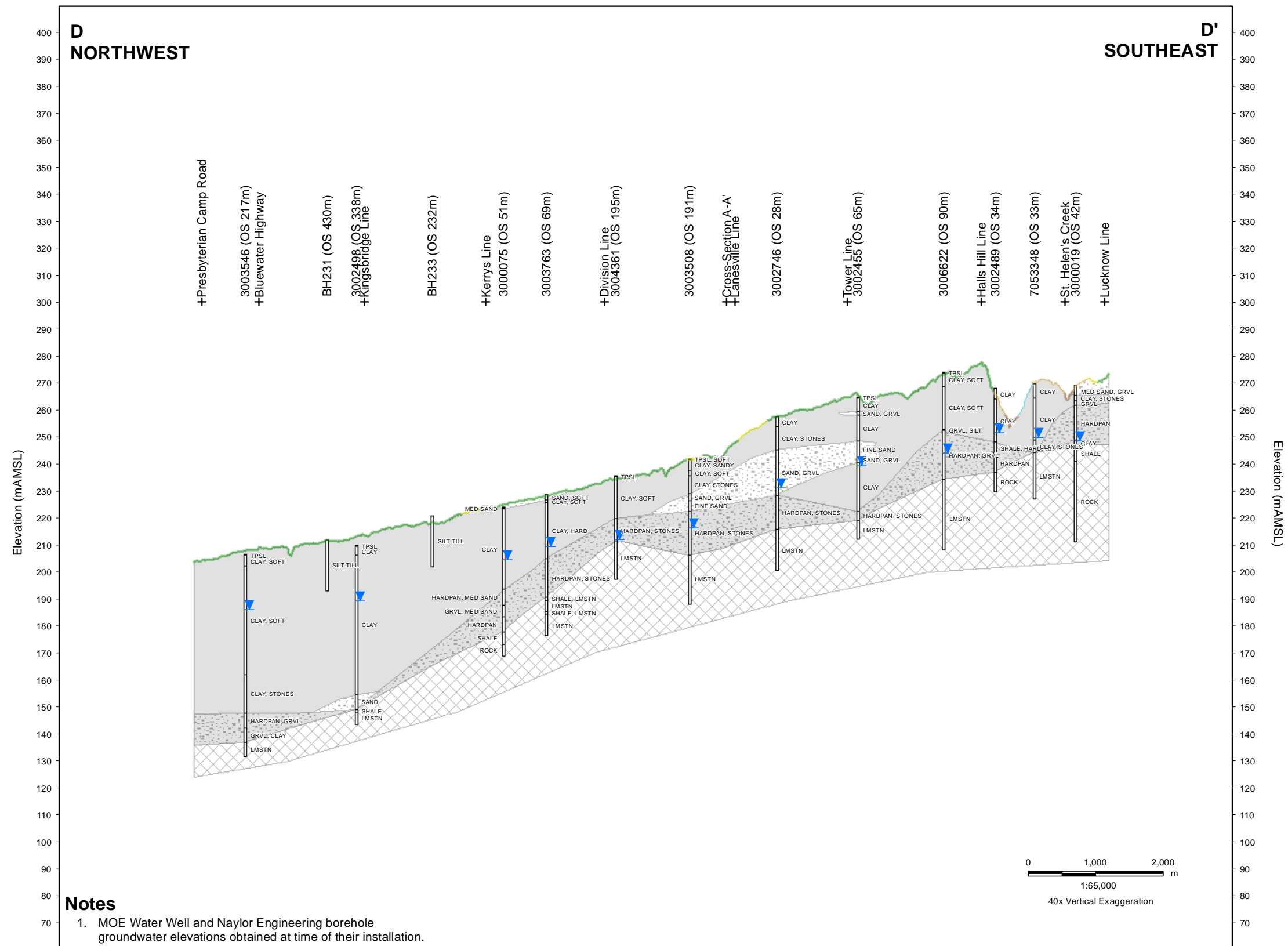
- HU-I (Glaciolacustrine Sand and Gravel)
- HU-II (St. Joseph's Till and Glaciolacustrine Silt and Clay)
- HU-VI (Catfish Creek Till)
- Glaciofluvial Sand and Gravel
- HU-VII/HU-VIII (Bedrock - Dundee Formation and Detroit River Group)

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Figure No.
8

Title
Cross-Section C-C'

\\cd1220-0201609\active\60960738\drawing\MXD\Hydrogeology\HydroG_Assess\160960738_HG_Fig9_asecD.mxd
Revised: 2012-08-08 By: ccoghlan



Notes
1. MOE Water Well and Naylor Engineering borehole groundwater elevations obtained at time of their installation.



Legend

- 2807874 (OS m)
- Well ID (Offset)
- Stratigraphy
- Water Level
- Well Screen
- + Crossings
- Surficial Geology**
- 19: Modern alluvial deposits
- 12: Older alluvial deposits
- 9: Glaciolacustrine deposits (sand & gravel)
- 8a: Glaciolacustrine deposits (silt & clay)
- 7a: Glaciofluvial deposits (sand & gravel)
- 5d: Clay to silt-textured till (St. Joseph's Till)

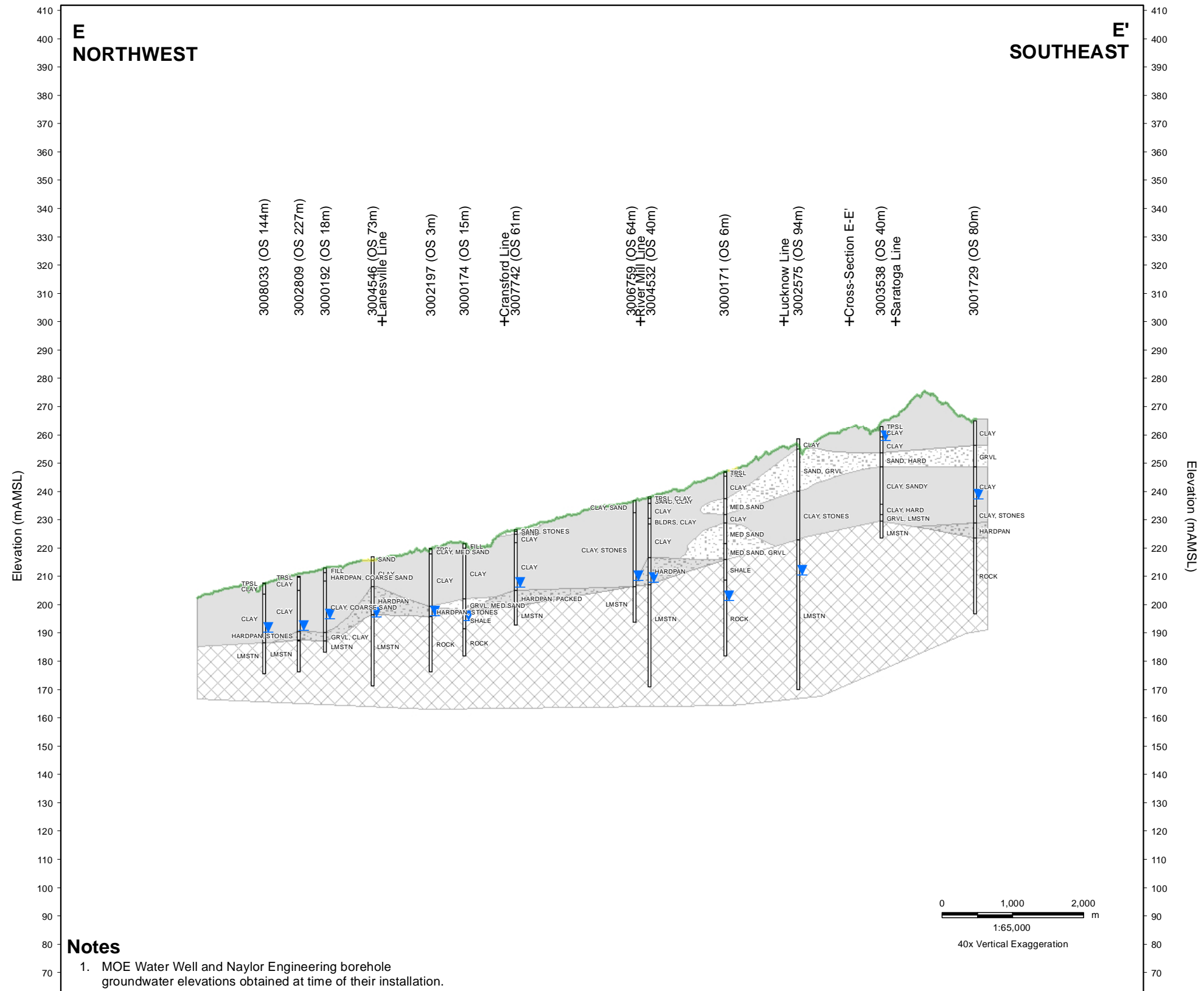
- HU-I (Glaciolacustrine Sand and Gravel)
- HU-II (St. Joseph's Till and Glaciolacustrine Silt and Clay)
- HU-VI (Catfish Creek Till)
- Glaciofluvial Sand and Gravel
- HU-VII/HU-VIII (Bedrock - Dundee Formation and Detroit River Group)

Client/Project
Hydrogeological Assessment
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K2 Wind Power Project

Figure No.
9

Title
Cross-Section D-D'

\\cd1220-0201609\active\60960738\drawing\MXD\Hydrogeology\HydroG_Assess\160960738_HG_Fig10_asecE.mxd
 Revised: 2012-08-08 By: ccoghlan



Notes
 1. MOE Water Well and Naylor Engineering borehole groundwater elevations obtained at time of their installation.



Legend

- 2807874 (OS m)
- Well ID (Offset)
- Stratigraphy
- Water Level
- Well Screen

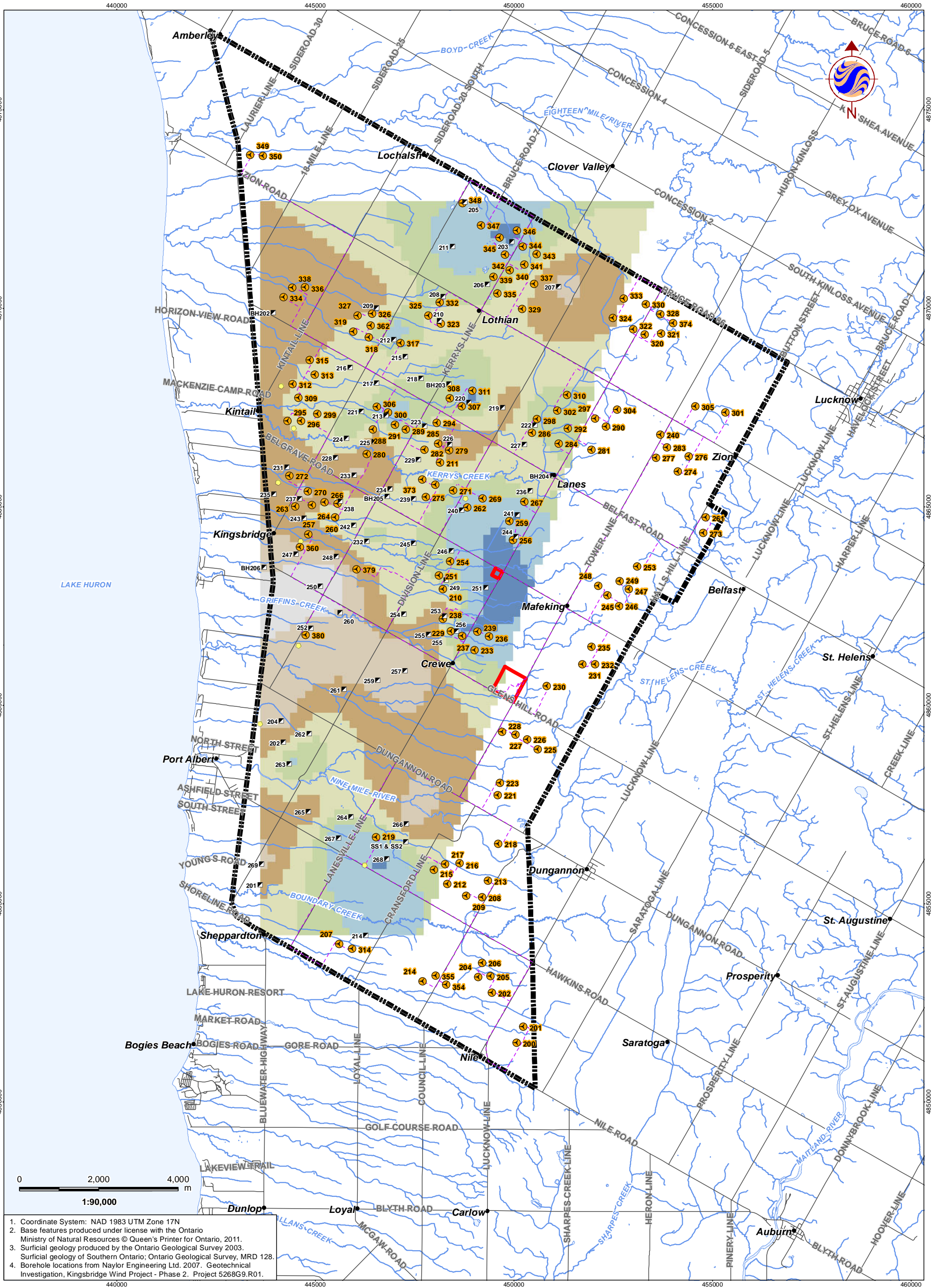
- + Crossings
- Surficial Geology**
- 19: Modern alluvial deposits
- 12: Older alluvial deposits
- 9: Glaciolacustrine deposits (sand & gravel)
- 8a: Glaciolacustrine deposits (silt & clay)
- 7a: Glaciofluvial deposits (sand & gravel)
- 5d: Clay to silt-textured till (St. Joseph's Till)

- HU-I (Glaciolacustrine Sand and Gravel)
- HU-II (St. Joseph's Till and Glaciolacustrine Silt and Clay)
- HU-VI (Catfish Creek Till)
- Glaciofluvial Sand and Gravel
- HU-VII/HU-VIII (Bedrock - Dundee Formation and Detroit River Group)

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Figure No.
 10

Title
Cross-Section E-E'



1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
3. Surficial geology produced by the Ontario Geological Survey 2003. Surficial geology of Southern Ontario: Ontario Geological Survey, MRD 128.
4. Borehole locations from Naylor Engineering Ltd. 2007. Geotechnical Investigation, Kingsbridge Wind Project - Phase 2. Project 5268G9.R01.

General Project Area

Proposed Project Components

- Turbine Location
- MET Tower
- Collector Line System
- Substation/Transformer Station Property

Existing Features

- Road
- Watercourse
- Waterbody

Hydrogeological Features

- Borehole (Naylor)

Depth to Groundwater (m)

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 - 12
- 12 - 15

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Figure No.
 11

Title
Depth to Groundwater

