

Appendix D

Field Notes

Northern Drainage



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Northern drainage
① WB

Stantec

Project Amherst Island
Station # 1
Photos Taken y
GPS Coordinates _____
Descriptive Location west of Stella, along Front Rd

Project # 160960595
Field Staff KE + RP
Date May 17 2011
Time 10:20 Am

Water Quality

Dissolved Oxygen (mg/L) 10.48 pH 7.82 Conductivity (µS/cm) 247
Water Temperature (°C) 9.69 Air Temperature (°C) 7°
Weather conditions in previous 24 hrs cool, cloudy + rain (lots of rain in the last week)

Watercourse Dimensions & Morphology

Mean Watercourse Width 2 (m) Maximum Pool Depth 40 (cm)
Mean Bankfull Width 3 (m) Mean Water Depth 20 (cm)
% Riffle _____ % Pool _____ % Run 100% Flat

Evidence of eroding banks, Comments on bank stability

no, grass lined, probably seasonal WB. v/s of road

Substrate - Upstream (% cover)

Bedrock 80 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel 20 Marl _____ Sand _____ Detritus _____

Substrate - Downstream (% cover)

Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream almost 0% cover, few trees along road near culv
Downstream _____

Adjacent Land Use

Upstream dg
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream no
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream seasonal - most likely dry in summer
Downstream _____

Note any fish observations Banded Killifish + pumpkinseed.

Other Habitat Notes, Incidental Wildlife Observations, etc.

-shallow, flooded channel
-diffuse surficial drainage where WB splits farther west (photos 1c + 1d), note WB.



Stantec Consulting Ltd - Electrofishing Record and Catch Results

Project Number 140960595 Station Number 11
 Project Name Amherst Island Pass No. (if applicable) 1
 Project manager _____ Date (yyyymmdd): May 17th 2011
 Descriptive Location just west of stella ON.
 UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat _____ Unit Model/Make Smith root
 Sampling Method (circle one): even habitat transect spot
 Effort (Electrofishing Seconds): 97 s. Number of Netters: 1 Number of Anodes: 1

Settings
 Frequency (Hz) 75 Voltage (volts) 350 Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) 40 m
 Station Characteristics: Width (m): 2 Range _____ Average: _____
 Depth (m): Range 10 - 40 cm Average: 20

Water Clarity/Colour: clear/colorless Water Velocity if Measured (m/s): slow
 Temperature (°C) 9.69°C Conductivity (uS/cm) 247
 pH 7.82 Dissolved Oxygen (mg/L) 10.48

Catch Data

Species	Number of Fish	Species	Number of Fish
Banded Killifish	20		
Pumpkinseed	1		

Fish Measurements on Separate Sheet? Y/N _____
 Field Staff: KE & RP Notes By: KE

 _____ (Station Diagram on Back)



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Northern Branch

3 x wf u/s WB d

Project Amherst Island
Station # 3
Photos Taken Y
GPS Coordinates _____
Descriptive Location Front Rd, 750 m east of Emerald

Project # 1109120595
Field Staff KE + RP
Date May 17 2011
Time 1:20

Water Quality

Dissolved Oxygen (mg/L) 11.18 pH 8.1 Conductivity (µS/cm) 200
Water Temperature (°C) 16.3 Air Temperature (°C) 12
Weather conditions in previous 24 hrs cloudy & rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 30-50 (m) Maximum Pool Depth 15 (cm)
Mean Bankfull Width 3 (m) Mean Water Depth 5 (cm)
0 % Riffle 0 % Pool 100 % Run 100 % Flat

Evidence of eroding banks, Comments on bank stability
cars trample through watercourse

Substrate - Upstream (% cover)

10 Bedrock 90 Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

50 Bedrock 10 Silt _____ Boulder _____ Clay _____ 10 Cobble
_____ Muck 20 Gravel _____ Marl _____ 10 Sand _____ Detritus

In-water Cover

Cover Types Present (circle): d/s
Overhanging Vegetation Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 0%
Downstream 40% ash + lilac

Adjacent Land Use

Upstream cow pasture
Downstream cottages

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream none observed
Downstream none observed

Migratory Obstructions (seasonal, permanent)

Upstream seasonal
Downstream seasonal?

Note any fish observations none
- not fished due to min water levels.

Other Habitat Notes, Incidental Wildlife Observations, etc.

- cow pasture, no defined channel, seasonal - xwb
- defined channel, possibly seasonal flow - u/s



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WIND FARM WATERBODY RAPID ASSESSMENT FORM

Northern 55 WB
drainage

Station # 55
Watercourse Name _____
Photos 65-71
Date Aug 15 2012
Weather conditions in previous 24 hrs _____
GPS Coordinates (Zone) 18T E 364207 N 4892262 Datum _____
Descriptive Location _____

Project Name Amherst Island
Project # 100910595
Field Staff Kat St. J.
Time 14:45

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (μ S/cm) _____
Water Temperature ($^{\circ}$ C) _____ Air Temperature ($^{\circ}$ C) _____
Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width 6 (m) Mean Water Depth _____ (cm)
% Riffle _____ % Pool _____ % Run _____ % Flat _____

Evidence of eroding banks, Comments on bank stability
some concrete blocks d/s to stabilize banks

Substrate (% cover)

20 Bedrock 50 Cobble _____ Sand 20 Silt _____ Muck _____
Boulder _____ Gravel _____ Clay _____ Marl 10 Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
70% shaded by cedar, mountain ash, willow & maple
Adjacent Land Use residential

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) _____
Migratory Obstructions (seasonal, permanent) _____
Note any fish observations _____

Waterbody Notes

Natural Watercourse Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
Surficial Drainage (i.e. furrows) _____ Dugout Pond _____ Dominated by Aquatic Veg _____ Dry

Other Habitat Notes, Incidental Wildlife Observations, etc.

natural, slight meander underlain by coarse substrates

Field Notes Authored by _____ Field Notes QA/QCed by _____



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Northern drainage 56
NW13

Stantec

Station # 56
 Watercourse Name _____
 Photos 72-73
 Date Aug 15 2012
 Weather conditions in previous 24 hrs _____
 GPS Coordinates (Zone) 18T E 364188 N 4891852 Datum _____
 Descriptive Location _____

Project Name Amherst Island
 Project # 1009160595
 Field Staff Edt. St. J.
 Time 14:58

Water Quality

Dissolved Oxygen (mg/L) _____ pH dry Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width 0 (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat
 Evidence of eroding banks, Comments on bank stability _____

Substrate (% cover)

Bedrock _____ Cobble _____ Sand _____ Silt _____ Muck _____
 Boulder _____ Gravel _____ Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

0%
 Adjacent Land Use Ag

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Migratory Obstructions (seasonal, permanent)

Note any fish observations _____

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
 Surficial Drainage (i.e. furrows) Dugout Pond _____ Dominated by Aquatic Veg _____ Dry

Other Habitat Notes, Incidental Wildlife Observations, etc.

low lying area through pasture / Ag field

Field Notes Authored by _____

Field Notes QA/QCed by _____



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Northern Drainage 57 WB

Stantec

Station # 57
 Watercourse Name _____
 Photos 59-64
 Date Aug 15 2012
 Weather conditions in previous 24 hrs _____
 GPS Coordinates (Zone) 18T E 366012 N 4893046 Datum _____
 Descriptive Location _____

Project Name Amherst Island
 Project # 11009100895
 Field Staff Kat St J
 Time 14:25

Water Quality

Dissolved Oxygen (mg/L) _____ pH ~~_____~~ Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width 7 (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat
 Evidence of eroding banks, Comments on bank stability _____

Substrate (% cover)

Bedrock 70 Cobble 30 Sand _____ Silt _____ Muck _____
 Boulder _____ Gravel _____ Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
90-100% - cedar, willow, elm, buckthorn
 Adjacent Land Use _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) _____

Migratory Obstructions (seasonal, permanent) _____

Note any fish observations _____

Waterbody Notes

Natural Watercourse Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
 Surficial Drainage (i.e. furrows) _____ Dugout Pond _____ Dominated by Aquatic Veg _____ Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. _____

Field Notes Authored by _____

Field Notes QA/QCed by _____



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Northern Drainage

31 32 33

XWB

Project Amherst Island
Station # 31 32 + 33
Photos Taken
GPS Coordinates _____
Descriptive Location South of front Rd east of Stella
400m to 1.3km south in field

Project # 160960595
Field Staff KE + RP
Date May 19 2011
Time 2-13:30

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat

Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream _____
Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-grassed, saturated field, no evidence of
channel at all 3 locations



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Northern Drainage

(21) WB
XWB

Project Amherst Island
Station # 21
Photos Taken Y
GPS Coordinates Y
Descriptive Location front Rd, 200 m west of Marshall
40 Ft Rd.

Project # 160960595
Field Staff KE + RP
Date May 18 2011
Time 6

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.5-1 (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width 2 (m) Mean Water Depth 5-10 (cm)
_____ % Riffle 50 % Pool 50 % Run _____ % Flat

Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream _____
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s - WB approx. 50 m to top of hill, surficial drain through furrows farther up (seasonal)
-d/s - WB - defined channel (probably seasonal)

-no access d/s so not fished, min water up due to

Eastern Drainage



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage
30 u/s X

Stantec

Project Amherst Island Project # 1609160595
Station # 30 Field Staff KE + BP
Photos Taken ✓ Date May 19 2011
GPS Coordinates _____ Time 2:15 pm
Descriptive Location crossing @ Ritchie farm @ Front Rd

Water Quality

Dissolved Oxygen (mg/L) 7.14 pH 8.01 Conductivity (µS/cm) 303
Water Temperature (°C) 26.12 Air Temperature (°C) 20°
Weather conditions in previous 24 hrs cool + rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 2 (m) Maximum Pool Depth 50 (cm)
Mean Bankfull Width 3.5 (m) Mean Water Depth 15 (cm)
20 % Riffle 10 % Pool 30 % Run 30 % Flat

Evidence of eroding banks, Comments on bank stability

stable + veg

Substrate - Upstream (% cover)

70 Bedrock 30 Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

30 Bedrock 40 Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand 30 Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Deep Pool Vascular Plants
Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____
Downstream 0%

Adjacent Land Use

Upstream pasture
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream seasonal

Note any fish observations

none observed

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s - shallow subsurface drainage through furrows in field, small pool @ culvert (temporary) xWB.
-d/s - no access



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Eastern Drainage 58

WB

Stantec

Station # 58
 Watercourse Name _____
 Photos 53-58
 Date AUG 15 2012
 Weather conditions in previous 24 hrs _____
 GPS Coordinates (Zone) 18T E 368531 N 4894016 Datum _____
 Descriptive Location _____

Project Name Amherst Island
 Project # 160960595
 Field Staff Kat St. J.
 Time 13:50

Water Quality

Dissolved Oxygen (mg/L) _____ pH dry Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width 5 (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat
 Evidence of eroding banks, Comments on bank stability _____

Substrate (% cover)

Bedrock _____ Cobble _____ Sand _____ Silt _____ Muck _____
 Boulder _____ Gravel _____ Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
15% grasses, goldenrod, lilies
 Adjacent Land Use residential / pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) _____

Migratory Obstructions (seasonal, permanent) _____

Note any fish observations _____

Waterbody Notes

Natural Watercourse Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
 Surficial Drainage (i.e. furrows) _____ Dugout Pond _____ Dominated by Aquatic Veg Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. _____

Field Notes Authored by _____

Field Notes QA/QCed by _____



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage (9) WB

Stantec

Project Amherst Island
Station # 9
Photos Taken 4
GPS Coordinates _____
Descriptive Location 3rd watercourse north along 40ft Rd

Project # 1609160595
Field Staff KE + RP
Date May 18 2011
Time 11

Water Quality

Dissolved Oxygen (mg/L) 9.63 pH 7.94 Conductivity (µS/cm) 142
Water Temperature (°C) 13.11 Air Temperature (°C) 12
Weather conditions in previous 24 hrs cold + rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.5 (m) Maximum Pool Depth 50 (cm)
Mean Bankfull Width 4 (m) Mean Water Depth 30 (cm)
10 % Riffle 0 % Pool 30 % Run 40 % Flat

Evidence of eroding banks, Comments on bank stability

eroding banks in pasture dts.

Substrate - Upstream (% cover)

20 Bedrock 50 Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand 30 Detritus

Substrate - Downstream (% cover)

50 Bedrock 15 Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck 35 Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream seasonal likely
Downstream potentially seasonal

Note any fish observations

fathead minnow + banded killifish

Other Habitat Notes, Incidental Wildlife Observations, etc.

- ups - shallow, diffuse ~~sub~~ drainage through field
- dts - extremely sinuous channel drains toward cottage ^{50ft} @ culver
- unknown if a barrier exists @ lake (no access)



Stantec Consulting Ltd - Electrofishing Record and Catch Results

Project Number 160960595 Station Number 9
Project Name Amherst Island wind Pass No. (if applicable) 1
Project manager Rob Roland Date (yyyymmdd): 2011/05/18
Descriptive Location 45 x DIS of Front Line at Fillsen + Jeffrey Properties
Laver 40ft Road
UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat Unit Model/Make LR-24 Smith Root
Sampling Method (circle one): even habitat transect spot
Effort (Electrofishing Seconds): 152 Number of Netters: 1 Number of Anodes: 1
Settings
Frequency (Hz) 70 Voltage (volts) 400 Current (Amps) / Power (Watts) /

Station Information
Length of Stream Surveyed (m) 60
Station Characteristics: Width (m): Range 1-3 Average: 1.5
Depth (m): Range 0.10-0.50 Average: 0.30
Water Clarity/Colour: Clear/colourless Water Velocity if Measured (m/s): /
Temperature (°C) 13.10 Conductivity (uS/cm) 142
pH 7.94 Dissolved Oxygen (mg/L) 9.63

Catch Data

Species	Number of Fish	Species	Number of Fish
Fathead Minnow	16		
Bronzed Killifish	1		

Fish Measurements on Separate Sheet? Y/N
Field Staff: KE + RP Notes By: RP
(Station Diagram on Back)



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage

(29) XW

Stantec

Project Auburn Island
Station # 29
Photos Taken y
GPS Coordinates _____
Descriptive Location Ritchie property, watercourse
mid property

Project # 160960595
Field Staff KE + RP
Date May 19 2011
Time 2

Water Quality

Dissolved Oxygen (mg/L) 7.24 pH 7.86 Conductivity (µS/cm) 184
Water Temperature (°C) 26.89 Air Temperature (°C) 20°
Weather conditions in previous 24 hrs cool + rain

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream sheep pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream none observed
Migratory Obstructions (seasonal, permanent)
Upstream _____
Downstream seasonal
Note any fish observations none observed, too little water
to fish

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s - no defined channel, shallow surficial drainage
through field, some erosion @ farm crossing possible
due to undersized + slightly sunken culvert.

-d/s - no defined channel, surficial drainage through
low vms area in pasture.



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage (8) WE

Stantec

Project Amherst Island
Station # 8
Photos Taken [check]
GPS Coordinates
Descriptive Location 40 ft Rd 2nd watercourse north along lower

Project # 1609050505
Field Staff KE + RP
Date May 18 2011
Time 9:45

Water Quality

Dissolved Oxygen (mg/L) 9.63 pH 7.6 Conductivity (uS/cm) 202
Water Temperature (C) 12.2 Air Temperature (C) 12
Weather conditions in previous 24 hrs rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 2.5 (m) Maximum Pool Depth 40 (cm)
Mean Bankfull Width 4 (m) Mean Water Depth 20 (cm)
% Riffle 40 % Pool 20 % Run 40 % Flat

Evidence of eroding banks, Comments on bank stability

stable + veg

Substrate - Upstream (% cover)

50 Bedrock 30 Silt Boulder Clay Cobble
Muck 10 Gravel Marl Sand 10 Detritus

Substrate - Downstream (% cover)

50 Bedrock 50 Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woppy Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 90% flows through small woodlot
Downstream 0%

Adjacent Land Use

Upstream fallow field + woodlot
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream

Migratory Obstructions (seasonal, permanent)

Upstream seasonal w/ isolated pools (likely)
Downstream possible barrier @ lake

Note any fish observations

Banded Killifish + Fathead minnow @ culvert.

Other Habitat Notes, Incidental Wildlife Observations, etc.

ups - french'd channel through woodlot
d/s - shallow, slightly meandering channel through pasture



Stantec Consulting Ltd - Electrofishing Record and Catch Results

Project Number Amherst Island Station Number 8
 Project Name 1609/60595 Pass No. (if applicable) 1
 Project manager _____ Date (yyyymmdd): May 18 2011
 Descriptive Location 2nd watercourse south along lower 40 foot Road (Jeffery + Filson property)
 UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat _____ Unit Model/Make _____
 Sampling Method (circle one): even habitat transect _____ spot _____

Effort (Electrofishing Seconds): 162 Number of Netters: 1 Number of Anodes: 1

Settings
 Frequency (Hz) 375 Voltage (volts) 400 Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) 50 m
 Station Characteristics: Width (m): Range 2-3 Average: 2.5
 Depth (m): Range 10-40 Average: 20

Water Clarity/Colour: clear / colourless Water Velocity if Measured (m/s): _____
 Temperature (°C) 12.2 Conductivity (uS/cm) 202
 pH 7.6 Dissolved Oxygen (mg/L) 9.03

Catch Data

Species	Number of Fish	Species	Number of Fish
Killifish	19		
Fathead	8		
tadpole	2		

Fish Measurements on Separate Sheet? Y
 Field Staff: KE + RP Notes By: _____

 (Station Diagram on Back)



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage

(28) XWF

Project Amherst Island
Station # 28
Photos Taken Y
GPS Coordinates _____
Descriptive Location Ritchie property, watercourse farthest south

Project # 160960595
Field Staff KE + RP
Date May 17 2011
Time 1:30

Water Quality
Dissolved Oxygen (mg/L) 8.78 pH 7.97 Conductivity (µS/cm) 267
Water Temperature (°C) 24.63 Air Temperature (°C) 23
Weather conditions in previous 24 hrs rain & cool

Watercourse Dimensions & Morphology
Mean Watercourse Width 2.5 (m) Maximum Pool Depth 40 (cm)
Mean Bankfull Width 4.5 (m) Mean Water Depth 10 (cm)
% Riffle _____ % Pool _____ % Run 100 % Flat
Evidence of eroding banks, Comments on bank stability erosion @ culvert

Substrate - Upstream (% cover)
Bedrock 80 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

Substrate - Downstream (% cover)
Bedrock 80 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

In-water Cover
Cover Types Present (circle): Overhanging Vegetation Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Woody Debris _____ Boulder _____ Other _____

Riparian Zone
Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream 0%

Adjacent Land Use
Upstream sheep pasture
Downstream _____

Fish Habitat Potential
Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream none observed
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream temporarily ponded @ culvert
Downstream _____
Note any fish observations none observed, not enough water to fish

Other Habitat Notes, Incidental Wildlife Observations, etc.
- u/s - no defined channel, terrestrial grasses, not a temporarily ponded area @ culvert caused by farm crossing in active pasture
- d/s - no defined channel, just swifical drainage in less lying area w/ terrestrial grasses



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Eastern Drainage 59
NWRF

Stantec

Station # 59
 Watercourse Name _____
 Photos 50-52
 Date Aug 15 2012
 Weather conditions in previous 24 hrs _____
 GPS Coordinates (Zone) 18T E 369607 N 4893460 Datum _____
 Descriptive Location _____

Project Name Amherst Island
 Project # 1009100395
 Field Staff Ydt. STJ
 Time 13:12

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat
 Evidence of eroding banks, Comments on bank stability _____

Substrate (% cover)

Bedrock _____ Cobble _____ Sand _____ Silt _____ Muck _____
 Boulder _____ Gravel _____ Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) _____

Adjacent Land Use

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) _____

Migratory Obstructions (seasonal, permanent) _____

Note any fish observations _____

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
 Surficial Drainage (i.e. furrows) Dugout Pond _____ Dominated by Aquatic Veg _____ Dry

Other Habitat Notes, Incidental Wildlife Observations, etc.

surficial drainage through pasture

Field Notes Authored by _____

Field Notes QA/QCed by _____



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern drainage
⑦ u/s xB
d/s WB

Stantec

Project Amherst Island
Station # 7
Photos Taken Y
GPS Coordinates _____
Descriptive Location adjacent to Kingston Naturalist property, along lower 40 ft. Rd

Project # 1609160595
Field Staff KE + RP
Date May 18 2011
Time 9:30

Water Quality

Dissolved Oxygen (mg/L) 8.26 pH 7.67 Conductivity (µS/cm) 194
Water Temperature (°C) 11.5 Air Temperature (°C) 12°
Weather conditions in previous 24 hrs rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 2 (m) Maximum Pool Depth 40 (cm)
Mean Bankfull Width 4 (m) Mean Water Depth 20 (cm)
% Riffle _____ % Pool _____ % Run 100% Flat

Evidence of eroding banks, Comments on bank stability eroded banks d/s.

Substrate - Upstream (% cover) of road

Bedrock 70 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 30 Detritus _____

Substrate - Downstream (% cover) of road

Bedrock 60 Silt 10 Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____
willows

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 0%
Downstream 10% - 2 willow next to road, otherwise open

Adjacent Land Use

Upstream ag field
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream no defined channel
Downstream defined channel, probably seasonal

Note any fish observations

not fished, no access.

Other Habitat Notes, Incidental Wildlife Observations, etc.

shallow fungus.
- u/s diffuse surficial drainage, no channel - Not WB
- d/s defined channel, meanders, eroded banks.



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Eastern Drainage

(11) XWI

Stantec

Project Amherst Island

Project # 1609110595

Station # 11

Field Staff KE + RP

Photos Taken

Date May 18 2011

GPS Coordinates _____

Time 12:15

Descriptive Location _____

Farther up from station 7 in sheep pasture, north of station 10.

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (μ S/cm) _____

Water Temperature ($^{\circ}$ C) _____ Air Temperature ($^{\circ}$ C) _____

Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)

Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)

_____ % Riffle _____ % Pool _____ % Run _____ % Flat

Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____

Downstream _____

Adjacent Land Use

Upstream _____

Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream _____

Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____

Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

- grassed swale through field w/ 2 on-line ponds (man-made)
- all tributaries checked on option property - all diffuse surface drainage or grassed swale in pasture

Southern Drainage



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage
10 X W!

Project Amherst Island
Station # 10
Photos Taken y
GPS Coordinates _____
Descriptive Location South shore Rd, lower 40 ft Rd

Project # 1609160595
Field Staff KE + RP
Date May 18 2011
Time 11:45

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle):
Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream _____
Downstream _____
Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

- u/s diffuse surficial drainage through pasture
- d/s culvert outlets onto limestone bedrock along shoreline
perched



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Southern Arroyos

12 XWI

Project Amherst Island
Station # 12
Photos Taken [check]
GPS Coordinates
Descriptive Location south shore Rd, 1.2 km west of Marshall 40 FT Rd

Project # 160940595
Field Staff KE + RP
Date May 18 2011
Time 1:20

Water Quality

Dissolved Oxygen (mg/L)
pH
Conductivity (uS/cm)
Water Temperature (C)
Air Temperature (C)
Weather conditions in previous 24 hrs

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Maximum Pool Depth (cm)
Mean Bankfull Width (m)
Mean Water Depth (cm)
% Riffle % Pool % Run % Flat
Evidence of eroding banks, Comments on bank stability

Substrate - Upstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream
Downstream

Adjacent Land Use

Upstream
Downstream

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream
Downstream
Migratory Obstructions (seasonal, permanent)
Upstream
Downstream

Note any fish observations

Other Habitat Notes, Incidental Wildlife Observations, etc.

-ufs - shallow surficial drainage to pool @ culvert
-dls - perched culvert outlets directly onto limestone bedrock shoreline



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern Arriba

(13) XWF

Stantec

Project Amherst Island
Station # 13
Photos Taken y
GPS Coordinates _____
Descriptive Location South Shore Rd, 15 km west of Marshall 40th Rd.

Project # 160910595
Field Staff KE + FRP
Date May 18 2011
Time 1:26

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____
Adjacent Land Use
Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream _____
Downstream _____
Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s- surficial drainage through field, some burrows
-d/s- perched culvert outlets onto limestone bedrock shoreline



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Southern Drainage

14 XWE

Stantec

Project Amherst Island
Station # 14
Photos Taken
GPS Coordinates _____
Descriptive Location wetbanks property, 1.2 km north in field

Project # 160960595
Field Staff KE + RP
Date May 18 2011
Time 1:50

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

u/s - diffuse subirrigal drainage, field saturated
d/s - arhival drainage through field



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage (16) XW

Stantec

Project Amherst Island
Station # 16
Photos Taken y
GPS Coordinates
Descriptive Location south shore Rd, 500 m east of Stella 40th Rd

Project # 160960595
Field Staff KE + RP
Date May 18 2011
Time 3

Water Quality

Dissolved Oxygen (mg/L)
pH
Conductivity (uS/cm)
Water Temperature (C)
Air Temperature (C)
Weather conditions in previous 24 hrs

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Maximum Pool Depth (cm)
Mean Bankfull Width (m)
Mean Water Depth (cm)
% Riffle % Pool % Run % Flat
Evidence of eroding banks, Comments on bank stability

Substrate - Upstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream
Downstream
Adjacent Land Use
Upstream
Downstream

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream
Downstream
Migratory Obstructions (seasonal, permanent)
Upstream
Downstream
Note any fish observations

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s shallow hummocks for surficial drainage through field
-d/s = surficial drainage through lawn to perched limestone bedrock shoreline



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage

18 u/s w
d/s xw

Stantec

Project Amherst Island
Station # 18
Photos Taken y
GPS Coordinates _____
Descriptive Location south shore Rd, 1.3 km west of Stella 40 ft Rd, 200 m north into field

Project # 140960595
Field Staff KE + RP
Date May 18 2011
Time 3:40

Water Quality

Dissolved Oxygen (mg/L) 12.0 pH 7.92 Conductivity (µS/cm) 159
Water Temperature (°C) 17.3 Air Temperature (°C) 14°
Weather conditions in previous 24 hrs rain & cool

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.5 (m) Maximum Pool Depth 50 (cm)
Mean Bankfull Width 2.5 (m) Mean Water Depth 20 (cm)
0 % Riffle 40 % Pool 0 % Run 60 % Flat

Evidence of eroding banks, Comments on bank stability

- stable

Substrate - Upstream (% cover)

Bedrock 50 Silt _____ Boulder _____ Clay 10 Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 40 Detritus _____

Substrate - Downstream (% cover)

Bedrock 50 Silt _____ Boulder _____ Clay 10 Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 40 Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream 60% maple & ash
Downstream 70% " "

Adjacent Land Use

Upstream As field
Downstream woodlot

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream seasonal
Downstream _____

Note any fish observations

3 brook stickleback - 1 captured in pool over larvae

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s - wB in woodlot, xwB u/s through field, surface drainage
-d/s - wB flood, but shallow channel through woodlot



Stantec Consulting Ltd - Electrofishing Record and Catch Results

(18)

Project Number 160960595 Station Number 18
 Project Name Amherst Island Pass No. (if applicable) 1
 Project manager _____ Date (yyyymmdd): May 18 2011
 Descriptive Location Farm access at dead end of south shore
 UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat _____ Unit Model/Make _____
 Sampling Method (circle one): even habitat transect _____ spot _____
 Effort (Electrofishing Seconds): 98 Number of Netters: 1 Number of Anodes: 1
Settings
 Frequency (Hz) 75 Voltage (volts) 400 Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) 30
 Station Characteristics: Width (m): Range 1-3 Average: 1.5
 Depth (m): Range 5-30 Average: 20
 Water Clarity/Colour: clear / tea stained Water Velocity if Measured (m/s): _____
 Temperature (°C) 17.3 Conductivity (uS/cm) 159
 pH 7.92 Dissolved Oxygen (mg/L) 12.

Catch Data

Species	Number of Fish	Species	Number of Fish
<u>Brook stickle</u>	<u>3</u>		

Fish Measurements on Separate Sheet? Y/N
 Field Staff: KE + RP Notes By: KE
 (Station Diagram on Back)



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage

19 WE

Stantec

Project Amperst Island
Station # 19
Photos Taken Y
GPS Coordinates _____
Descriptive Location large watercourse draining swamp/wetland into Arsl, crossing @ stella 40 ft Rd

Project # 160960595
Field Staff KE + RP
Date May 18 2011
Time 4:40

Water Quality

Dissolved Oxygen (mg/L) 9.06 pH 7.70 Conductivity (µS/cm) 83
Water Temperature (°C) 16.14 Air Temperature (°C) 20
Weather conditions in previous 24 hrs cool rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 2.5 (m) Maximum Pool Depth 1.5 + (cm)
Mean Bankfull Width 4 (m) Mean Water Depth 60 (cm)
0 % Riffle 0 % Pool 50 % Run 50 % Flat

Evidence of eroding banks, Comments on bank stability

- veg banks, no erosion

Substrate - Upstream (% cover)

Bedrock 80 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

Substrate - Downstream (% cover)

Bedrock 80 Silt _____ Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks _____ Deep Pool Vascular Plants
Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream 40% dogwood + ash

Downstream 20% dogwood

Adjacent Land Use

Upstream _____
Downstream hay field

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream permanent

Note any fish observations

see fish collection sheet electrofished - 1 fathead set minnow traps overnight

Other Habitat Notes, Incidental Wildlife Observations, etc.

- wide, deep watercourse, slightly sinuous d/s
- large pool @ culvert
- sv up s. near culvert



19

Project Number 160960595 Station Number 19
 Project Name Amherst Island Pass No. (if applicable) 1
 Project manager _____ Date (yyyymmdd): May 18 2011
 Descriptive Location large w/c on stella 40' Road
 UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat _____ Unit Model/Make _____
 Sampling Method (circle one): even habitat transect _____ spot _____
 Effort (Electrofishing Seconds): 236 Number of Netters: 1 Number of Anodes: 1

Settings
 Frequency (Hz) 75 Voltage (volts) 350-550 Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) 70m
 Station Characteristics: Width (m): Range 2-3.5 Average: 2.5
 Depth (m): Range 50-1.5 Average: 70cm

Water Clarity/Colour: clear / tea stain Water Velocity if Measured (m/s): _____
 Temperature (°C) 16.14 Conductivity (uS/cm) 83
 pH _____ Dissolved Oxygen (mg/L) 9.06

Catch Data

Species	Number of Fish	Species	Number of Fish
Fathead	1		
<u>Minnow Trap May 19</u>			
Fathead	<u>☒ ☒ ☒ = 30</u>		
NRB Ace	<u>∴ = 4</u>		
Stickleback	<u>☒ ☒ ☒ ☒ = 38</u>		
Bluesill	<u>∴ = 2</u>		
Mudminnow	<u>• = 1</u>		

Fish Measurements on Separate Sheet? Y
 Field Staff: KE + RP Notes By: KE
 (Station Diagram on Back)



Stantec

WIND FARM WATERBODY RAPID ASSESSMENT FORM

Island

Miller Drain
Southern Drainage

REA
Possibly Intermittent

Station # 52
Watercourse Name Unknown trib to LK-04
Photos 8603-8615
Date March 28, 2012

Project Name Amherst Is. Wind
Project # 160960595
Field Staff MF
Time 13:30

Weather conditions in previous 24 hrs mod. precip.
GPS Coordinates (Zone) 18T E 0361201 N 4889617 Datum NAD 83
Descriptive Location in Row on north side ditch area of 2nd Conc Rd ~ 100m east of potential access rd of turbine 504

Water Quality

Dissolved Oxygen (mg/L) 9.76 pH 8.52 Conductivity (µS/cm) 575
Water Temperature (°C) 10.14 Air Temperature (°C) 85.0
Time in situ measurements taken 13:45

Watercourse Dimensions & Morphology

Mean Watercourse Width 2.0 (m) Maximum Pool Depth 20 (cm)
Mean Bankfull Width 2.75 (m) Mean Water Depth 15 (cm)
% Riffle 100 % Pool 0 % Run 20 % Flat 0

Evidence of eroding banks, Comments on bank stability minor undercut banks. Some exposed bedrock. Flows observed further d/s towards Stn 53

Substrate (% cover)

50 Bedrock 0 Cobble 0 Sand 40 Silt 0 Muck 0
Boulder 0 Gravel 10 Clay 0 Marl 0 Detritus 0

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) 20% = ash along road side and shrubs on other side
Adjacent Land Use grazing, small woodlot

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) nursery?
Migratory Obstructions (seasonal, permanent) lack of water possibly intermittent
Note any fish observations None

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. Many garter snakes observed (making ball) took photos, leopard frog

Field Notes Authored by MF

Field Notes QA/QCed by _____

(N)

FENCE

grazing field

(52)

STN 53

Wood Lot

snake mating ball






bee houses

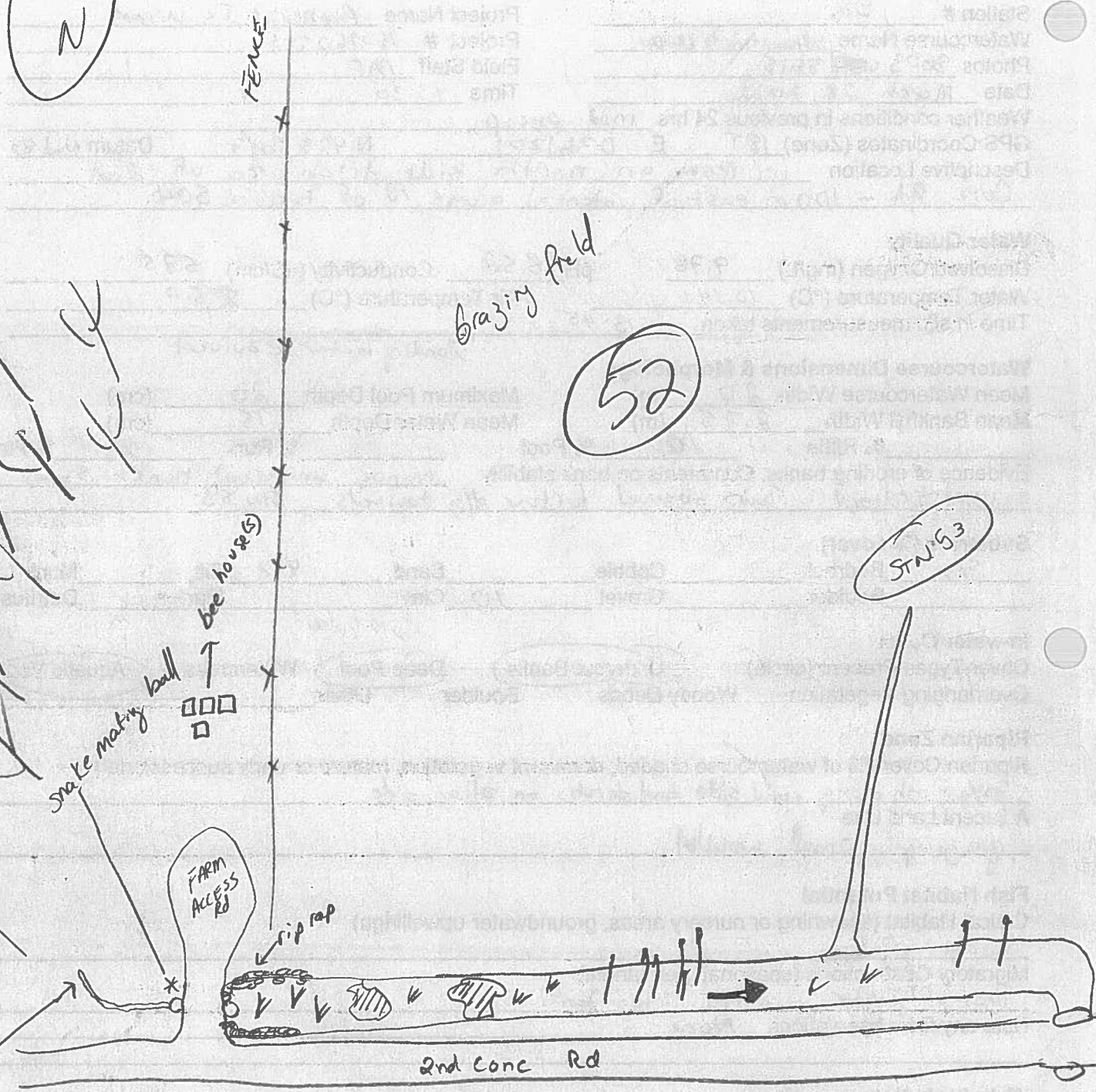
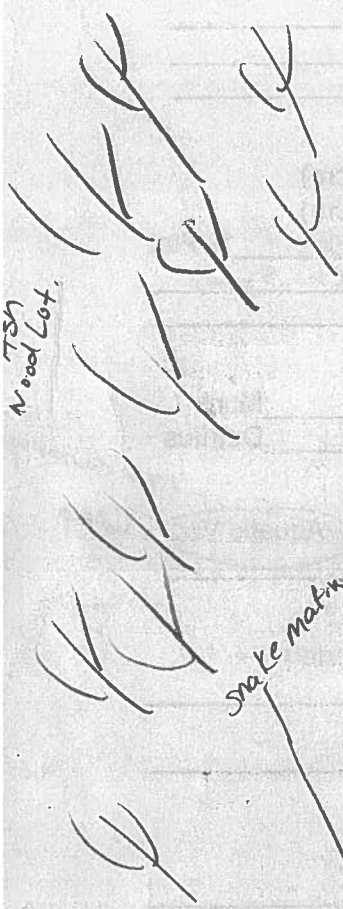
FARM ACCESS RD

rip rap

2nd conc Rd

loss of def'n.

-  = green algae patch
-  = flow
-  = reed canopy
-  = ash sp.
-  = cattail





Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern brainx

Miller Drain (36) WR

Project Amherst Island
Station # 30
Photos Taken Y
GPS Coordinates Y
Descriptive Location 2nd Cong. Rd, 3 km west of Stella 40 ft Rd.

Project # 1160960595
Field Staff KE + RP
Date May 19 2011
Time 4:30

Water Quality

Dissolved Oxygen (mg/L) 6.23 pH 7.82 Conductivity (uS/cm) 199
Water Temperature (C) 24.98 Air Temperature (C) 20
Weather conditions in previous 24 hrs rain + cool

Watercourse Dimensions & Morphology

Mean Watercourse Width 4 (m) Maximum Pool Depth 60 (cm)
Mean Bankfull Width 7 (m) Mean Water Depth 15 (cm)
% Riffle 40 % Pool % Run 60 % Flat

Evidence of eroding banks, Comments on bank stability
vegetated incised channel

Substrate - Upstream (% cover)

Bedrock 40 Silt Boulder 60 Clay Cobble
Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

Bedrock 40 Silt Boulder 60 Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 30% riparian trees
Downstream 0%

Adjacent Land Use

Upstream Ag fields
Downstream

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream

Migratory Obstructions (seasonal, permanent)

Upstream seasonal?
Downstream

Note any fish observations

see fish collection record - minnow traps.

Other Habitat Notes, Incidental Wildlife Observations, etc.

- u/s - no access
- d/s - incised, vegetated channel w/ some water



Stantec Consulting Ltd - Electrofishing Record and Catch Results

Project Number Amherst Island Station Number 36
 Project Name 160960595 Pass No. (if applicable) n/a
 Project manager _____ Date (yyyymmdd): May 20 2011
 Descriptive Location Miller Drain @ 2nd Conc.

UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat Unit Model/Make _____
 Sampling Method (circle one): even habitat transect spot _____

Effort (Electrofishing Seconds): _____ Number of Netters: _____ Number of Anodes: _____

Settings
 Frequency (Hz) _____ Voltage (volts) _____ Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) _____
 Station Characteristics: Width (m): Range _____ Average: _____
 Depth (m): Range _____ Average: _____

Water Clarity/Colour: _____ Water Velocity if Measured (m/s): _____
 Temperature (°C) _____ Conductivity (uS/cm) _____
 pH _____ Dissolved Oxygen (mg/L) _____

Catch Data

Species	Number of Fish	Species	Number of Fish
<u>Minnow Trap</u>			
<u>Brook</u>	<u>XXXXXXXXXX = 46</u>		
<u>Fathead</u>	<u>XXXX = 24</u>		
<u>Punk</u>	<u>XXX = 7</u>		
<u>Mudminnow</u>	<u>X = 1</u>		
<u>NRB Goe</u>	<u>XXXXX = 41</u>		
<u>Banded Killfish</u>	<u>X = 1</u>		

Fish Measurements on Separate Sheet? Y

Field Staff: KE + RP Notes By: KE



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern brain

Miller Mun. Brain

(38) WB

Project Amherst Island
Station # 38
Photos Taken Y
GPS Coordinates _____
Descriptive Location confluence of Miller Mun Brain + unnamed trib

Project # 160260595
Field Staff KE + RP
Date May 19 2011
Time 5:05

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream none observed
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream permanent
Downstream _____
Note any fish observations none observed

Other Habitat Notes, Incidental Wildlife Observations, etc.

large, wide, paved drain flowing through Ag fields + pasture.

confirmed same as 34 + 36



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage

Miller Mun. Drain

(34) WB

Project Amherst Island
Station # 34
Photos Taken Y
GPS Coordinates _____
Descriptive Location 3rd Conc. Rd, 3 km west + 250 m north into woodlot

Project # 160960595
Field Staff KE + RP
Date May 19 2011
Time 4

Water Quality

Dissolved Oxygen (mg/L) 10.09 pH 7.88 Conductivity (µS/cm) 234
Water Temperature (°C) 22.21 Air Temperature (°C) 21°
Weather conditions in previous 24 hrs rain + cool

Watercourse Dimensions & Morphology

Mean Watercourse Width 10 (m) Maximum Pool Depth 50 (cm)
Mean Bankfull Width 15 (m) Mean Water Depth 50 (cm)
 % Riffle % Pool % Run 100 % Flat

Evidence of eroding banks, Comments on bank stability
some erosion, but relatively stable + veg.

Substrate - Upstream (% cover)

Bedrock _____ Silt _____ Boulder 100 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

Substrate - Downstream (% cover)

Bedrock _____ Silt _____ Boulder 100 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

In-water Cover

Cover Types Present (circle):
Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Vascular Plants
Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 10%
Downstream 40%

Adjacent Land Use

Upstream woodlot + Ag fields
Downstream woodlot + Ag fields

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream Carp spawning?
Downstream

Migratory Obstructions (seasonal, permanent)

Upstream Permanent
Downstream

Note any fish observations

carp
- fished @ station 36

Other Habitat Notes, Incidental Wildlife Observations, etc.

- large wide, slow flowing drain w/ lots of aquatic veg.



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern draina
(B5) WF

Stantec

Project Amherst Island
Station # 35
Photos Taken
GPS Coordinates _____
Descriptive Location 3rd Conc. Rd, 3.5 km west of Stella 40 ft Rd, @ Miller Mun. drain

Project # 160960595
Field Staff KE + KP
Date May 19 2011
Time 4:15

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream _____
Migratory Obstructions (seasonal, permanent)
Upstream _____
Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-just photos to confirm similar habitat d/s of 34
-no access.



Stantec

WIND FARM WATERBODY RAPID ASSESSMENT FORM

Southern Drainage

REA
DRY

Island

Station # 53
Watercourse Name Unknown
Photos 8616-8618
Date March 28, 2012

Project Name Amherst Is. Wind
Project # 110966595
Field Staff MF
Time 13:50

Weather conditions in previous 24 hrs mod precip.
GPS Coordinates (Zone) 18T E 0361529 N 4889783 Datum NAD 83
Descriptive Location on 2nd Conc Rd in south Row of Road ~ 500 m east of proposed access rd to 504

Water Quality

Dissolved Oxygen (mg/L) / pH / Conductivity (µS/cm) DRY
Water Temperature (°C) / Air Temperature (°C) /
Time *in situ* measurements taken /

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.0 (m) Maximum Pool Depth 0 (cm)
Mean Bankfull Width 1.5 (m) Mean Water Depth 0 (cm)
/ % Riffle / % Pool / % Run / % Flat
Evidence of eroding banks, Comments on bank stability Steep banks, minor slumping

Substrate (% cover)

Bedrock / Cobble / Sand 50 Silt 30 Muck /
Boulder / Gravel 20 Clay / Marl / Detritus /

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
Overhanging Vegetation / Woody Debris / Boulder Other /

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

meadow sp
Adjacent Land Use grazing fields

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

possible spawning in connection to Stn 51

Migratory Obstructions (seasonal, permanent)

lack of water

Note any fish observations None

Waterbody Notes

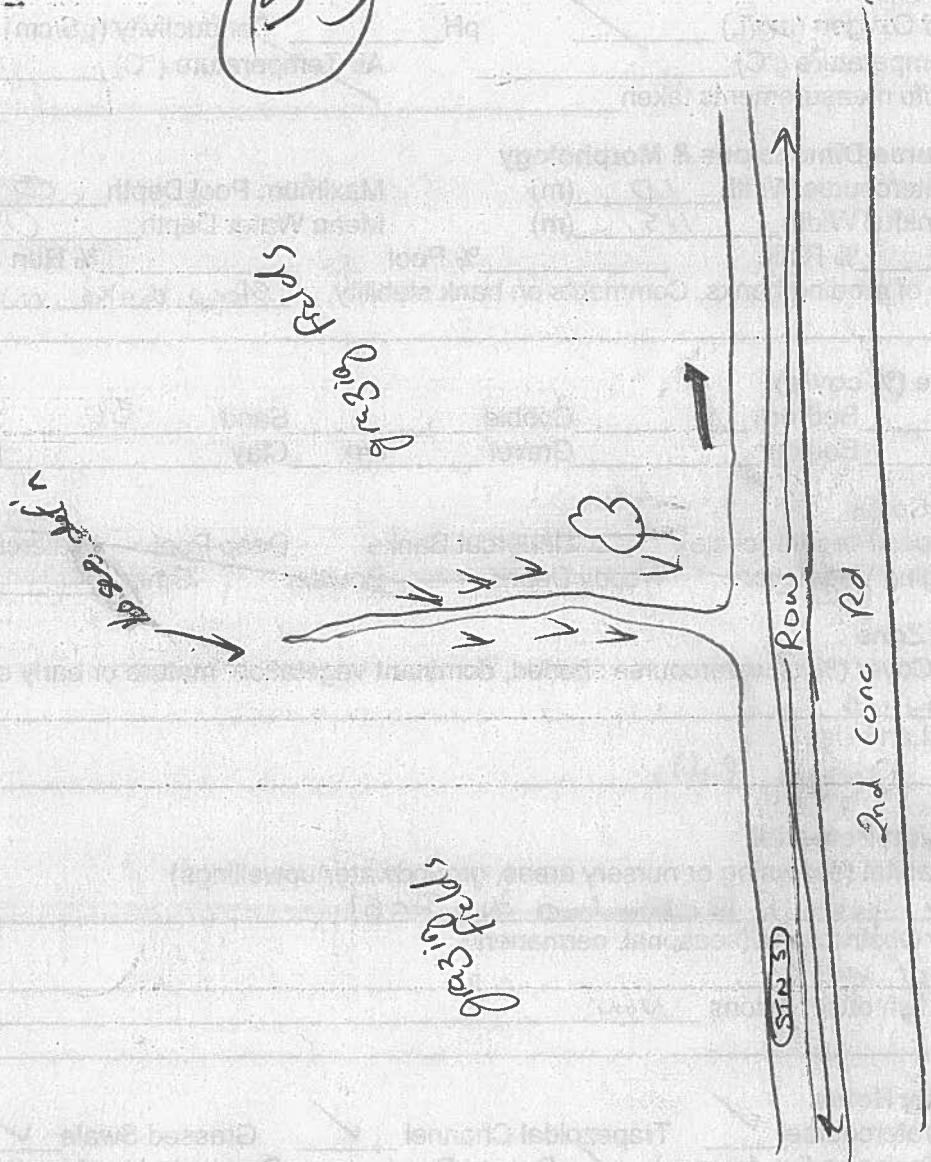
Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile /
Surficial Drainage (i.e. furrows) Dugout Pond / Dominated by Aquatic Veg / Dry /

Other Habitat Notes, Incidental Wildlife Observations, etc. Nets

Field Notes Authored by MF

Field Notes QA/QCed by /

(53)



Project Name: _____
Project #: _____
Field Site: _____
Date: _____
Time: _____
Watershed location in previous years: _____
GPS Coordinates (cont): _____
Stream location in 2011: _____
Site location in 2011: _____

Water Quality: _____
Drift: _____
Water Temperature: _____
Time in situ: _____
Watershed: _____
Mean Bank: _____
Evidences of: _____
Substrate: _____
Flow: _____
Cover: _____
Channel: _____
Fish: _____
Insects: _____
Mammals: _____
Birds: _____
Other: _____

Other Field Notes: _____
Horizontal Wildlife Observations: _____
Vertical Wildlife Observations: _____
Other Observations: _____



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Southern Drainage

20

XWF

Stantec

Project Amherst Island

Project # 110960595

Station # 20

Field Staff KE + RP

Photos Taken Y

Date May 18, 2011

GPS Coordinates _____

Time 5:45

Descriptive Location _____

Stella 40 ft Rd

Water Quality

Dissolved Oxygen (mg/L) _____

pH _____ Conductivity (µS/cm) _____

Water Temperature (°C) _____

Air Temperature (°C) _____

Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m)

Maximum Pool Depth _____ (cm)

Mean Bankfull Width _____ (m)

Mean Water Depth _____ (cm)

_____ % Riffle _____ % Pool

_____ % Run _____ % Flat

Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock

_____ Silt

_____ Boulder

_____ Clay

_____ Cobble

_____ Muck

_____ Gravel

_____ Marl

_____ Sand

_____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock

_____ Silt

_____ Boulder

_____ Clay

_____ Cobble

_____ Muck

_____ Gravel

_____ Marl

_____ Sand

_____ Detritus

In-water Cover

Cover Types Present (circle):

Overhanging Vegetation

Undercut Banks

Woody Debris

Deep Pool

Boulder

Vascular Plants

Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____

Downstream _____

Adjacent Land Use

Upstream _____

Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream _____

Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____

Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-grassed ditch paralleling 2nd conc



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern draina

(87) WB

Stantec

Project Amherst Island
Station # 37
Photos Taken ✓
GPS Coordinates _____
Descriptive Location south of 2nd Conc. Rd in pasture

Project # 160960595
Field Staff KE + RP
Date May 19 2011
Time 4:45

Water Quality

Dissolved Oxygen (mg/L) 7.08 pH 7.86 Conductivity (µS/cm) 298
Water Temperature (°C) 23.88 Air Temperature (°C) 23°
Weather conditions in previous 24 hrs rain + cool

Watercourse Dimensions & Morphology

Mean Watercourse Width 2 (m) Maximum Pool Depth 30 (cm)
Mean Bankfull Width 4 (m) Mean Water Depth 20 (cm)
% Riffle _____ % Pool _____ % Run 100 % Flat

Evidence of eroding banks, Comments on bank stability veg banks

Substrate - Upstream (% cover)

Bedrock 20 Silt _____ Boulder 80 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

Substrate - Downstream (% cover)

Bedrock 20 Silt _____ Boulder 80 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand _____ Detritus _____

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks _____ Deep Pool _____ Vascular Plants _____
Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream 0%

Adjacent Land Use

Upstream pasture
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream seasonal
Downstream _____

Note any fish observations none observed
listed @ 36

Other Habitat Notes, Incidental Wildlife Observations, etc.

-slightly incised channel flowing through pasture.



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Southern Drainage 60

WB

Stantec

Station # 100
 Watercourse Name _____
 Photos 43-45
 Date AUG 15 2012
 Weather conditions in previous 24 hrs _____
 GPS Coordinates (Zone) 18T E 362910 N 4890508 Datum _____
 Descriptive Location _____

Project Name Amherst Island
 Project # 1009100595
 Field Staff Kat. St. J.
 Time 11:45

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat
 Evidence of eroding banks, Comments on bank stability _____

Substrate (% cover)

Bedrock _____ Cobble _____ Sand _____ Silt _____ Muck _____
 Boulder _____ Gravel _____ Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Adjacent Land Use

pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Migratory Obstructions (seasonal, permanent)

Note any fish observations

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
 Surficial Drainage (i.e. furrows) _____ Dugout Pond _____ Dominated by Aquatic Veg _____ Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. _____

Field Notes Authored by _____

Field Notes QA/QCed by _____



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

southern drainage
B9 XWT

Stantec

Project Amherst Island
Station # 39
Photos Taken 4
GPS Coordinates _____
Descriptive Location short trib draining into Millers
Mun. drain in pasture

Project # 160960595
Field Staff KE + RP
Date May 19 2011
Time 5:45

Water Quality

~~Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____~~

Watercourse Dimensions & Morphology

Mean Watercourse Width 10.5-4 (m) pool Maximum Pool Depth 30 (cm)
Mean Bankfull Width 1-7 (m) pool Mean Water Depth 15 (cm)
0 % Riffle 30 % Pool 0 % Run 70 % Flat

Evidence of eroding banks, Comments on bank stability
vegetated + stable

Substrate - Upstream (% cover)

Bedrock _____ Silt 80 Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

Substrate - Downstream (% cover)

Bedrock _____ Silt 80 Boulder _____ Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 20 Detritus _____

In-water Cover

Cover Types Present (circle):
Overhanging Vegetation Undercut Banks _____ Deep Pool _____ Vascular Plants
Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream _____
Downstream none observed

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream seasonal

Note any fish observations none observed

Other Habitat Notes, Incidental Wildlife Observations, etc.

- u/s - shallow surficial drainage through pasture
- confluence of Millers drain - temporarily ponded area
w/ evidence of equipment driving through

Western Drainage



Stantec

Western Drainage

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

NOT A
REA
WC

Project: Amherst Island Wind Project # 160960594
Station # 41 Field Staff KC, MF
Photos Taken 491, 492, 493 Date 07/07/2011
GPS Coordinates 0360555 4887485 Time 6:11 PM
Descriptive Location ~ 2km south of 2nd Conc.

Water Quality

Dissolved Oxygen (mg/L) _____ pH _____ Conductivity (µS/cm) _____
Water Temperature (°C) _____ Air Temperature (°C) _____
Weather conditions in previous 24 hrs _____

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
_____ % Riffle _____ % Pool _____ % Run _____ % Flat
Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
_____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): _____ Undercut Banks _____ Deep Pool _____ Vascular Plants
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream _____
Downstream _____

Adjacent Land Use

Upstream _____ Grassy swale. Ill-defined
Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) NOT REA WC
Upstream _____
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc. _____



Stantec

WIND FARM WATERBODY RAPID ASSESSMENT FORM

Western Drainage REA

Island

WATERBODY

Fish obser.

Possibly
interm.

Station # 51

Project Name Amherst Is. Wind

Watercourse Name Unknown tributary to LK on

Project # 160960595

Photos 8590-8602

Field Staff MF

Date March 28, 2012

Time 12:30

Weather conditions in previous 24 hrs mod. amounts of precip

GPS Coordinates (Zone) 18T E 0360299 N 4888573 Datum Nad 83

Descriptive Location ~200m south of 2nd Con Rd + ~1000m east of Emerald 40 Rd.

minor flow

Water Quality

Dissolved Oxygen (mg/L) 10.40 pH 8.85 Conductivity (µS/cm) 138

Water Temperature (°C) 12.77 Air Temperature (°C) 7

Time *in situ* measurements taken 13:01

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.6 (m) Maximum Pool Depth 20 (cm)

Mean Bankfull Width 2.2 (m) Mean Water Depth 15 (cm)

% Riffle 50 % Pool 50 % Run 50 % Flat

Evidence of eroding banks, Comments on bank stability minor undercut @ v/s location near rd. Majority of channel is well vegetated

Substrate (% cover)

Bedrock	Cobble	Sand	Silt	Muck
Boulder	Gravel	Clay	Marl	Detritus
	<u>20</u>	<u>25</u>	<u>5</u>	
	<u>20</u>	<u>30</u>		

- reed canopy grass

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg

Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

20% - mainly @ v/s section. Not much d/s. Mature hedgerow

Adjacent Land Use

grazing fields

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

foraging spawning, nursery near v/s area mainly

Migratory Obstructions (seasonal, permanent)

lack of flows ∴ lack of connection to d/s sections

Note any fish observations 3 individuals. Species unknown

reed canopy grass

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile

Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. heard leopard frog, spring peeper, raptors (x2)

Field Notes Authored by MF

Field Notes QA/QCed by



51

- Notes:
- may dry up.
 - minor def'n further d/s.
 - almost nonexistent def'n when @ confluence of Str 26.
 - minor flows throughout channel.

Woodlot

2nd Con Rd

grazing

fish obs'd (1)



grazing

fish obs'd (2)

fish obs'd (3)

grazing



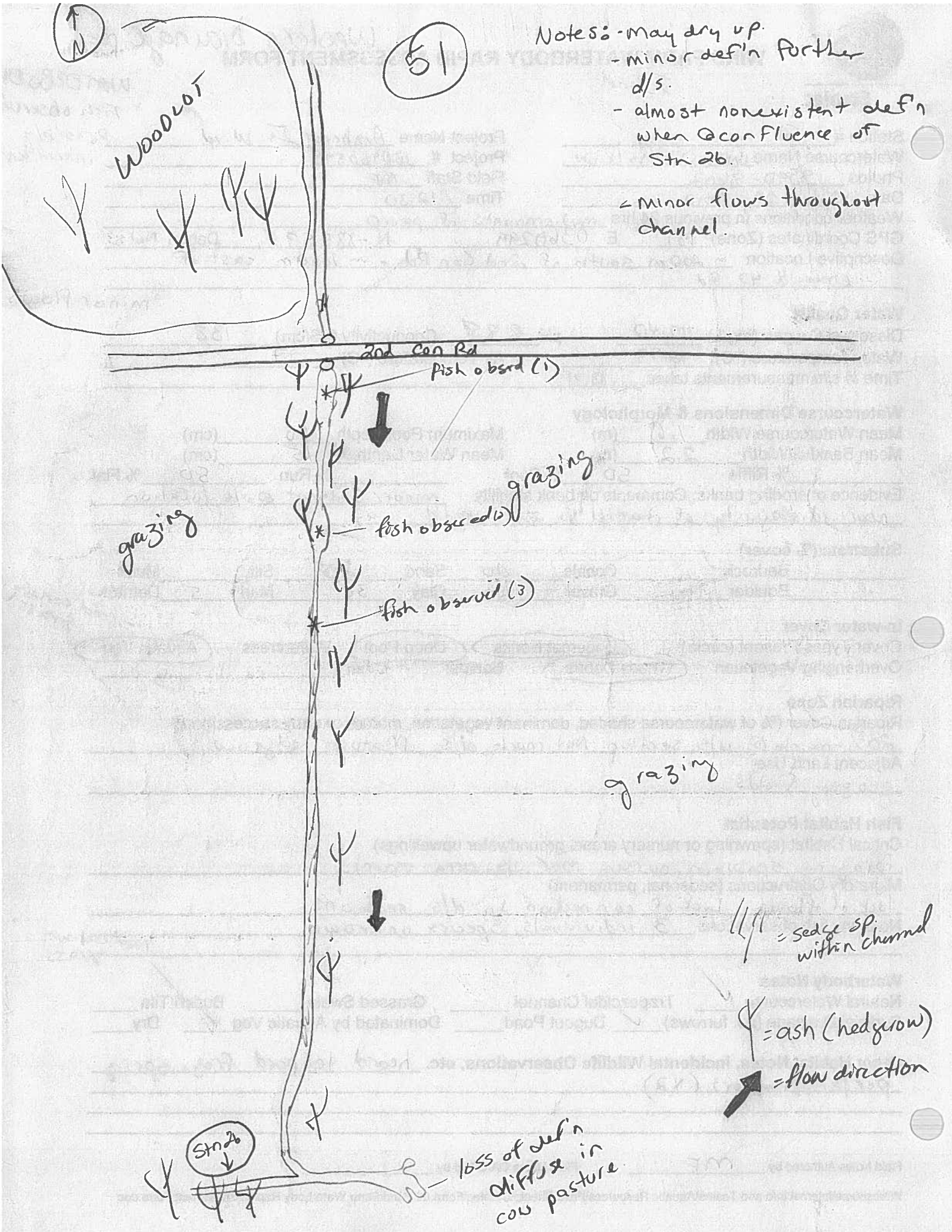
||| = sedge sp. within channel

Y = ash (hedgerow)

↑ = flow direction

Str 26

loss of def'n diffuse in cow pasture





Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Western Drainage

NON-REF WC

Project: Amherst Island
Station #: 40
Photos Taken: 489, 490
GPS Coordinates: 0359795 4888107
Descriptive Location: ~600m south of 2nd Conc.

Project #: 160760549
Field Staff: KL, MF
Date: 07/07/2011
Time: 4:56

Water Quality

Dissolved Oxygen (mg/L)
Water Temperature (°C)
Weather conditions in previous 24 hrs
pH
Conductivity (µS/cm)
Air Temperature (°C) 29°C
DRY

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Mean Bankfull Width (m)
% Riffle % Pool % Run % Flat
Maximum Pool Depth (cm)
Mean Water Depth (cm)
Evidence of eroding banks, Comments on bank stability

Substrate - Upstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream
Downstream
Adjacent Land Use
Upstream
Downstream

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream
Downstream
Migratory Obstructions (seasonal, permanent)
Upstream
Downstream
Note any fish observations

Grassy swale / pasture

Other Habitat Notes, Incidental Wildlife Observations, etc.



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

western Drainage

(26) XWE

Stantec

Project Amherst Island Project # 160960595
 Station # 26 Field Staff KE + RP
 Photos Taken Y Date May 19 2011
 GPS Coordinates _____ Time 11:25
 Descriptive Location Emerald 40 ft Rd, 75 m * 500 m
south of 2nd conc

Water Quality

Dissolved Oxygen (mg/L) 7.78 pH 7.77 Conductivity (µS/cm) 198
 Water Temperature (°C) 17.77 Air Temperature (°C) 17°
 Weather conditions in previous 24 hrs rain + cool

Watercourse Dimensions & Morphology

Mean Watercourse Width _____ (m) Maximum Pool Depth _____ (cm)
 Mean Bankfull Width _____ (m) Mean Water Depth _____ (cm)
 _____ % Riffle _____ % Pool _____ % Run _____ % Flat

Evidence of eroding banks, Comments on bank stability _____

Substrate - Upstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
 _____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

Substrate - Downstream (% cover)

_____ Bedrock _____ Silt _____ Boulder _____ Clay _____ Cobble
 _____ Muck _____ Gravel _____ Marl _____ Sand _____ Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
 Upstream _____
 Downstream _____

Adjacent Land Use

Upstream _____
 Downstream _____

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
 Upstream _____
 Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
 Downstream _____

Note any fish observations _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

- flooded area near road, no defined channel
 through fields
 - not a WS



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Western Drainage (6) WF

Stantec

Project Amherst Island
Station # 6
Photos Taken y
GPS Coordinates
Descriptive Location Art McGinnis Rd, south 2nd conc in Bull field

Project # 1009160595
Field Staff KE & RP
Date May 17
Time 4:18

Water Quality

Dissolved Oxygen (mg/L) 10.42 pH 7.94 Conductivity (uS/cm) 191
Water Temperature (C) 14.7 Air Temperature (C)
Weather conditions in previous 24 hrs cold & rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.5 (m) Maximum Pool Depth 60 (cm)
Mean Bankfull Width 5 (m) Mean Water Depth 30 (cm)
% Riffle % Pool % Run 100% Flat

Evidence of eroding banks, Comments on bank stability

stable + vegetated

Substrate - Upstream (% cover)

Bedrock 70 Silt Boulder Clay Cobble
Muck Gravel Marl Sand 30 Detritus

Substrate - Downstream (% cover) wetland

Bedrock Silt Boulder Clay Cobble
Muck Gravel Marl Sand Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 30% shaded east of road
Downstream 0%

Adjacent Land Use

Upstream pasture
Downstream wetland

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream

Migratory Obstructions (seasonal, permanent)

Upstream no fish captured, possible barrier d/s of road?
Downstream

Note any fish observations no capture

Other Habitat Notes, Incidental Wildlife Observations, etc.

- parrow channel meanders through pasture ups of Art McGinnis
-d/s flows into wetland



Stantec Consulting Ltd - Electrofishing Record and Catch Results

Project Number Amherst Islands Station Number 16
 Project Name 160960595 Pass No. (if applicable) 1
 Project manager _____ Date (yyyymmdd): May 17 2011
 Descriptive Location Art McGowan Rd

UTM coordinates _____ easting _____ northing _____ zone _____

Fishing Method (circle one): Backpack Boat _____ Unit Model/Make _____
 Sampling Method (circle one): even Habitat transect _____ spot _____

Effort (Electrofishing Seconds): 132 Number of Netters: 1 Number of Anodes: 1

Settings
 Frequency (Hz) 75 Voltage (volts) 400 Current (Amps) _____ Power (Watts) _____

Station Information
 Length of Stream Surveyed (m) 40
 Station Characteristics: Width (m): Range 1-3 Average: 1.5
 Depth (m): Range 20-60 Average: 40

Water Clarity/Colour: clear colourless Water Velocity if Measured (m/s): _____
 Temperature (°C) 19.7 Conductivity (uS/cm) 191
 pH 7.94 Dissolved Oxygen (mg/L) 10.42

Catch Data

Species	Number of Fish	Species	Number of Fish
<u>no catch</u>			

Fish Measurements on Separate Sheet? Y/N
 Field Staff: KE + RP Notes By: _____

(Station Diagram on Back)



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

western Drainage
25 WB
XWF

Stantec

Project Amherst Island Project # 1409100595
Station # 25 Field Staff KE + FRP
Photos Taken y Date May 19 2011
GPS Coordinates _____ Time 11 am
Descriptive Location 2nd conc Rd, 400m west of Emerald
40 ft Rd

Water Quality

Dissolved Oxygen (mg/L) 9.85 pH 8.0 Conductivity (µS/cm) 255
Water Temperature (°C) 17.78 Air Temperature (°C) 17°
Weather conditions in previous 24 hrs rain + cool

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.5 (m) Maximum Pool Depth 40 (cm)
Mean Bankfull Width 5 (m) Mean Water Depth 10 (cm)
0 % Riffle 20 % Pool 80 % Run 0 % Flat

Evidence of eroding banks, Comments on bank stability

veg, slightly trampled due to cows.

Substrate - Upstream (% cover)

Bedrock 10 Silt 10 Boulder 50 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 10 Detritus _____

Substrate - Downstream (% cover)

Bedrock 10 Silt 10 Boulder 50 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 10 Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream 30% shrubs + trees
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream pasture

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream seasonal

Note any fish observations none observed, too little water to fish

Other Habitat Notes, Incidental Wildlife Observations, etc.

-u/s - no access - @ road appears to be xwb, no defined channel, grassy low lying area
-d/s - 50m is a wb, defined channel + pool @ culvert

-beyond 50m xwb - cow pasture, no defined channel



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Western Drainage 54 NWB

Stantec

Station # 54
Watercourse Name
Photos 46-49
Date Aug 15 2012
Weather conditions in previous 24 hrs
GPS Coordinates (Zone) 18T E 358520 N 4088006 Datum
Descriptive Location

Project Name Amherst Island
Project # 160960595
Field Staff Kat. St. L.
Time 12:15 pm

Water Quality

Dissolved Oxygen (mg/L)
Water Temperature (°C)
Time in situ measurements taken
pH dry
Conductivity (µS/cm)
Air Temperature (°C)

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Mean Bankfull Width (m)
Maximum Pool Depth (cm)
Mean Water Depth (cm)
% Riffle % Pool % Run % Flat
Evidence of eroding banks, Comments on bank stability

Substrate (% cover)

Bedrock Cobble Sand Silt Muck
Boulder Gravel Clay Marl Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Deep Pool Watercress Aquatic Veg
Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Adjacent Land Use

Fallow / Forest

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Migratory Obstructions (seasonal, permanent)

Note any fish observations

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

Other Habitat Notes, Incidental Wildlife Observations, etc.

low lying area through forest, not a wetland

Field Notes Authored by

Field Notes QA/QCed by



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Western Drainage

(27) W

Project Amherst Island
Station # 27
Photos Taken 7
GPS Coordinates _____
Descriptive Location Emerald 40 ft Rd, 750 m south of 2nd conc, 300 m east into field.

Project # 160960595
Field Staff CE + RP
Date May 19 2011
Time 12:30

Water Quality

Dissolved Oxygen (mg/L) 8.5 pH 7.74 Conductivity (µS/cm) 128
Water Temperature (°C) 19.28 Air Temperature (°C) 20
Weather conditions in previous 24 hrs cool + rain

Watercourse Dimensions & Morphology

Mean Watercourse Width 3 (m) Maximum Pool Depth 50 (cm)
Mean Bankfull Width 7 (m) Mean Water Depth 30 (cm)
0 % Riffle 0 % Pool 100 % Run 100 % Flat

Evidence of eroding banks, Comments on bank stability

some erosion @ 90° bend

Substrate - Upstream (% cover)

Bedrock 0 Silt 60 Boulder 30 Clay _____ Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 10 Detritus _____

Substrate - Downstream (% cover)

Bedrock _____ Silt 60 Boulder _____ Clay 30 Cobble _____
Muck _____ Gravel _____ Marl _____ Sand 10 Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Vascular Plants
Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

Upstream _____
Downstream 0%

Adjacent Land Use

Upstream _____
Downstream pasture / hay field

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

Upstream none observed
Downstream _____

Migratory Obstructions (seasonal, permanent)

Upstream _____
Downstream seasonal

Note any fish observations

none observed, fished a reach d/s.

Other Habitat Notes, Incidental Wildlife Observations, etc.

- shallow channel flowing through ag field
- lots of RCF.
- flows south into large wetland/swamp



Stantec

WIND FARM WATERBODY RAPID ASSESSMENT FORM

Island

Western Drainage Not A REA. DRY

Station # 50
Watercourse Name unknown trip to UK ON
Photos 8584-8589
Date March 28, 2012

Project Name Amherst Is Wind
Project # 160960595
Field Staff MF
Time 11:48

Weather conditions in previous 24 hrs Mod. amounts of precip
GPS Coordinates (Zone) 18T E 0358537 N 4886864 Datum Nad83
Descriptive Location On Art McGinnis Rd ~ 1000m south of 2nd con rd

Water Quality

Dissolved Oxygen (mg/L)
Water Temperature (°C)
Time in situ measurements taken
pH
Conductivity (µS/cm)
Air Temperature (°C)
NOT TAKEN. STANDING WATER @ CULVERT ONLY

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Maximum Pool Depth (cm)
Mean Bankfull Width (m)
Mean Water Depth (cm)
% Riffle % Pool % Run % Flat
Evidence of eroding banks, Comments on bank stability NO channel def'n u/s or d/s

Substrate (% cover)

Bedrock Cobble Sand Silt Muck
Boulder Gravel Clay Marl Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)

2% (cattails)

Adjacent Land Use

grazing fields

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)

NONE

Migratory Obstructions (seasonal, permanent)

DRY

Note any fish observations

NONE

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry
NO DEF'N

Other Habitat Notes, Incidental Wildlife Observations, etc.

Field Notes Authored by MF

Field Notes QA/QCed by

(↑
S)

(50)

Grassy field

Grassy field

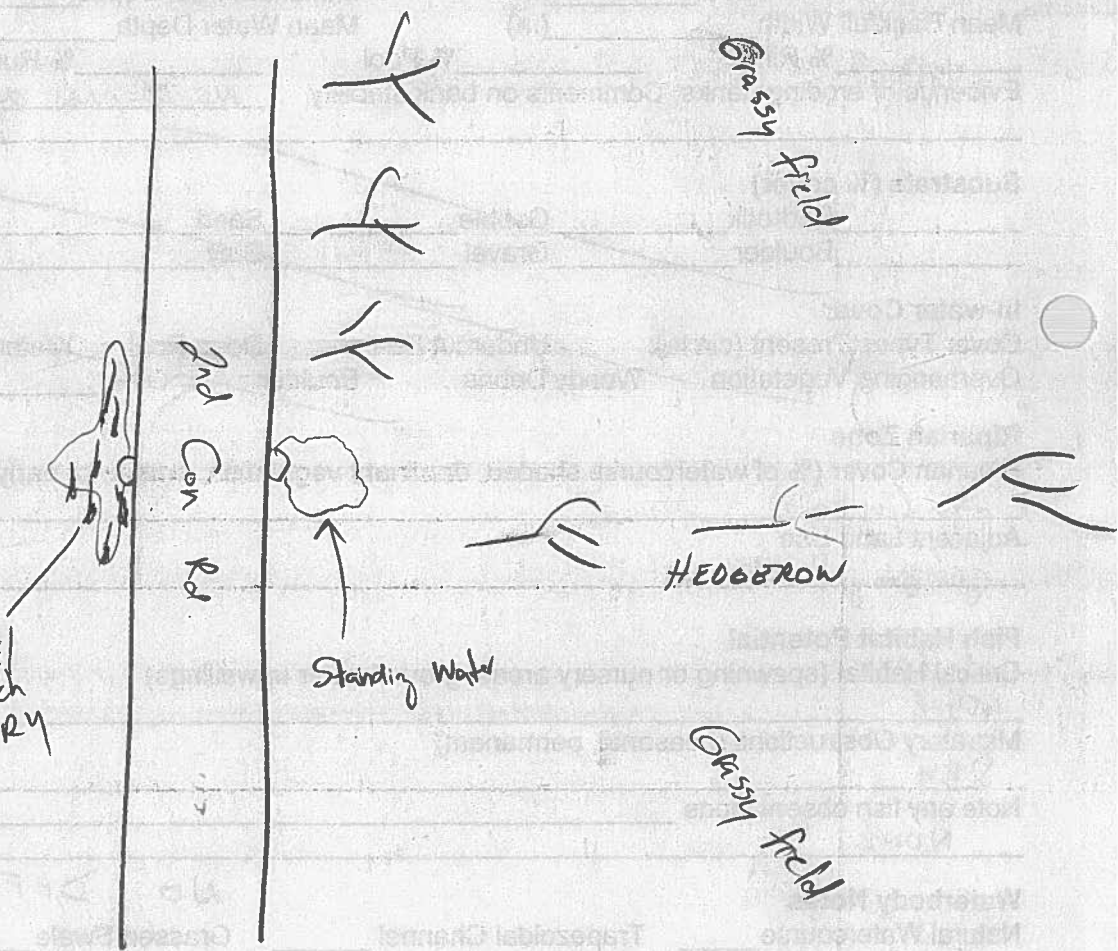
Cattail patch
DRY

2nd Con Rd

Standing Water

HEDGEROW

Grassy field



Mainland



RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Mainland

REA Waterbody

Stantec

Project: Amherst Island
 Station # BM1
 Photos Taken 419-425
 GPS Coordinates 18T 0362197 4895780
 Descriptive Location On bath Rd ~ 1km west Jim Snow Drive.

Project # 160960595
 Field Staff KC, MP
 Date 07/06/2011
 Time 12:33

Water Quality

Dissolved Oxygen (mg/L) pH Conductivity (µS/cm)
 Water Temperature (°C) Air Temperature (°C) 29°C
 Weather conditions in previous 24 hrs Minor precip.

Watercourse Dimensions & Morphology

Mean Watercourse Width 2.0 (m) Maximum Pool Depth ~ 60 (cm)
 Mean Bankfull Width ~ 10 + (m) (Flood) Mean Water Depth ~ 40 (cm)
 % Riffle 100 % Pool % Run % Flat
 Evidence of eroding banks, Comments on bank stability None - Flood plain

Substrate - Upstream (% cover)

30 Bedrock 40 Silt Boulder Clay 30 Cobble
30 Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

20 Bedrock 60 Silt Boulder Clay Cobble
20 Muck Gravel Marl Sand 10 Detritus

In-water Cover

Cover Types Present (circle): Overmanging Vegetation Undercut Banks Deep Pool Vascular Plants
Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
 Upstream 40% algae blooms, sub-emergent aquatic veg, cattail
 Downstream 40% grasses, teasels, milkweed, vine weed, willow sp, hick

Adjacent Land Use

Upstream Flood plain
 Downstream Lake Ontario

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
 Upstream Spawning, nursery, foraging
 Downstream Lk. Ontario
 Migratory Obstructions (seasonal, permanent)
 Upstream None
 Downstream Lack of connectivity to Lk. ON.
 Note any fish observations Fish sp. observed

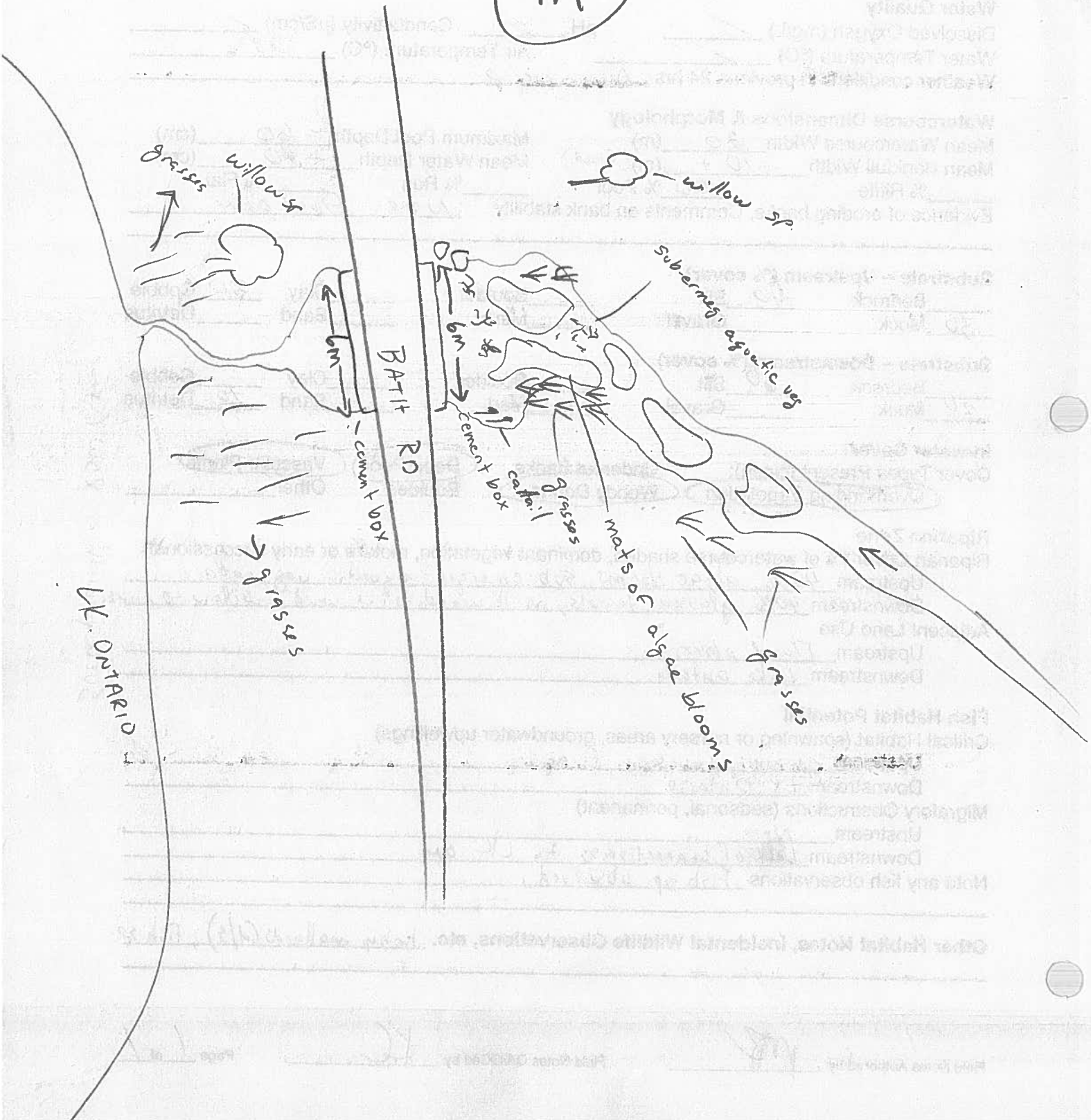
Other Habitat Notes, Incidental Wildlife Observations, etc. baby mallards (d/s), fish sp.

Survey within Row Creek

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

1M

→



LK. ONTARIO

BATIT RD

grasses
willow

willow sp.

submerged aquatic veg

6m

6m

cannon door

cannon door

grasses
cement box

mats of algae blooms

grasses

grasses

Other Habitat Notes (Incidental Wildlife Observations, etc. Copy and Paste)



Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Mainland

REA WATERBODY

Project: Amherst Island
Station # 2AM 2
Photos Taken 412-418
GPS Coordinates 18T 0362962 4895822
Descriptive Location ~150 m west of

Project # 160960595
Field Staff KC, MF
Date 07/06/2011
Time 12:07
Jim Snow Dr on Bath Rd

Water Quality

Dissolved Oxygen (mg/L)
pH
Conductivity (uS/cm)
Water Temperature (C)
Air Temperature (C) 28C
Weather conditions in previous 24 hrs Minor amounts of precip.

Watercourse Dimensions & Morphology

Mean Watercourse Width (m)
Maximum Pool Depth (cm)
Mean Bankfull Width 1.5 (m)
Mean Water Depth (cm)
% Riffle % Pool % Run % Flat
Evidence of eroding banks, Comments on bank stability none. well veget'd

Substrate - Upstream (% cover)

Bedrock 40 Silt
Boulder
Clay 10 Cobble
20 Muck Gravel
Marl 10 Sand 10 Detritus

Substrate - Downstream (% cover)

Bedrock Silt
Boulder
Clay Cobble
Muck Gravel
Marl Sand Detritus Lake Ontario

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Woody Debris Deep Pool Boulder Vascular Plants Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream 10%, cattail, grasses
Downstream Lake Ontario

Adjacent Land Use

Upstream Energy facility, manicured grass
Downstream Lake Ontario

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream spawning
Downstream Lake Ontario
Migratory Obstructions (seasonal, permanent)
Upstream Lack of water
Downstream

Note any fish observations None - Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. Dead snake. Too old/mangled to id or to take pictures of.

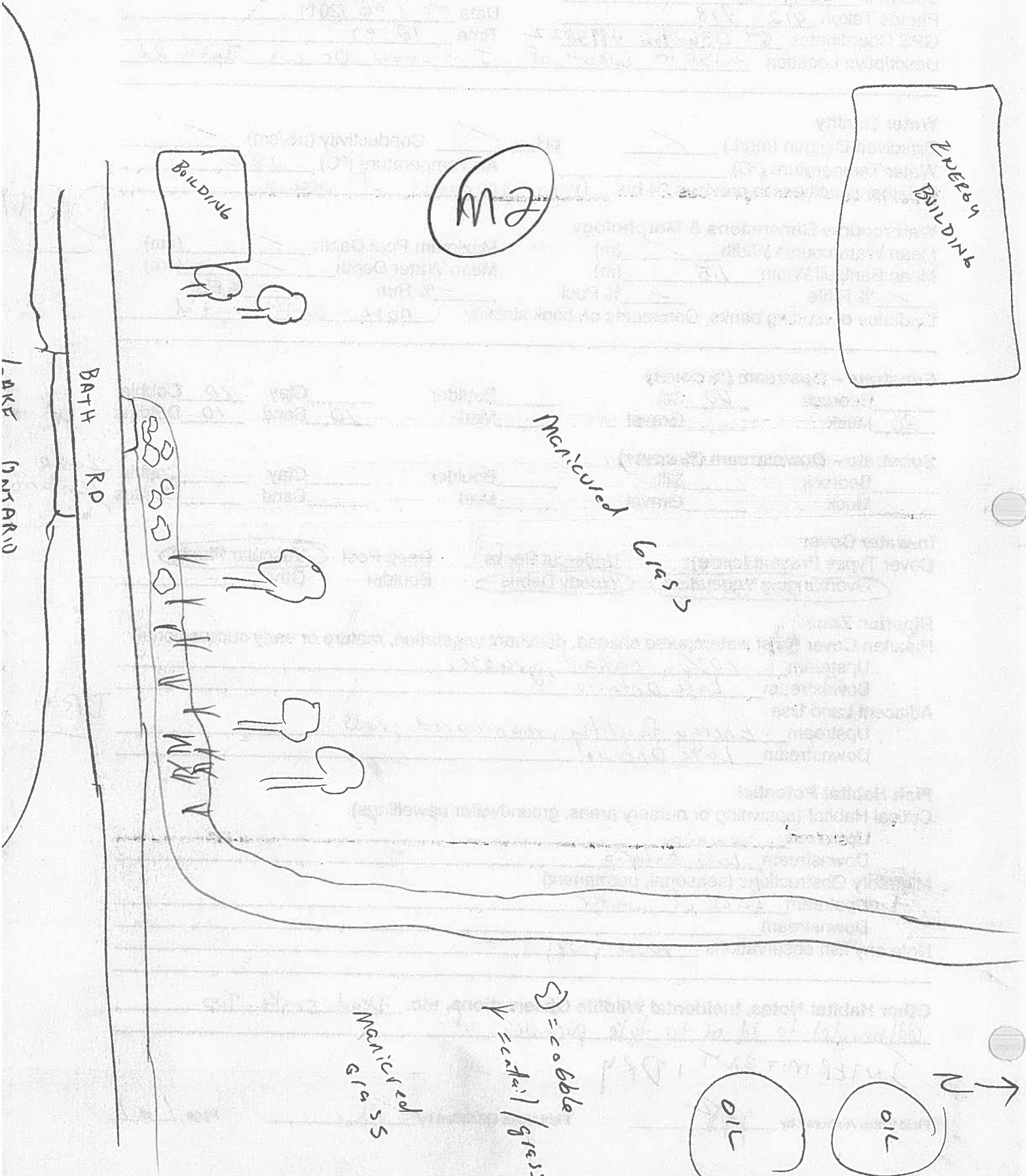
INTERMITTENT, DRY

Field Notes Authored by

Field Notes QA/QCed by

Page 1 of 1

RAPID ASSESSMENT FORM FOR A NATIVE HABITAT



BUILDING

EM

ZUEEB BUILDING

BATH RD

LAKE PARKLAND

Meticuled grass

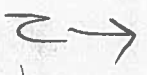
grass

Meticuled grass

○ = cobbles
↓ = cattail/grass

OIL

OIL





Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Mainland

~~WATERB...~~

Project: Amherst Island
 Station #: B3 M3
 Photos Taken: 426-431
 GPS Coordinates: 0362869 4896681
 Descriptive Location: ~ 50 south of Taylor Kidd Blvd ~ 900 m north of Bath Rd. ~ 1/5 section of R2

Project #: 160960595
 Field Staff: ICC, MF
 Date: 07/06/2011
 Time: 12:56

Water Quality

Dissolved Oxygen (mg/L) pH Conductivity (µS/cm)
 Water Temperature (°C) Air Temperature (°C) 29.00
 Weather conditions in previous 24 hrs: minor precip last night

Watercourse Dimensions & Morphology

Mean Watercourse Width (m) Maximum Pool Depth (cm)
 Mean Bankfull Width 1.0 (m) Mean Water Depth (cm)
 % Riffle % Pool % Run % Flat
 Evidence of eroding banks, Comments on bank stability: None - well veget'd

DRU

Substrate - Upstream (% cover)

 Bedrock Silt Boulder Clay Cobble
 Muck Gravel Marl Sand Detritus

100% Soil

Substrate - Downstream (% cover)

 Bedrock Silt Boulder Clay Cobble
 Muck Gravel Marl Sand Detritus

100% Soil

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Deep Pool Vascular Plants
 Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
 Upstream: terrestrial meadow sp. cattail
 Downstream: " terrestrial meadow sp.

Adjacent Land Use

Upstream: woodlot
 Downstream: Power property.

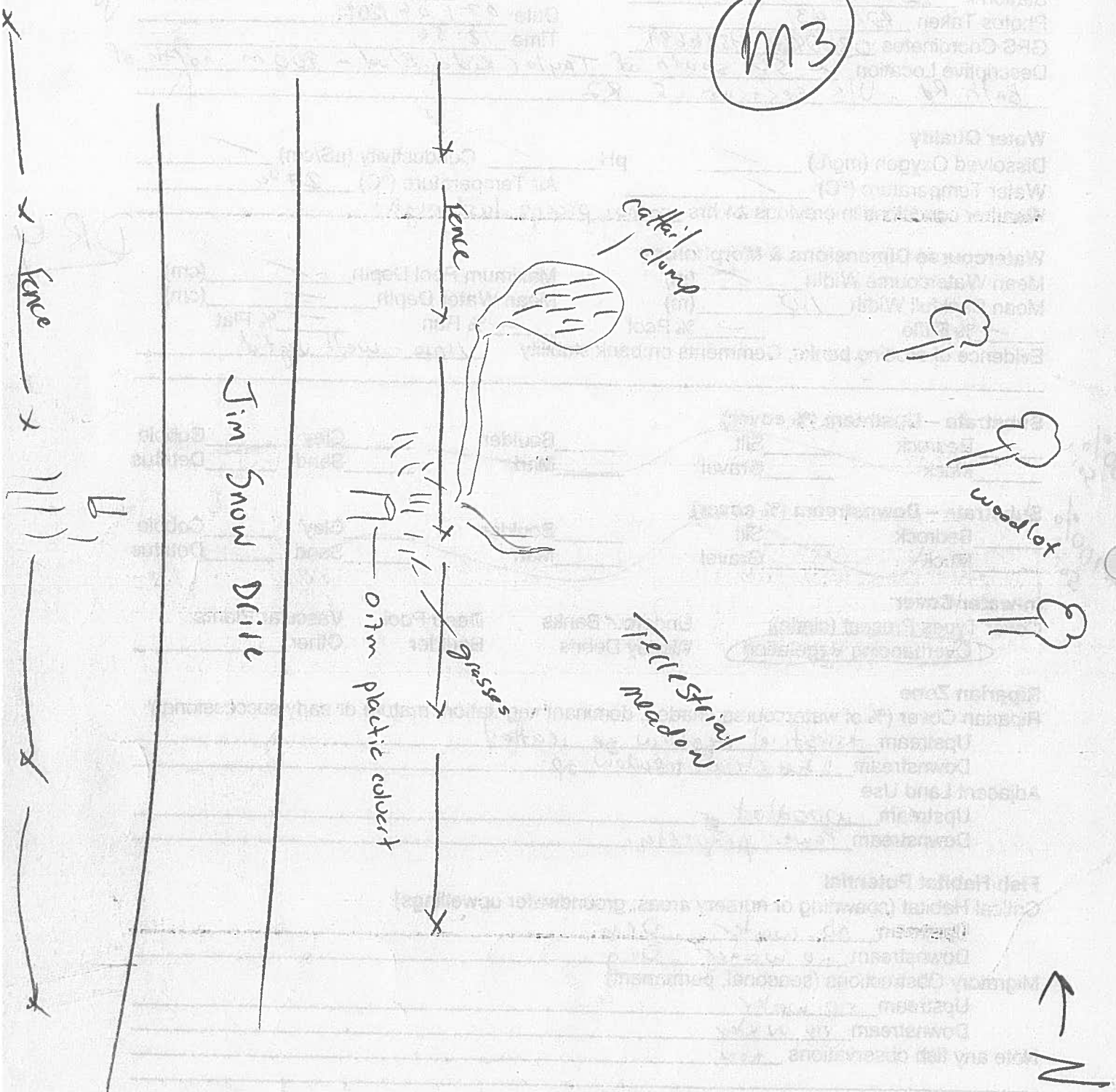
Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
 Upstream: no water, Dry
 Downstream: no water, Dry
 Migratory Obstructions (seasonal, permanent)
 Upstream: no water
 Downstream: no water

Note any fish observations: None

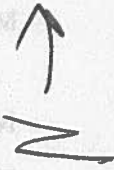
Other Habitat Notes, Incidental Wildlife Observations, etc.

M3



Jim Snow Drill

Terrestrial meadow





WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland NOT A REA INTERM

Stantec

Main land

Station # 3 M4
Watercourse Name unknown trib of LK ON
Photos 9570-9974
Date March 27, 2012

Project Name Amherst Is Wind
Project # 160960595
Field Staff MF
Time 13:19

Weather conditions in previous 24 hrs No precip.
GPS Coordinates (Zone) 18T E 0362389 N 4896905 Datum Nad 83
Descriptive Location ~ 25m south of Bombardier buildings + ~ 30m east of Bombardier driveway with rd ROW (Taylor Kidd Blvd)

Water Quality

Dissolved Oxygen (mg/L) 10.51 pH 8.77 Conductivity (µS/cm) 941
Water Temperature (°C) 8.04 Air Temperature (°C) 5
Time in situ measurements taken 16:10

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.3 (m) Maximum Pool Depth 8 (cm)
Mean Bankfull Width 0.75 (m) Mean Water Depth 5 (cm)
% Riffle _____ % Pool _____ % Run 100 % Flat _____

Evidence of eroding banks, Comments on bank stability Well veget'd with manicured grass. Heavy green algae near hose draining water from underground

Substrate (% cover)

Bedrock _____ Cobble _____ Sand 30 Silt 20 Muck _____
Boulder _____ Gravel 5 Clay 25 Mari 20 Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks _____ Deep Pool _____ Watercress _____ Aquatic Veg
Overhanging Vegetation _____ Woody Debris _____ Boulder _____ Other _____ *- green alga*

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) manicured cattail. No cover
Adjacent Land Use Bombardier buildings, Taylor Kidd Blvd.

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) NO
Migratory Obstructions (seasonal, permanent) intermittent, no connection to u/s areas.
Note any fish observations None.

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel Grassed Swale Buried Tile _____
Surficial Drainage (i.e. furrows) Dugout Pond _____ Dominated by Aquatic Veg _____ Dry _____

Other Habitat Notes, Incidental Wildlife Observations, etc.

-road side ditch on u/s side of Taylor Kidd Blvd.

Field Notes Authored by MF

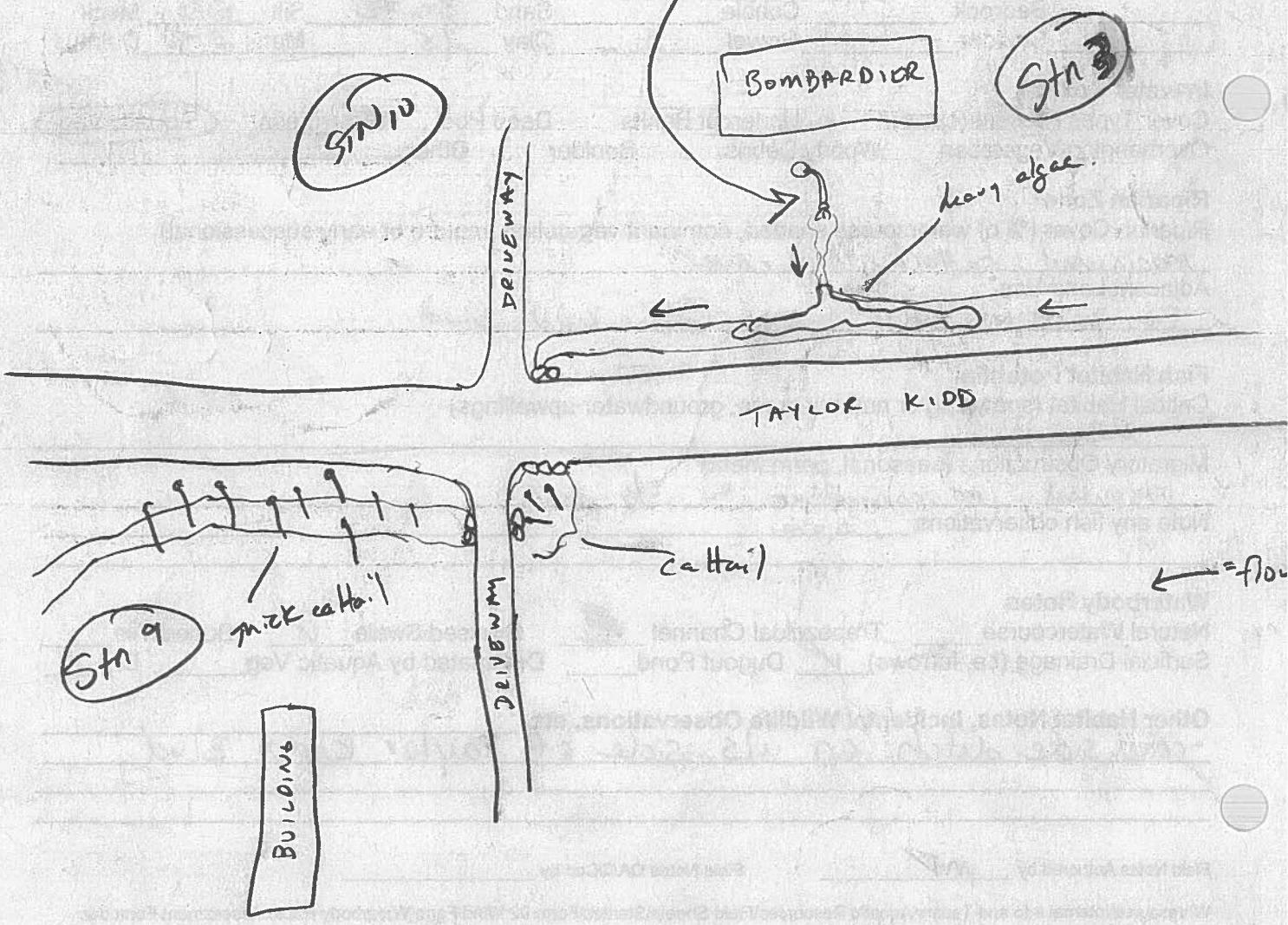
Field Notes QA/QCed by _____



Project Name: _____
 Date: _____
 Field No: _____
 Time: _____

M4

Flows coming out of ground on Bomb. property





Stantec

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Mainland **Not REA WATERBODY**

Project: Amherst Island
Station # # M4
Photos Taken 432-438
GPS Coordinates 0362335 4896664
Descriptive Location ON Taylor Kidd Rd

Project # 16096 0595
Field Staff KC, MF
Date 07/06/2011
Time 13:13
~ 600 m west of Jim Snow Dr

Water Quality

Dissolved Oxygen (mg/L) pH Conductivity (µS/cm)
Water Temperature (°C) Air Temperature (°C) 29°C
Weather conditions in previous 24 hrs minor precip. last night

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.25 (m) Maximum Pool Depth 0.05 (cm)
Mean Bankfull Width 1.0 (m) Mean Water Depth 3 (cm)
 % Riffle 10 % Pool 90 % Run % Flat

Evidence of eroding banks, Comments on bank stability manicured grass u/s, kick of banks

Substrate - Upstream (% cover)

 Bedrock 90 Silt Boulder Clay Cobble
 Muck Gravel Marl Sand 10 Detritus

Substrate - Downstream (% cover)

 Bedrock 90 Silt Boulder Clay Cobble
 Muck Gravel Marl Sand 10 Detritus

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Deep Pool Vascular Plants
 Woody Debris Boulder Other

@ collect only.

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
Upstream terrestrial grass, cattail, bitter sweet, nightshade
Downstream cattail, green anemone, cow vetch, thistle

Adjacent Land Use

Upstream Bombardier building
Downstream Industrial building

Fish Habitat Potential

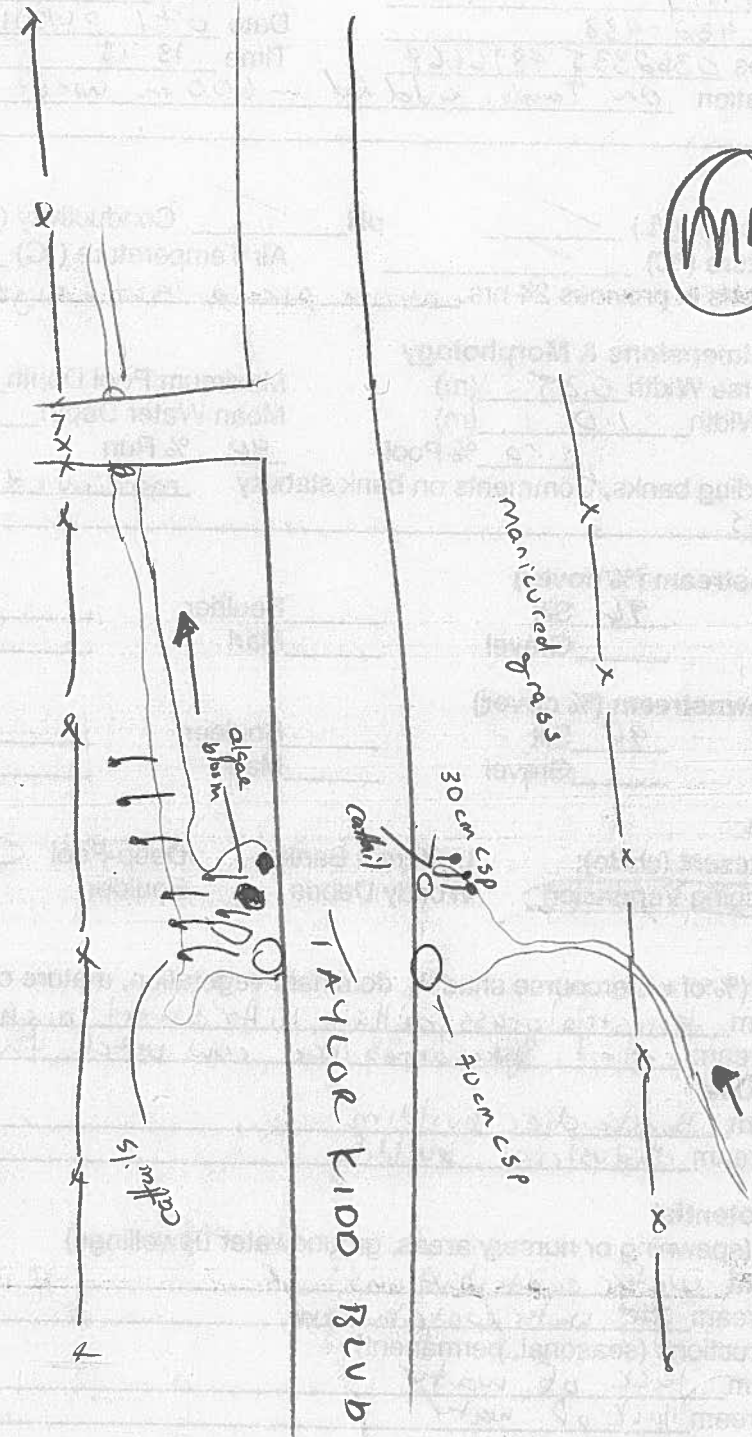
Critical Habitat (spawning or nursery areas, groundwater upwellings)
Upstream water contributions
Downstream water contributions
Migratory Obstructions (seasonal, permanent)
Upstream lack of water
Downstream lack of water
Note any fish observations none

Other Habitat Notes, Incidental Wildlife Observations, etc.

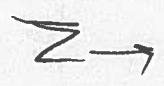
minor flows

WATER QUALITY

HM



TAYLOR KIDD BLVD





Mainland

RAPID ASSESSMENT FORM FOR AQUATIC HABITAT

Stantec

~~RE A~~
WATER

Project: Amherst Island
 Station #: RS MS
 Photos Taken: 439-446
 GPS Coordinates: D361951 4896498
 Descriptive Location: on Taylor Kidd Blvd ~ 1.5 Km west of Jim Snow Drive.

Project #: 160960595
 Field Staff: KC, MF
 Date: 07/06/2011
 Time: 13:28

Water Quality

Dissolved Oxygen (mg/L) pH Conductivity (µS/cm)
 Water Temperature (°C) Air Temperature (°C) 29°C
 Weather conditions in previous 24 hrs minor precip last night

Watercourse Dimensions & Morphology

lack of def'n

Mean Watercourse Width (m) Maximum Pool Depth (cm)
 Mean Bankfull Width (m) Mean Water Depth (cm)
 % Riffle % Pool % Run % Flat
 Evidence of eroding banks, Comments on bank stability well veget'd - lack of def'n

DR

Substrate - Upstream (% cover)

100% soil

Bedrock Silt Boulder Clay Cobble
 Muck Gravel Marl Sand Detritus

Substrate - Downstream (% cover)

Bedrock Silt 30 Boulder Clay Cobble
30 Muck Gravel Marl Sand Detritus 40

In-water Cover

Cover Types Present (circle): Overhanging Vegetation Undercut Banks Deep Pool Vascular Plants
 Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
 Upstream terrestrial veg growing within channel
 Downstream cattail, bullrush

Adjacent Land Use

Upstream Bombardier property
 Downstream woodlot, flood plain

Fish Habitat Potential

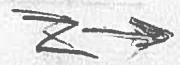
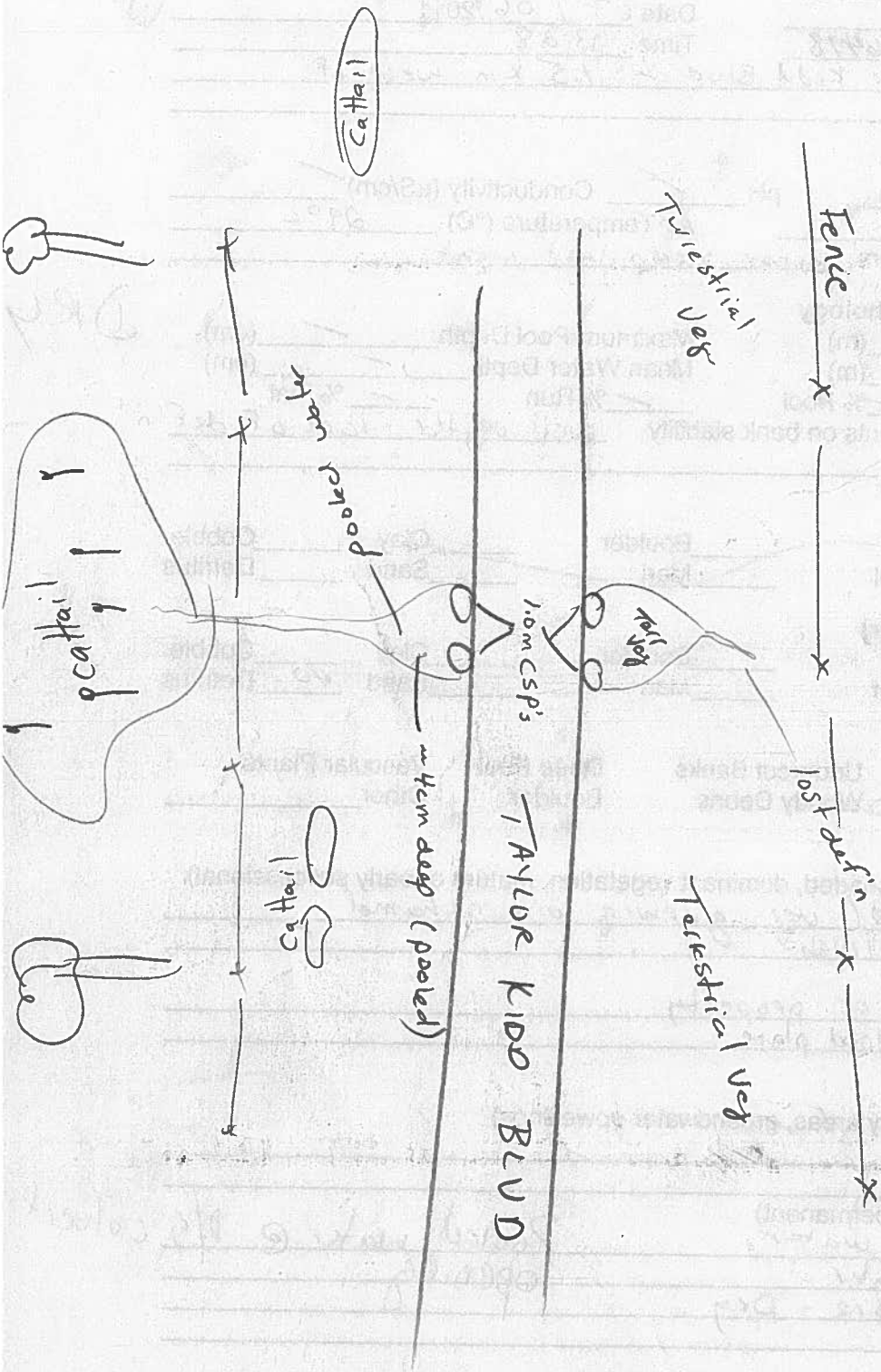
Critical Habitat (spawning or nursery areas, groundwater upwellings)
 Upstream none
 Downstream spawning?
 Migratory Obstructions (seasonal, permanent)
 Upstream lack of water
 Downstream lack of water
 Note any fish observations none - Dry Pooled water @ d/s culvert opening

Other Habitat Notes, Incidental Wildlife Observations, etc.

Various bird sp

Station #

5M





Stantec

WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

Mainland

~~Property~~ Property

Station # 2 MP Project Name Amberst Is Wind
 Watercourse Name unknown trib d LYON Project # 160960595
 Photos 8510-8519 (lower) 8546-8553 (upper) Field Staff MF
 Date March 27, 2012 Time 10:40am

Weather conditions in previous 24 hrs No precipitation Nat'l #
 GPS Coordinates (Zone) 18T E 0363097 N 4897025 Datum ← upper
 Descriptive Location On Coco property in the v/s section of Str 2, east of Coco rail tracks & ~200m south of Taylor Kidd Blvd.

Water Quality

Dissolved Oxygen (mg/L) 10.93 pH 9.22 Conductivity (µS/cm) 423
 Water Temperature (°C) 9.95 Air Temperature (°C) 5°C
 Time in situ measurements taken 15:15

REI
WAT
BOD

Watercourse Dimensions & Morphology

Mean Watercourse Width 2.0 (m) Maximum Pool Depth 20 (cm)
 Mean Bankfull Width 2.3 (m) Mean Water Depth 10 (cm)
 % Riffle 50 % Pool 50 % Run 50 % Flat

Possible
intermit

Evidence of eroding banks, Comments on bank stability well veg'd. Not much of a bank but flows evident through minor definition.

Substrate (% cover)

Bedrock	Cobble	Sand	40	Silt	40	Muck
Boulder	Gravel	Clay	10	Mari	10	Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
60% mainly from cattail in upper and from ash stand in lower section

Adjacent Land Use

Coco paving, Taylor Kidd Blvd, grassy area

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
indirect. Status unknown d/s of Jim Snow Drive due to no access.

Migratory Obstructions (seasonal, permanent)

intermittent nature, shallow water levels.
 Note any fish observations none

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
 Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

Intermittent.

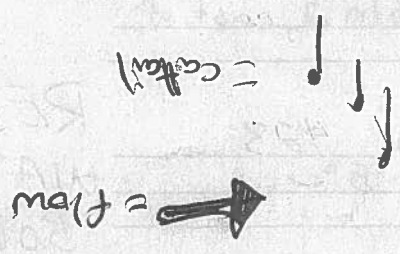
Other Habitat Notes, Incidental Wildlife Observations, etc.

heard frog sp.

Field Notes Authored by MF

Field Notes QA/QCed by _____

Project Name:
 Project #:
 Field Site:
 Date:
 Weather conditions:
 GPS Coordinates (Zone):
 Description of location:
 Water Quality:
 Surface Oxygen (mg/l):
 Water Temperature (°C):
 Time in the measurement basin:



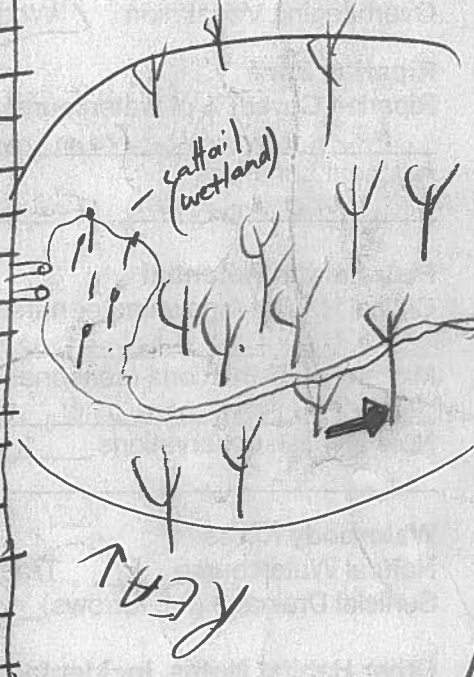
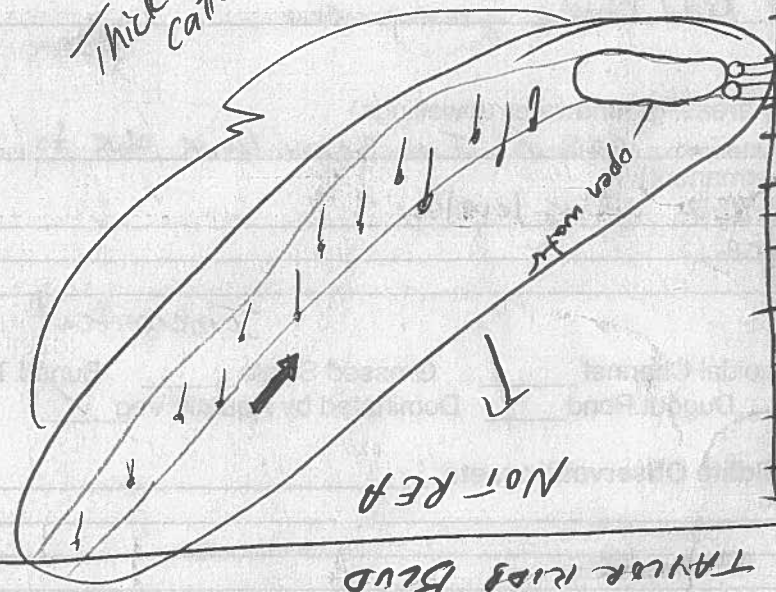
1/16

Grass field.

Coco Rail Tracks

ash stand

Thick w/ cattail



N



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

Intermittent RE

Stantec

mainland

[Redacted]

Station # M8
Watercourse Name Vulkanwin
Photos 9554-9569
Date March 27, 2012

Project Name Amberst Wind
Project # 160950889 160950598
Field Staff MF
Time 13:55

Weather conditions in previous 24 hrs No precip.
GPS Coordinates (Zone) 18T E 0363253 N 4896767 Datum NAD83 ← upp.
Descriptive Location East of main buildings assoc. w/ Coco Paving +
400m north of Bath Rd.

Lower = 18T 0363451 4896218

NOT TAKEN
NO CONNECT
TO D/S

Water Quality

Dissolved Oxygen (mg/L) 9.43 pH 8.55 Conductivity (µS/cm) 450
Water Temperature (°C) 10.05 Air Temperature (°C) 5°C
Time in situ measurements taken 14:45

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.30 (m) Maximum Pool Depth 20 (cm)
Mean Bankfull Width 0.70 (m) Mean Water Depth 10 (cm)
% Riffle 60 % Pool 10 % Run 30 % Flat

Evidence of eroding banks, Comments on bank stability Heavy erosion in mid section, exposed bedrock, slumping in mid section. Overland flows

Substrate (% cover)

40 Bedrock 5 Cobble 5 Sand 15 Silt 15 Muck
Boulder 5 Gravel 10 Clay 20 Marl 10 Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
Overhanging Vegetation Woody Debris Boulder Other

green algae

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
10% mainly from overhanging rip. grasses.
Adjacent Land Use Coco Paving holding tanks, grassy meadow, Bath Rd.

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
Possible spawning
Migratory Obstructions (seasonal, permanent)
diffuse @ lower section to Bath rd, no channel connecting LK. Dr.
Note any fish observations None.

Waterbody Notes

Natural Watercourse Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____
Surficial Drainage (i.e. furrows) Dugout Pond _____ Dominated by Aquatic Veg _____ Dry _____

Other Habitat Notes, Incidental Wildlife Observations, etc. chorus frog, spring peeper

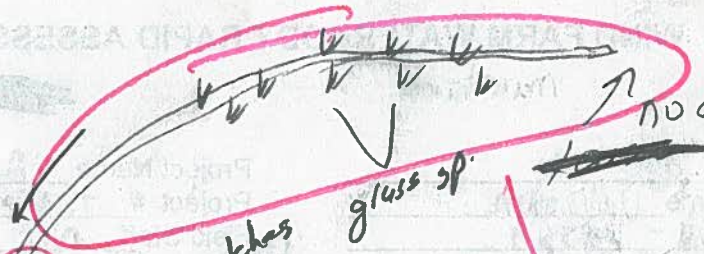
Field Notes Authored by MF

Field Notes QA/QCed by _____



~ 600m

RAIN-LINE



no def'n

glass sp.

cobble patches
gravel

NON REA

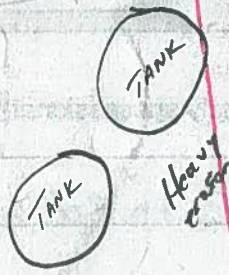
Heavy erosion

REA



Exposed
Bedrock

grassy meadow



Heavy erosion

patches of pools,
heavy green filamentous algae

NON REA

= flow

Coco
PAVING
Buildings

wet, saturated
diffuse
(no channel def'n)
- water into ditch
rd side
(ditch dry)

FENCE

BATH RD



WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

REA

Possible intermittent
Fish obser

Stantec

Mainland

Station # M9
 Watercourse Name unknown Trib of LK ON
 Photos 9579 - 9580
 Date March 27, 2012
 Weather conditions in previous 24 hrs No precip.
 GPS Coordinates (Zone) 18T E 0362087 N 4896740 Datum NAD 83
 Descriptive Location on south side of Taylor Kidd Blvd. within ROW ~ 225m west of Bombardier driveway. Road side ditch

Project Name Albion Wind
 Project # 160960595
 Field Staff MF
 Time 15:46

Water Quality

Dissolved Oxygen (mg/L) 11.16 pH 8.95 Conductivity (µS/cm) 597
 Water Temperature (°C) 11.1 Air Temperature (°C) 5
 Time *in situ* measurements taken 16:00

Watercourse Dimensions & Morphology

Mean Watercourse Width 1.5 (m) Maximum Pool Depth 20 (cm)
 Mean Bankfull Width 2.0 (m) Mean Water Depth 15 (cm)
 % Riffle 30 % Pool 70 % Run 70 % Flat
 Evidence of eroding banks, Comments on bank stability None. Well vegetated grasses. Looks manicured regularly.

Substrate (% cover)

Bedrock	Cobble	Sand	Silt	Muck
Boulder	Gravel	Clay	Marl	Detritus
	<u>10</u>	<u>30</u>	<u>30</u>	<u>20</u>

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) 2% mainly from instream cattail. Manicured grass (ROW), duckweed.
 Adjacent Land Use Energy generating building (unknown)

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) Possible spawning nursery.
 Migratory Obstructions (seasonal, permanent) Possible intermittent, lack of water
 Note any fish observations unknown sp.

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
 Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

Other Habitat Notes, Incidental Wildlife Observations, etc. Water boatman, leopard frog

Field Notes Authored by MF Field Notes QA/QCed by _____

Project Name: [illegible]
Project # [illegible]
Field Date: [illegible]
Time: [illegible]

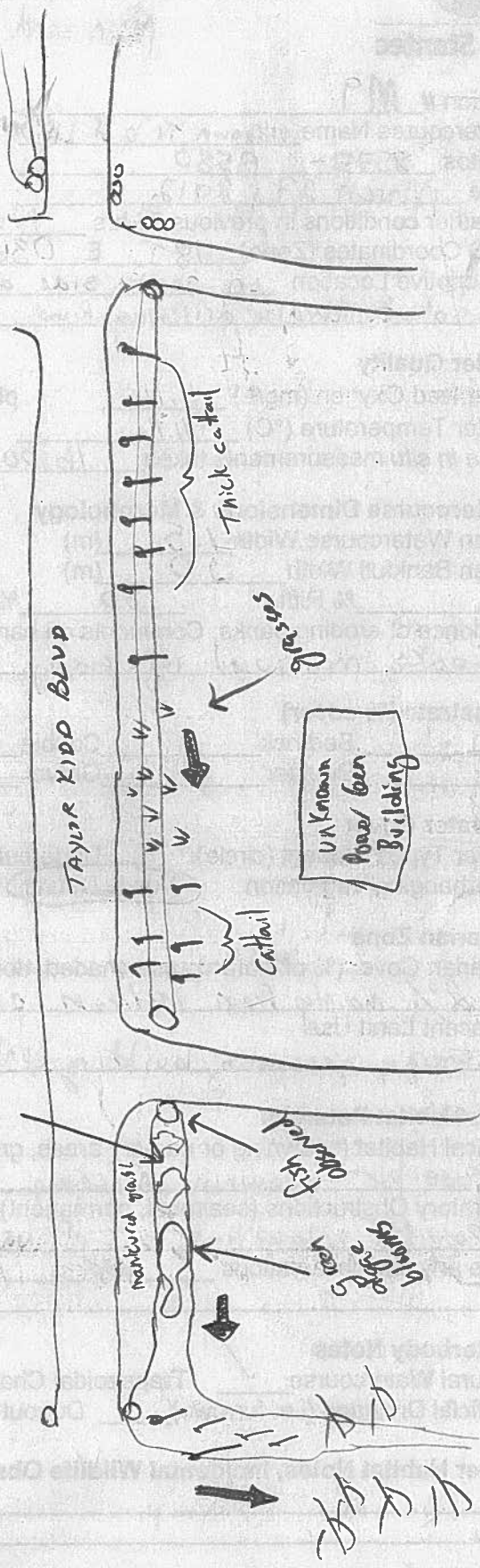
PNLS

PM

Barrow
Hoppers

2

dictweed





WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

Stantec

Main Land

~~Property~~ Property

Station # M7
 Watercourse Name Unknown
 Photos 8520-8530
 Date March 29, 2012

Project Name Amherst Island Wind
 Project # 160960595
 Field Staff MF
 Time 11:40

Weather conditions in previous 24 hrs No precipitation
 GPS Coordinates (Zone) 18T E 0362252 N 4897060 Datum Nad83

Descriptive Location On Bombarrier property ~ 200m north of Taylor Kidd Blvd. and ~ 15m north of main building. Rd side ditch on property.

Water Quality

Dissolved Oxygen (mg/L) Too low pH _____ Conductivity (µS/cm) _____
 Water Temperature (°C) _____ Air Temperature (°C) _____
 Time *in situ* measurements taken _____

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.40 (m) Maximum Pool Depth 5.0 (cm)
 Mean Bankfull Width 1.2 (m) Mean Water Depth 2.0 (cm)
 % Riffle 30 % Pool 70 % Run _____ % Flat _____

Evidence of eroding banks, Comments on bank stability Well grassed. Minor undercuts throughout. Overland flows only.

Substrate (% cover)

Bedrock _____ Cobble _____ Sand _____ Silt 30 Muck _____
 Boulder _____ Gravel 70 Clay _____ Marl _____ Detritus _____

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Flows from drainage from area land.
 Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional)
2% minor pockets of cattail

Adjacent Land Use

Bombarrier buildings, test track, ROW power lines.

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings)
None

Migratory Obstructions (seasonal, permanent)

low water and possible dryness in summer

Note any fish observations None

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel Grassed Swale Buried Tile _____
 Surficial Drainage (i.e. furrows) _____ Dugout Pond _____ Dominated by Aquatic Veg _____ Dry _____

Other Habitat Notes, Incidental Wildlife Observations, etc. None

Field Notes Authored by MF

Field Notes QA/QCed by _____

See watercress note on back for stn 10



Hydro line
No access
East of line

||| = cattail
||| = grass
→ = flow

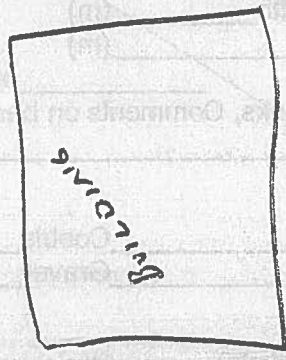
STN 1



Clayey field

STN 2

REA
→



STN 3

TAYLOR KIDD RD

loss of flow
↓

Non-REA
on rd side of pipe

Bulwark

Access Rd

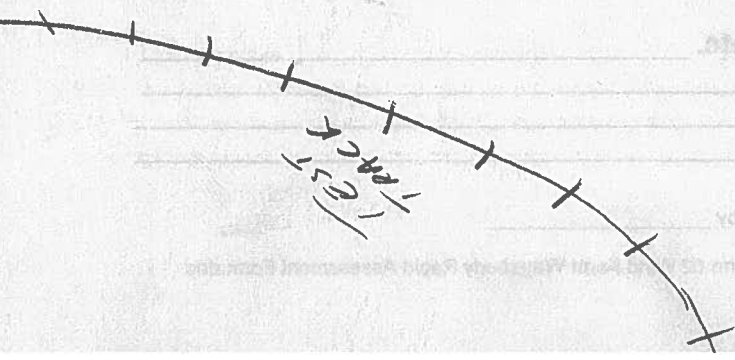
XXXXXX-GATE

Security

Gravel Rd

STN 10

Access Rd





WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

Main Land

Not REA
Overland FR
Lander
Possible
Interim

Stantec

Station # M10
 Watercourse Name UNKNOWN Trib. of PK on
 Photos 2532 - 8540
 Date March 29, 2012
 Weather conditions in previous 24 hrs No precip.
 GPS Coordinates (Zone) 18T E 0362260 N 4897006 Datum NAD83
 Descriptive Location on Bombardier property, d/s section connected to sta 7. ~ 30m west of buildings + ~ 50m north of Taylor Kidd Blvd.

Project Name Amherst Is. Wind
 Project # 160980595
 Field Staff MF
 Time 12:00

Water Quality

Dissolved Oxygen (mg/L) pH Conductivity (µS/cm) Too Low
 Water Temperature (°C) Air Temperature (°C)
 Time *in situ* measurements taken

Watercourse Dimensions & Morphology

Mean Watercourse Width 0.75 (m) Maximum Pool Depth ~ 4.0 (cm)
 Mean Bankfull Width (m) Mean Water Depth ~ 2.0 (cm)
 % Riffle 70 % Pool % Run 30 % Flat
 Evidence of eroding banks, Comments on bank stability heavy equipment runs through some sections

Substrate (% cover)

Bedrock Cobble Sand 50 Silt Muck
 Boulder Gravel 50 Clay Marl Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress Aquatic Veg
 Overhanging Vegetation Woody Debris Boulder Other

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) 0%

Adjacent Land Use

Bombardier buildings, property rds.

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) possible ground water upwelling but is isolated. Becomes diffuse d/s
 Migratory Obstructions (seasonal, permanent) lack of water levels, heavy equipment disturbance
 Note any fish observations None

Waterbody Notes

Natural Watercourse Trapezoidal Channel Grassed Swale Buried Tile
 Surficial Drainage (i.e. furrows) Dugout Pond Dominated by Aquatic Veg Dry

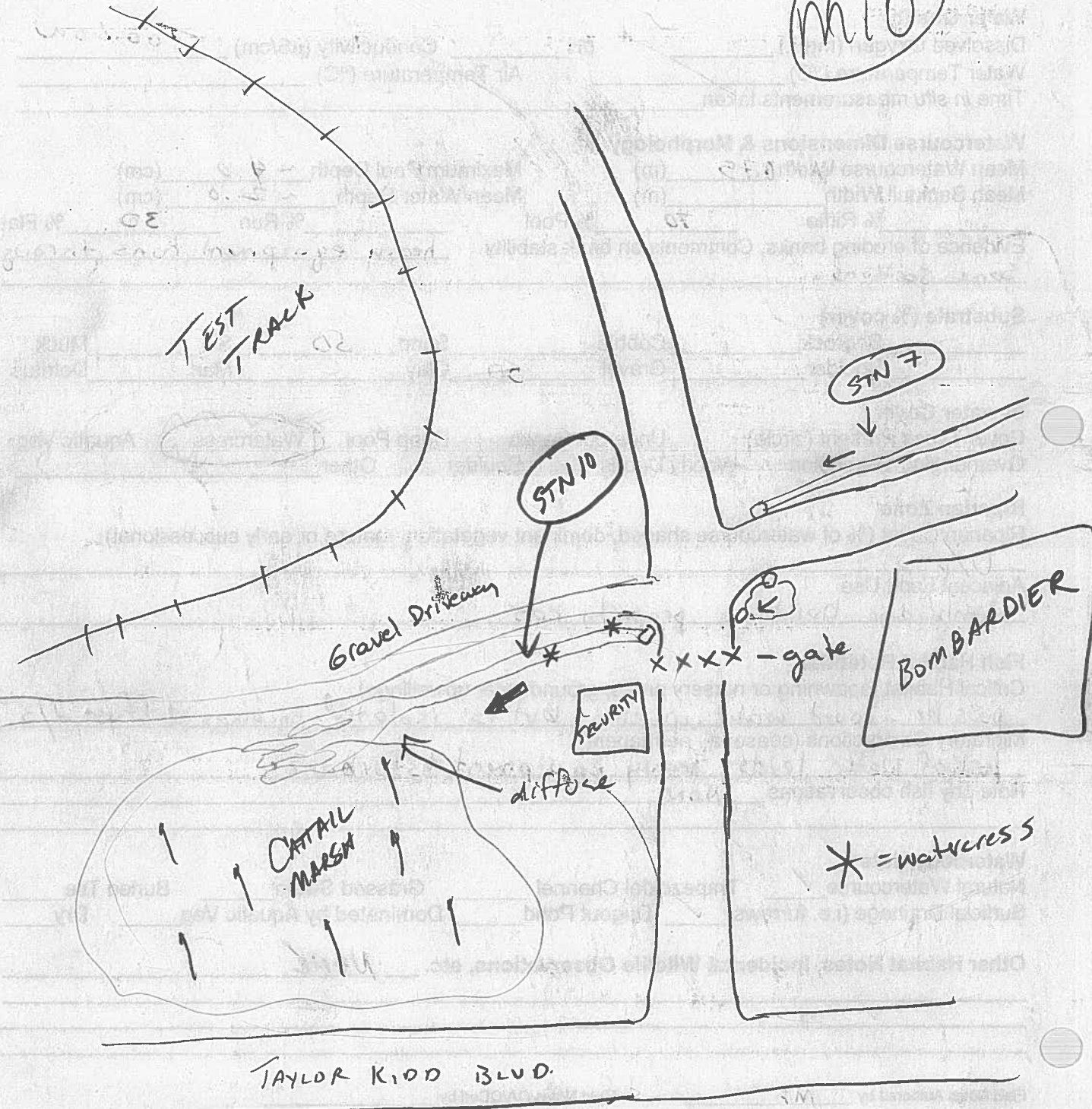
Other Habitat Notes, Incidental Wildlife Observations, etc. NONE

Field Notes Authored by MF

Field Notes QA/QCed by



mi 0





WIND FARM WATERBODY RAPID ASSESSMENT FORM

Mainland

Not a Water Body

Stantec

Station # M11

Project Name Amherst Island

Watercourse Name unnamed

Project # 160960595

Photos _____

Field Staff Josh Mansell

Date May 18, 2012

Time 1800

Weather conditions in previous 24 hrs sunny, warm, dry, no precip.

GPS Coordinates (Zone) 18T E 362849 N 482741 Datum _____

Descriptive Location located on Cranthorpe Quarry property immediately N of Taylor-Kidd Blvd and E of Jim Snow Dr.

Water Quality

Dissolved Oxygen (mg/L) n/a pH n/a Conductivity (µS/cm) n/a

Water Temperature (°C) 21° Air Temperature (°C) 23°

Time *in situ* measurements taken 1800

Watercourse Dimensions & Morphology

Mean Watercourse Width ~8 (m) Maximum Pool Depth 20 (cm)

Mean Bankfull Width n/a (m) Mean Water Depth _____ (cm)

0 % Riffle 100 % Pool 0 % Run 0 % Flat

Evidence of eroding banks, Comments on bank stability no defined banks

Substrate (% cover)

<input checked="" type="checkbox"/>	Bedrock	<input checked="" type="checkbox"/>	Cobble	<input checked="" type="checkbox"/>	Sand	<input checked="" type="checkbox"/>	Silt	<u>100%</u>	Muck
<input checked="" type="checkbox"/>	Boulder	<input checked="" type="checkbox"/>	Gravel	<input checked="" type="checkbox"/>	Clay	<input checked="" type="checkbox"/>	Mud	<input checked="" type="checkbox"/>	Detritus

In-water Cover

Cover Types Present (circle): Undercut Banks Deep Pool Watercress **Aquatic Veg**

Overhanging Vegetation Woody Debris Boulder Other _____

Riparian Zone

Riparian Cover (% of watercourse shaded, dominant vegetation, mature or early successional) 0%

Adjacent Land Use Agriculture, Cranthorpe access road (no culvert).

Fish Habitat Potential

Critical Habitat (spawning or nursery areas, groundwater upwellings) none

Migratory Obstructions (seasonal, permanent) There is no culvert @ Cranthorpe access road

Note any fish observations None.

Waterbody Notes

Natural Watercourse _____ Trapezoidal Channel _____ Grassed Swale _____ Buried Tile _____

Surficial Drainage (i.e. furrows) Dugout Pond _____ Dominated by Aquatic Veg Dry _____

Other Habitat Notes, Incidental Wildlife Observations, etc. A tractor has driven through this feature repeatedly for agricultural purposes. Water is pooling behind the Cranthorpe access road because there is no culvert.

Field Notes Authored by Josh Mansell Field Notes QA/QCed by _____