

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): 600			Bank Stability:				
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable	
Mean Wetted Width (m): 2.2	Mean Wetted Depth (m): 0.15	Left Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
Mean Bankfull Width (m): 3.5	Mean Bankfull Depth (m): 0.7	Right Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
Mean Top of Bank Width (m): 6.5	Mean Top of Bank Depth (m): 3	Description: no erosion areas noted					
Flow Description: (high or low flow conditions, stagnant, etc) slow flow							
Habitat							
Substrate (< = >)		Description		Morphological Structure (%)			
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Si = Sa = Cl		Pool	Riffle	Run	Flat	
			/		-	99	
			Notes: farmer dumped bo/co + created riffle				
Instream Cover (%) 27							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
			2	25		Average Depth: (% Cover)	
<small>Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%</small>							
<small>*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)</small>							
algae - attached.							
Canopy Cover (% closed cover):			Types of Cover (% cover)				
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	60-30% <input type="checkbox"/>			
		Trees 90	Shrubs 5	Man-made structures			
		Grasses	Herbaceous 5	Other			
<small>Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%</small>							
Notes: (vegetation species, types of structures) hickory, willow, sumac, cork							
Riparian Vegetation							
Width and Description of riparian vegetation:			Riparian Vegetation:				
LB - < 0.5 m - grass/weeds			RB - 7.5 m - forest				
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: < 0.5%				
Description of Overhanging Vegetation: Sparse willow shrubs							
Obstructions to Fish Passage							
None Observed <input checked="" type="checkbox"/>		Man-Made <input type="checkbox"/>		Natural <input type="checkbox"/>		Low Flow Barrier <input type="checkbox"/>	
Description of Barrier:							
Height of Barrier (m)			GPS Coordinates:				

Water Bodies Assessment Field Collection Form

502 1709 / 1724 / 1736
R9B

AECOM

Date: June 8/12

Land Parcel/Site ID:

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frog observed.
- stickleback → 5 ~~spine~~ spine possibly

Watercourse is a channelized ditch - appears to be recently dug out on JER. It is a straight channel w little in-stream cover. The left bank (adjacent to crop field) has been cleared of all trees - cut + burned.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1540	west } cut east		
1541	east } fence line		
1542-43	channel overview		
1544-45	culvert area		
1546-47	ditch JER 1706		
1548	- culvert drains south field		
44-54	JER 1724 + 1736		
1555	- no pond (9.9)		

Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

Study Area:

Jericho

Goshen

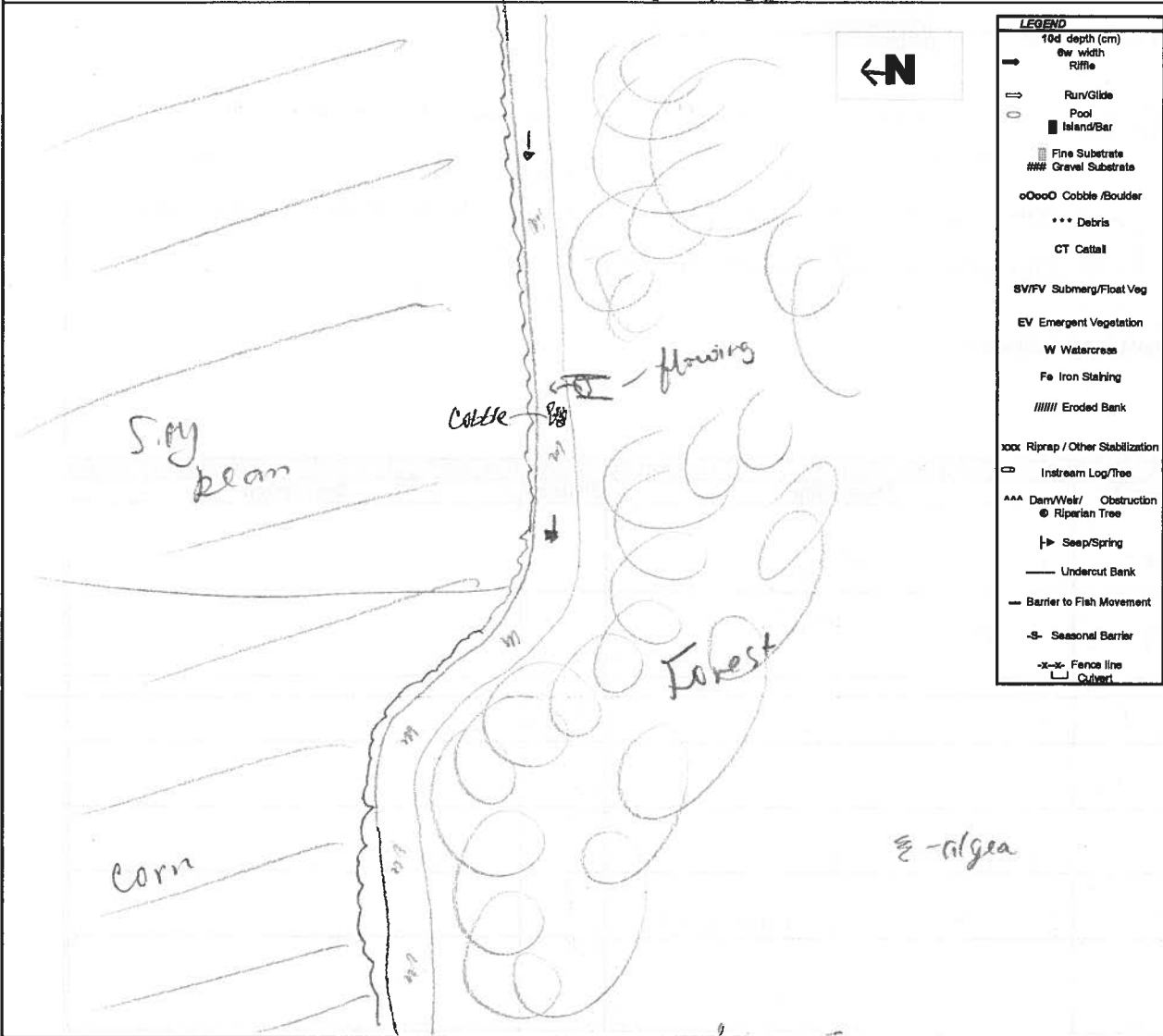
Bluewater

Land Parcel#

JER1706/
1724/1736

Site ID

R9B



Horizontal View of Channel



Initial QA/QC By:

L. Bentley

Date:

June 13, 2012

Technical QA/QC By:

[Signature]

Date:

Oct 2/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1693/1707 ^{JEK} Site ID: R9.33 B

Date: May 29/12 Start time: 12:15 End Time: 12:30

Weather Conditions: Cloudy/Rain, 18°C Field Crew: C. Barros, A. Aisenault
Field Notes By: C. Barros

Site Location

Hickory Creek, west of First School Rd.

UTM Co-ordinates

Easting: 0424387 Northing: 477 0174 Description: R9.33

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling

Description:

wheat field

Details:

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? Y / (N)
- 2) Temporary channel for surface drainage, that can be tilled or driven through? (Y) N
- 3) Rock chutes or spillways? Y / (N)
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / (N)
- 5) Temporarily ponded areas that are normally farmed? Y / N
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / (N)
- 8) Any other:

Description: (i.e. length of change, if it reappears, if there is evidence of water)



Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>short</u> <u>with</u> <u>barrier</u>		
<u>2-3</u>	<u>overview</u>		

Assessment of Non-Water Body
(update to mapping required)

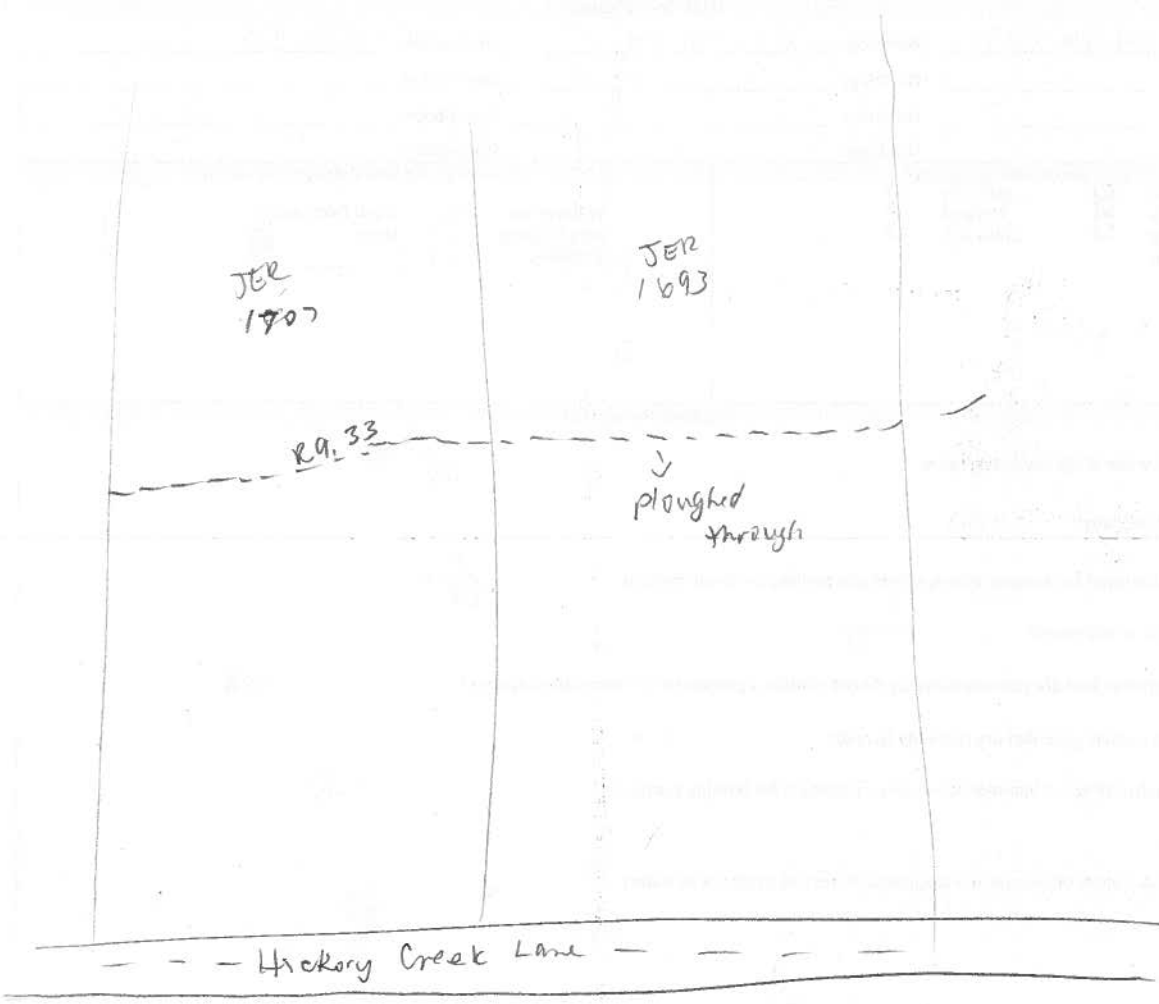
AECOM

Date: May 29/18

Land Parcel/Site ID: RA.33B-JER1693/1707

Page 2 of 2

Site Sketch



Initial QA/QC: Bentley June 9, 2012
Junker Oct 2/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

Study Area: <u>Jericho</u> Goshen Bluewater		General Information <u>1724</u> Land Parcel# <u>1727/1736</u>		Site ID: <u>R9.33 C</u>
Date: <u>May 29/12</u>	Start time: <u>14:10</u>	End Time: <u>14:30</u>		
Weather Conditions: <u>Sunny, 22°C</u>		Field Crew: <u>C. Boros, A. Arsenault</u>		
		Field Notes By: <u>C. Boros</u>		

Site Location

Hickory Creek Lane, west of First School Rd

UTM Co-ordinates		
Easting: <u>0423653</u>	Northing: <u>4769915</u>	Description: <u>JER1727 R9.33</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse	Ground Water and Seepage Indicators
Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/>	Watercross <input type="checkbox"/> Iron Staining <input type="checkbox"/> Bubbling <input type="checkbox"/>
Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/> None <input checked="" type="checkbox"/>
Description: <u>dairy cows - road</u>	Details: _____

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? N North
- 2) Temporary channel for surface drainage, that can be tilled or driven through? N South
- 3) Rock chutes or spillways? Y / N
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / N
- 5) Temporarily ponded areas that are normally farmed? Y / N
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / N
- 8) Any other: _____

Description: (i.e. length of change, if it reappears, if there is evidence of water)

There is only grassed pasture on the north side (JER 1727), and ploughed soy bean field to south (JER 1736)

Photo log			
Picture #	Description	Picture #	Description
<u>1-2</u>	<u>Sheet North</u>		
<u>3-4</u>	<u>South</u>		

Assessment of Non-Water Body
(update to mapping required)

AECOM

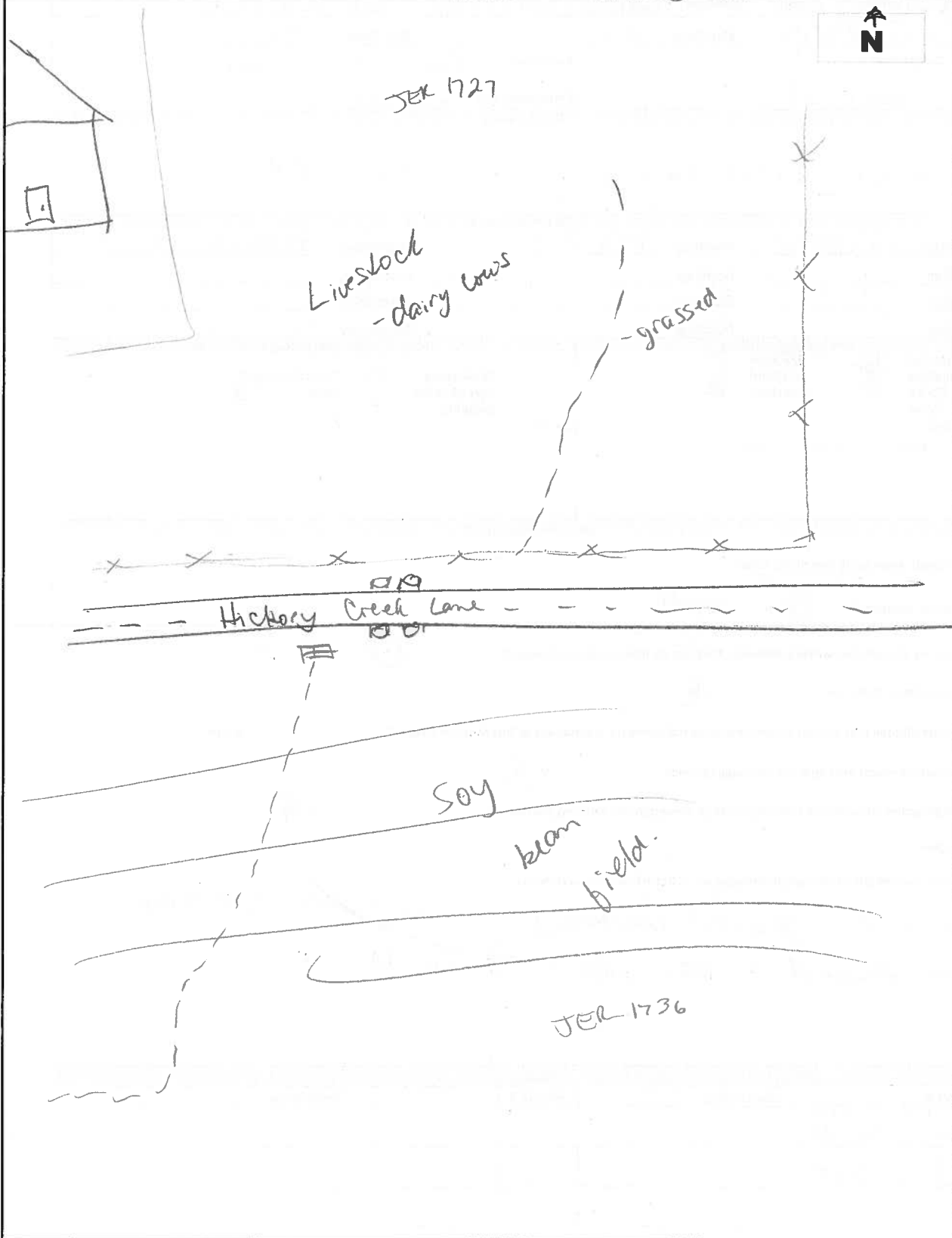
Date: May 29/12

Land Parcel/Site ID: JER 1727 / 1736 / 1724

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Site Sketch

29.33C



Initial QA/QC: L Bentley June 9, 2012
Sketch Oct 2/12

Property ID: JKR ~~1727~~ 1727 Date: May 29 / 12
Property Access: yes Start Time: 14:35
End Time: 14:40

Field Investigators: C. Boros, A. Arsenault Weather: Sunny 22°C

Terrestrial Feature Present: No Yes

Provide brief description of observations (i.e. hedgerow, treerow, woodlot, valleylands, deciduous vs coniferous, crop)

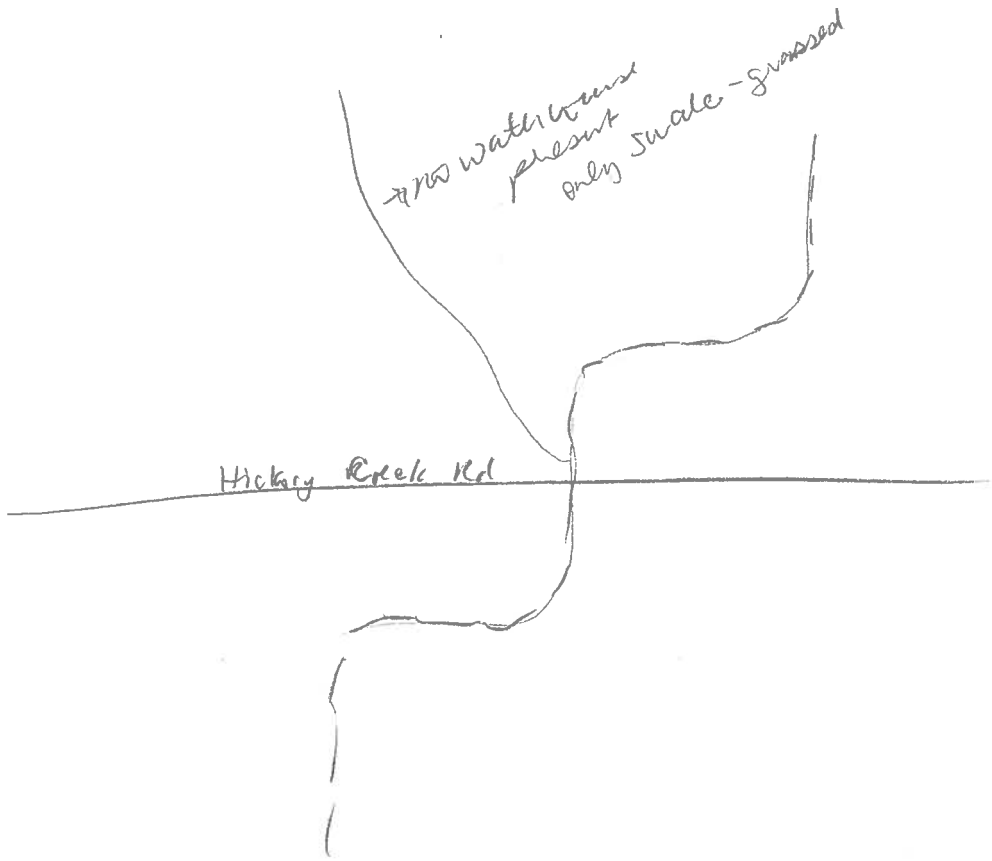
Photograph Numbers: _____

Aquatic Feature Present: No Yes

Provide brief description (i.e. drainage ditch, watercourse, intermittent, permanent)

- swale check adjacent to R9.33
↳ no water course present

Photograph Numbers: 1 - overview



no waterways
present
only shale-grassed

Hickory Creek Rd

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1623 Site ID: R9.29 E

Date: May 29 / 12 Start time: 16:10 End Time: 16:30

Weather Conditions: Sunny, 20°C Field Crew: C. Boros, A. Arsenault
Field Notes By: C. Boros

Site Location

First School Rd, South of Hickory Creek

Roadside Survey

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 0424700 Northing: 4769736 Description: JBR 1626 R9.29
Easting: Northing: Description:
Easting: Northing: Description:
Easting: Northing: Description:

Surrounding Landuse

- Residential
- Agriculture
- Forest
- Other
- Meadow
- Wetland
- Livestock

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description: Corn field - south
Soy bean - north

Description: no meandering

Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)

none observed

Is any portion of the water body underground or not as mapped? YIN
If Yes describe:

GPS Coordinate: Easting - Northing - Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

slightly hilly

In-Situ Water Quality

WT (°C): / AT (°C): 20°C
pH: / Cond (s/cm): /
D.O. (mg/L) /
Water Clarity: Clear Turbid

Water Colour: n/a

Notes: no access

Ground Water and Seepage Indicators

- Watercress
- Iron Staining
- Bubbling
- Other
- Bank Seepage
- None

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): <i>35 m</i>			Bank Stability:				
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable	
Mean Wetted Width (m): <i>0.8</i>	Mean Wetted Depth (m): <i>0.2</i>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Bankfull Width (m): <i>1</i>	Mean Bankfull Depth (m): <i>0.5</i>		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): <i>6</i>	Mean Top of Bank Depth (m): <i>3</i>	Description: <i>well vegetated</i>					
Flow Description: (high or low flow conditions, stagnant, etc) <i>v. slow flow</i>							
Habitat							
Substrate (<=>)		Description		Morphological Structure (%)			
Bo - Boulder		<i>appeared similar to SER1601</i> <i>clay bottom, sand, si, gr</i>		Pool	Riffle	Run	Flat
Co - Cobble				<i>/</i>	<i>/</i>	<i>/</i>	<i>100</i>
Gr - Gravel				Notes:			
Sa - Sand							
Si - Silt							
Cl - Clay							
MK - Muck							
DT - Detritus							
Instream Cover (%) <i>80</i>							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>80</i>	<i>/</i>	Average Depth: <i>/</i> (% Cover)	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>algae - attached >> algae blooms > grasses</i>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>100</i>	Herbaceous	Other	
60-30%	<input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%							
Notes: (vegetation species, types of structures) <i>grasses - riparian</i>							
Riparian Vegetation							
Width of riparian vegetation: <i>LB 0.5m - meadow riparian</i> <i>RB 0.5m - meadow then 1m grass occen laneway</i>							
Description of vegetation community surrounding 30 m from watercourse: <i>agri crop fields</i>							
Obstructions to Fish Passage							
No Obstructions	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>
Description of Barrier:							
Height of Barrier (m)				GPS Coordinates:			

Water Bodies Assessment Field Collection Form

RA.29 E

AECOM

Date: May 29/12

Land Parcel/Site ID: JER 1623

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frogs calling
- Channelized straight feature, grasses line channel, no trees + shrubs providing canopy cover, Algae providing instream cover
- Channel ~~1672~~ on JER1672 is similar to JER1623 for ~20m

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 162	Sheet taken from Hickory Creek		
3-4	culvert on First school rd.		
5	JER 1672		

Water Bodies Assessment Field Collection Form

AECOM

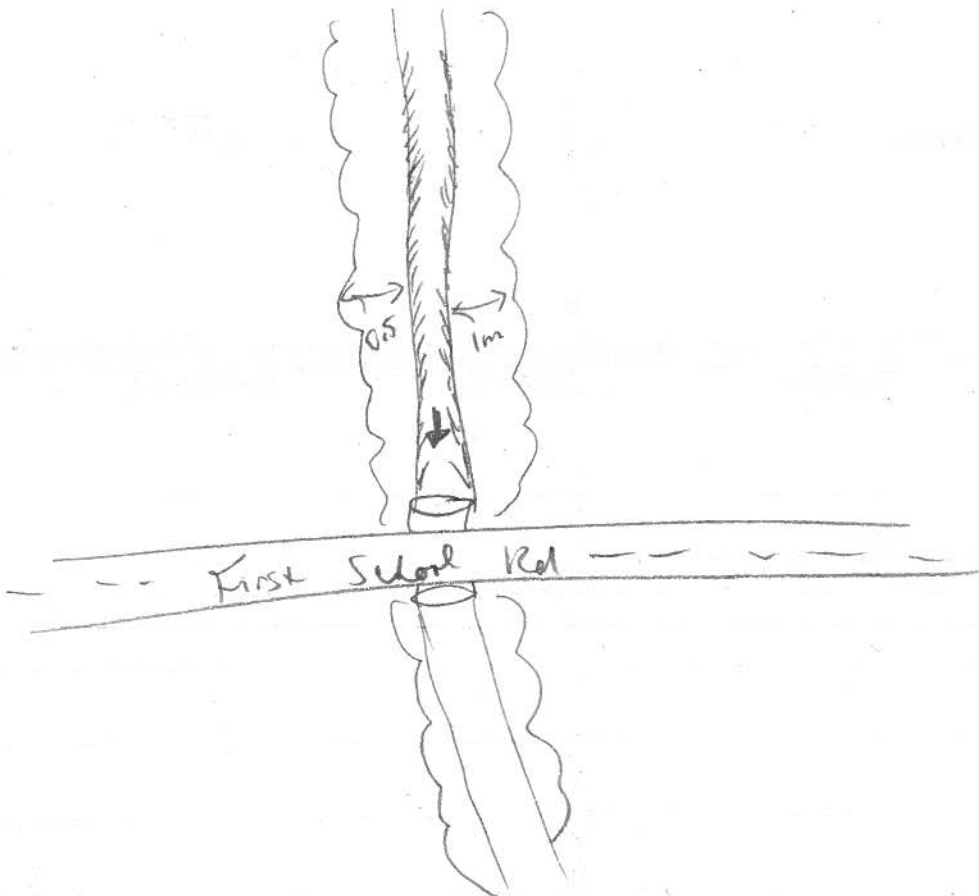
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Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# TER 1023 Site ID R929E

← N

LEGEND	
10d depth (cm)	→
0w width	⇌
Rifle	○
Run/Glide	■
Pool	▨
Island/Bar	###
Fine Substrate	oOooO
Gravel Substrate	***
Cobble/Boulder	CT
Debris	SV/FV
Cattail	EV
Submerg/Float Veg	W
Emergent Vegetation	Fe
Watercress	
Iron Staining	xxxx
Eroded Bank	⇌
Riprap / Other Stabilization	AAA
Instream Log/Tree	⊙
Dam/Weir/ Obstruction	⊙
Riparian Tree	↳
Seep/Spring	—
Undercut Bank	-S-
Barrier to Fish Movement	-x-x-
Seasonal Barrier	┌
Fence line	└
Culvert	



Horizontal View of Channel



Initial QA/QC By: C. Bentley

Date: June 9, 2012

Technical QA/QC By: [Signature]

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 1601 / 1611 / 1599 Site ID: R9.29 D
 Date: May 29 / 12 Start time: 15:00 End Time: 15:40

Weather Conditions: Sunny, 23°C Field Crew: C. Boros, A. Arsonault
 Field Notes By: C. Boros

ASA
1599

Site Location

Hickory Creek Ln, east of First School Rd.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>0425390</u>	Northing: <u>4769903</u>	Description: <u>JER 1601 R9.29 st</u>
Easting: <u>0425358</u>	Northing: <u>4770037</u>	Description: <u>JER 1601 R9.29 w</u>
Easting: <u>0425512</u>	Northing: <u>4770270</u>	Description: <u>JER 1601 R9.29 en</u>
Easting: <u>0425328</u>	Northing: <u>47700109</u>	Description: <u>JER 1601 R9.29</u>

Surrounding Landuse
 Residential
 Agriculture
 Forest
 Other
 Meadow
 Wetland
 Livestock
 Description: soy bean crop

Type of Watercourse
 Intermittent
 Permanent
 Ephemeral
 Channelized
 Natural Channel
 Description: no meandering

RX
6 rock
pile

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tile drain inputs flowing, rock chutes

Is any portion of the water body underground or not as mapped? Y / N
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -
 Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

v. sl. rolling

In-Situ Water Quality

WT (°C): 24.10 AT (°C): 23°C
 pH: 7.19 Cond (µs/cm): 697
 D.O. (mg/L) 19.02
 Water Clarity: Clear Turbid
 Water Colour: n/a

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other
 Details:

Notes:

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <i>300 m</i>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m):	<i>0.8</i>	Mean Wetted Depth (m):	<i>0.2</i>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<i>1.2</i>	Mean Bankfull Depth (m):	<i>0.5</i>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>4</i>	Mean Top of Bank Depth (m):	<i>2</i>	Description: <i>well veg</i>				
Flow Description: (high or low flow conditions, stagnant, etc) <i>slow flow</i>								
Habitat								
Substrate (<=>)			Morphological Structure (%)					
Bo - Boulder	Description		Pool	Riffle	Run	Flat		
Co - Cobble	<i>Clay packed bottom w sand, si, gr } co</i>		/	/	/	100		
Gr - Gravel								
Sa - Sand								
Si - Silt								
Cl - Clay								
MK - Muck	Notes: <i>no meandering - narrowing at some spots due to grasses in stream</i>							
DT - Detritus								
Instream Cover (%) <i>80</i>								
Other <i>veg debris</i>	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
<i>5</i>	<i>5</i>	/	<i>10</i>	<i>50</i>	/	Average Depth: (% Cover) <i>10</i>		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>algae - attached > algae - filamentous > grasses > pond weed</i>								
Canopy Cover (% closed cover):			Types of Cover (% cover)					
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	<i>2</i>	Shrubs	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>98</i>	Herbaceous	Other	
60-30%	<input type="checkbox"/>							
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%								
Notes: (vegetation species, types of structures)								
Riparian Vegetation								
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:					
LB - <i>1 m - grass - meadow</i>			RB - <i>1 m - grass - meadow</i>					
Overhanging Vegetation Present <i>Y/N</i>			% Overhanging Vegetation:					
Description of Overhanging Vegetation:			/					
Obstructions to Fish Passage								
None Observed <input checked="" type="checkbox"/>		Man-Made <input type="checkbox"/>		Natural <input type="checkbox"/>		Low Flow Barrier <input type="checkbox"/>		
Description of Barrier:								
Height of Barrier (m)			GPS Coordinates:					
/			/					

AECOM

Date: May 29/12

Land Parcel/Site ID: R9.29 D
JER 1601/1601/1599 Page 3 of 4

Other General Comments Regarding the Study Area:

- minnows observed (~25), YOY (~10)

Culvert at road+ property line look recently replaced. Could have had channel dug out at same time

Watercourse is channelized, clay packed bottom w sand, gr, s, cl on top. No trees or shrubs - just grasses on riparian.

ROCK PILES

Additional UTM Coordinates:

- water course looks similar on JER 1577 + JER 1599 to study area
↳ ~ 20m in.

Photo log

Picture #	Description	Picture #	Description
1a 1b	Sheet overview		
2-3	Culvert		
4-6	Channel overview		
7-8	rock pile		
9-12	Channel overview		
13	rock chute		
14-16	Channel overview		
17-18	Culvert at property (paved)		
19	JER 1577		
20-21	JER 1599		

Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

Study Area:

Jericho

Goshen

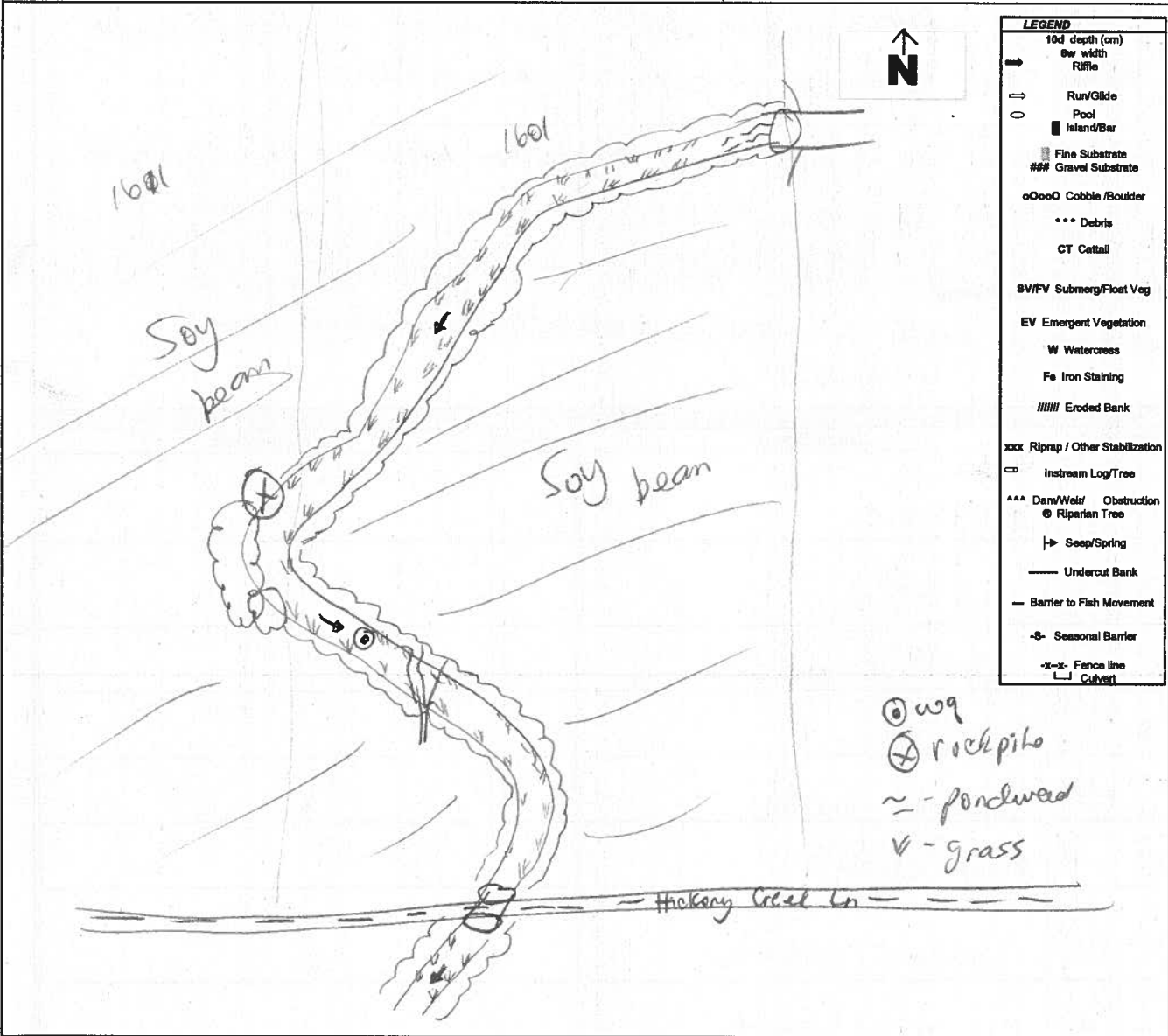
Bluewater

Land Parcel#

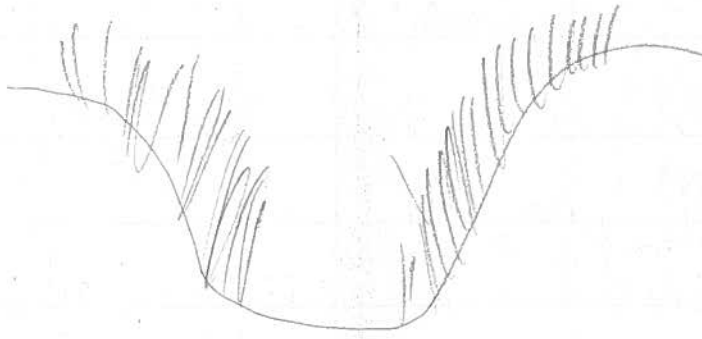
1601/1601
1599

Site ID

29.29 D



Horizontal View of Channel



Initial QA/QC By: *L. Bentley*

Date: *June 9, 2012*

Technical QA/QC By: *[Signature]*

Date: *Oct 2/12*

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 1630 Site ID: R9.33A
 Date: Mon 29/12 Start time: 14:45 End Time: 15:30
 Weather Conditions: Sunny, 22°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

Site Location

Hickory Creek Ln, Jct First School Rd., north of Hickory Creek Ln.

UTM Co-ordinates

Easting: 0424720 Northing: 4770411 Description: JER 1630 R9.33
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>			

Description: Soy bean

Details: _____

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? Y / (N)
- 2) Temporary channel for surface drainage, that can be tilled or driven through? (N)
- 3) Rock chutes or spillways? Y / (N)
- 4) Roadside ditches that are not connected or do not contain a permanent or Intermittent stream? Y / (N)
- 5) Temporarily ponded areas that are normally farmed? Y / (N)
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / (N)
- 8) Any other: _____

Description: (i.e. length of change, if it reappears, if there is evidence of water)

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>10a sheet east side</u>		
<u>2</u>	<u>west side</u>		

Assessment of Non-Water Body
(update to mapping required)

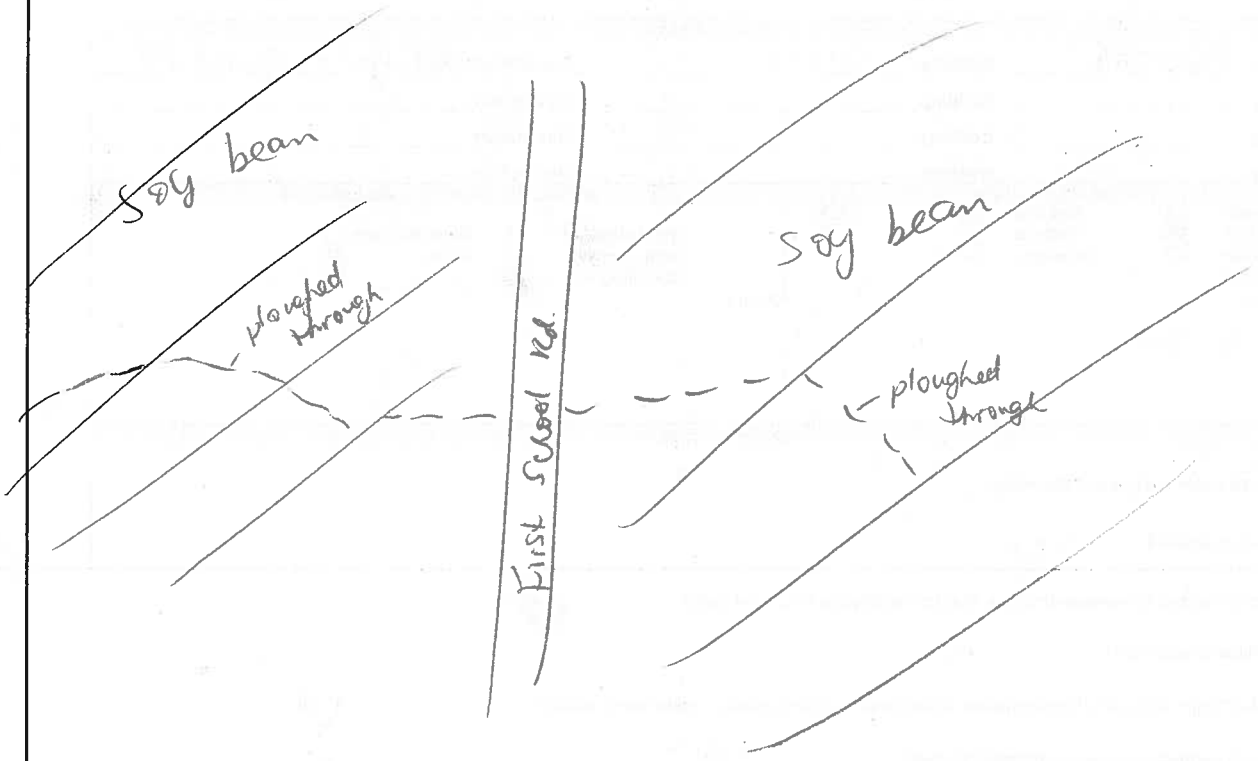
AECOM

Date: May 29/12

Land Parcel/Site ID: JEL 1630 R9.33A

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley June 9, 2012
Sarker Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# ^{JER 3435} ~~ASA 3434~~ Site ID: R9.29 C

Date: MAY 29/12 Start time: 15h15 End Time: 16h30

Weather Conditions:

SUNNY, cloudy 31°C ✓

Field Crew: CHARONC BOARACHE
Field Notes By: BOARACHE

ASA
3434

Site Location

north of townsend rd and west of Nothville Rd.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 427300	Northing: 4770740	Description: R9.29 ST
Easting: 426992	Northing: 4770801	Description: R9.29 end
Easting:	Northing:	Description:
Easting:	Northing:	Description:

Surrounding Landuse

Residential
Agriculture
Forest
Other
Meadow
Wetland
Livestock

Type of Watercourse

Intermittent
Permanent
Ephemeral
Channelized
Natural Channel

Description:

Crop corn and SOY BEANS

Description:

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

→ tile drain L/B

Is any portion of the water body underground or not as mapped? Y/N (N)
If Yes describe:

GPS Coordinate: Easting - Northing - Description-

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

Flat Fields

In-Situ Water Quality

WT (°C): 23.5 AT (°C): 31.1
pH: 8.11 Cond (s/cm): 856
Water Clarity: Clear Turbid

Water Colour: CLEAR

Notes:

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling
Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): <u>240m</u>			Bank Stability:			
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): <u>1.80</u>	Mean Wetted Depth (m): <u>0.25</u>	Mean Bankfull Depth (m): <u>0.45</u>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): <u>3.00</u>	Mean Top of Bank Width (m): <u>6.50</u>		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Depth (m): <u>2.00</u>	Description: <u>Grassed</u>					
Flow Description: (high or low flow conditions, stagnant, etc) <u>low flow</u>						
Habitat						
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			Morphological Structure (%)			
Description: <u>Sl > m k</u>			Pool	Riffle	Run	Flat
					<u>100</u>	
Notes:						
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
<u>30</u> <u>Grasses</u>				<u>25</u>		Average Depth: _____ (% Cover) <u>100</u>
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>Richardson's Pondweed</u>						
Canopy Cover (% closed cover):			Types of Cover (% cover)			
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees	Shrubs	Man-made structures		
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses <u>15</u>	Herbaceous	Other		
60-30% <input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures) <u>Grasses</u>						
Riparian Vegetation						
Width and Description of riparian vegetation: <u>3m</u> LB - <u>Salix sp. nemophanus</u> <u>Grasses</u>			RB - <u>3m</u> <u>(SAME)</u>			
Overhanging Vegetation Present <u>Y</u> / <u>N</u>			% Overhanging Vegetation:			
Description of Overhanging Vegetation:						
Obstructions to Fish Passage						
None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>			
Description of Barrier:						
Height of Barrier (m)			GPS Coordinates:			

Water Bodies Assessment Field Collection Form

ANDASA 3434

AECOM

Date:

MA/29/17

Land Parcel/Site ID:

3435

Page 3 of 4

R9.29C

Other General Comments Regarding the Study Area:

- > IN Field without shade.
- Only a small stream in a fields
- Channelized
- > on 3435 AS the same of 3434!
- High density of vegetation

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1061	R9.29ST west		
1062	R9.29ST east		
1063	Tile pipe near the middle LB		
1064	FACING west R9.29END		
1065	FACE east ASA From R9.29END		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

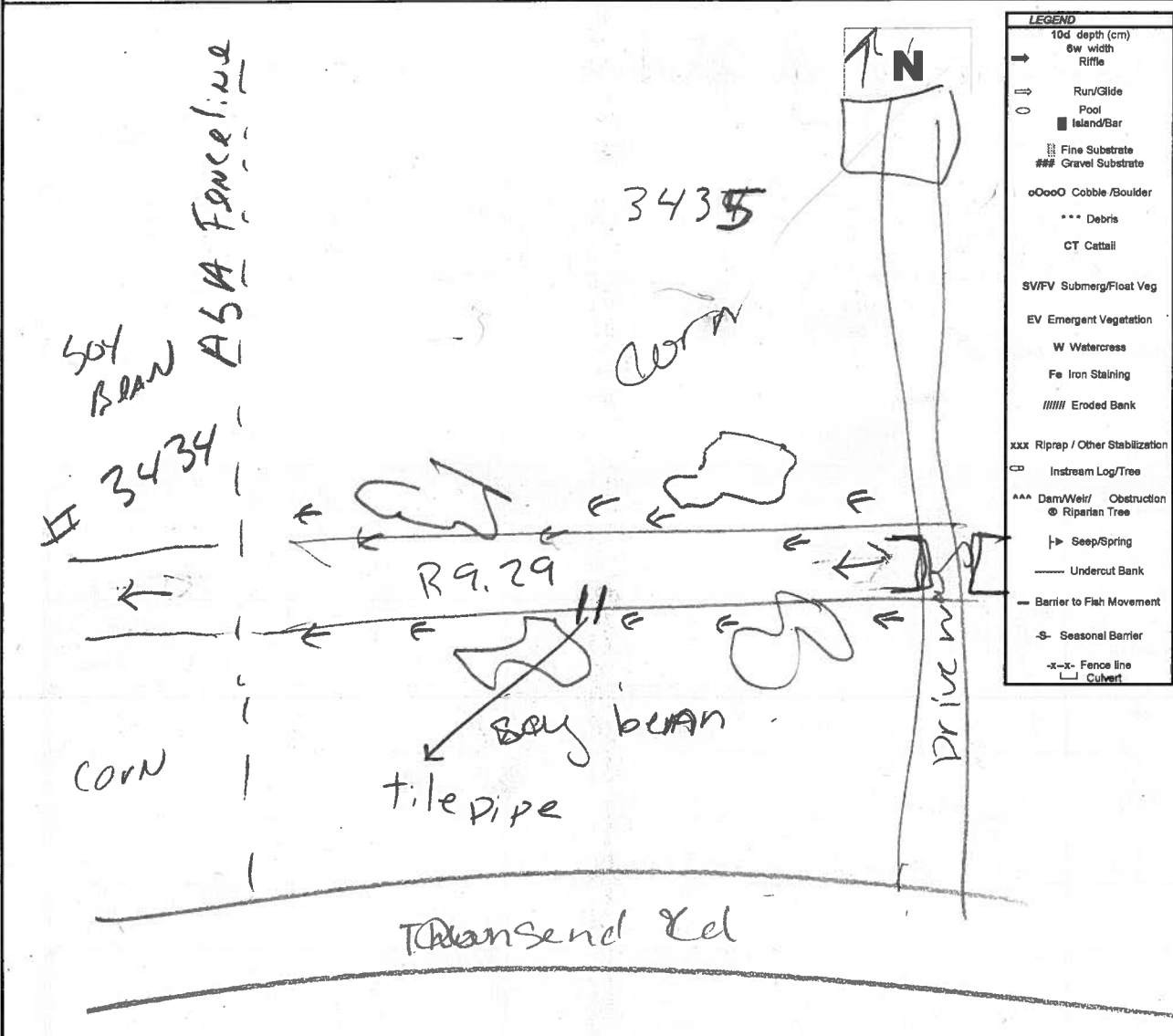
Bluewater

Land Parcel#

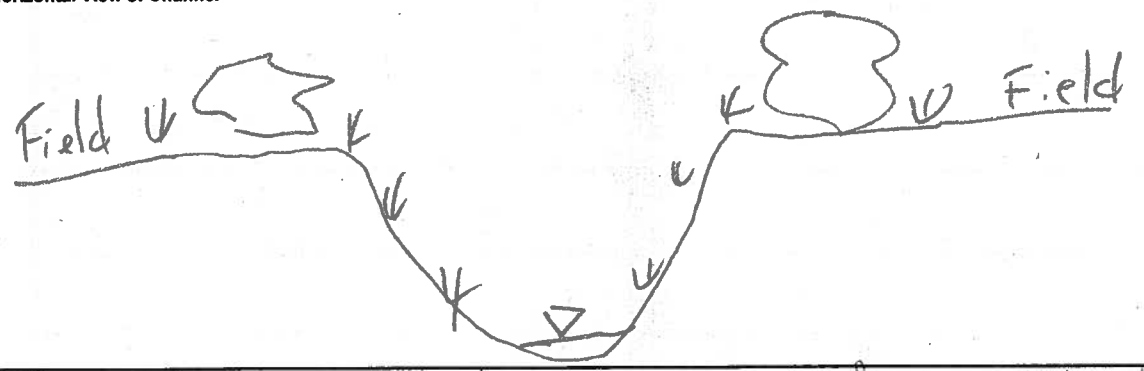
3434/3435

Site ID

R9.29C



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 4, 2012

Technical QA/QC By: J. Tucker

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# TER 1724 Site ID: R9.29F

Date: June 18/12 Start time: 12:35 End Time: 13:30

Weather Conditions:

Sunny, 24°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

Site Location

Hickory Creek, east of Warwick Village.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 423768 Northing: 4769442 Description: R9.29 J.1724 S

Easting: 424013 Northing: 4769097 Description: R9.29 J.1724 W_g

Easting: 423545 Northing: 4769482 Description: R9.29 J.1724 E

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

- | | |
|---|------------------------------------|
| Residential <input type="checkbox"/> | Meadow <input type="checkbox"/> |
| Agriculture <input checked="" type="checkbox"/> | Wetland <input type="checkbox"/> |
| Forest <input type="checkbox"/> | Livestock <input type="checkbox"/> |
| Other <input type="checkbox"/> | |

Type of Watercourse

- | | |
|---|---|
| Intermittent <input type="checkbox"/> | Channelized <input checked="" type="checkbox"/> |
| Permanent <input checked="" type="checkbox"/> | Natural Channel <input type="checkbox"/> |
| Ephemeral <input type="checkbox"/> | |

Description:

soy bean fields

Description:

straight

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

The drains - not flowing; rock chutes

Is any portion of the water body underground or not as mapped? Y N

If Yes describe:

/ /

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 26.3 AT (°C): 25°C
 pH: 8.52 Cond (µs/cm): 552
 D.O. (mg/L): 8.5
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: small pool, algae - attached + blooms present

Ground Water and Seepage Indicators

- | | |
|--|--|
| Watercress <input type="checkbox"/> | Bank Seepage <input type="checkbox"/> |
| Iron Staining <input type="checkbox"/> | None <input checked="" type="checkbox"/> |
| Bubbling <input type="checkbox"/> | |
| Other <input type="checkbox"/> | |

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology													
Site Length (m): 160m			Bank Stability:										
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable							
Mean Wetted Width (m): 2	Mean Wetted Depth (m): 0.10	Left Bank		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Mean Bankfull Width (m): 3.2	Mean Bankfull Depth (m): 0.6	Right Bank		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Mean Top of Bank Width (m): 4.5	Mean Top of Bank Depth (m): 3.5	Description: <i>Lacking bank veg + erosion evidence</i>											
Flow Description: (high or low flow conditions, stagnant, etc)													
<i>slow flow, low water level.</i>													
Habitat													
Substrate (<=>)			Morphological Structure (%)										
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay	MK - Muck	DT - Detritus	Description	Pool	Riffle	Run	Flat	Notes:
<i>hard packed clay bottom</i>								10	/	/	90	<i>stream has sections of narrowing causing pools</i>	
Instream Cover (%) 85													
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks							
/	/	5	10	70	/	Average Depth: / (% Cover)							
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%													
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)													
<i>algae - attached > algae - blooms > grasses > water plantain</i>													
Canopy Cover (% closed cover):						Types of Cover (% cover)							
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs	10	Man-made structures						
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	Herbaceous		Other						
60-30%	<input type="checkbox"/>												
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%													
Notes: (vegetation species, types of structures)													
<i>grasses</i>													
Riparian Vegetation													
Width and Description of riparian vegetation:						Types of Cover (% cover)							
LB - 1m - meadow						RB - ~0.5m - meadow							
Overhanging Vegetation Present Y/N <input checked="" type="checkbox"/>						% Overhanging Vegetation:							
Description of Overhanging Vegetation:													
Obstructions to Fish Passage													
None Observed	<input type="checkbox"/>	Man-Made	<input checked="" type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>						
Description of Barrier: <i>perched culvert</i>													
Height of Barrier (m) 0.3m						GPS Coordinates: 423639 4769466							

Water Bodies Assessment Field Collection Form

AECOM

Date: June 18/12

Land Parcel/Site ID: JER1729

29.29F

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frog heard calling
- Cyprinids observed (~10), Yoy schools observed - esp in pool by culvert -> culvert possible fish barrier but fish observed both up/s + down/s

A straight channelized watercourse that has little canopy cover and is algae choked.

Watercourse looks similar ~40m downstream

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a 1b	Sheet overview at start		
2-9	Channel overview		
10	- pool at culvert		
11-13	Channel overview		
14	post study area		
15-16	Culvert		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

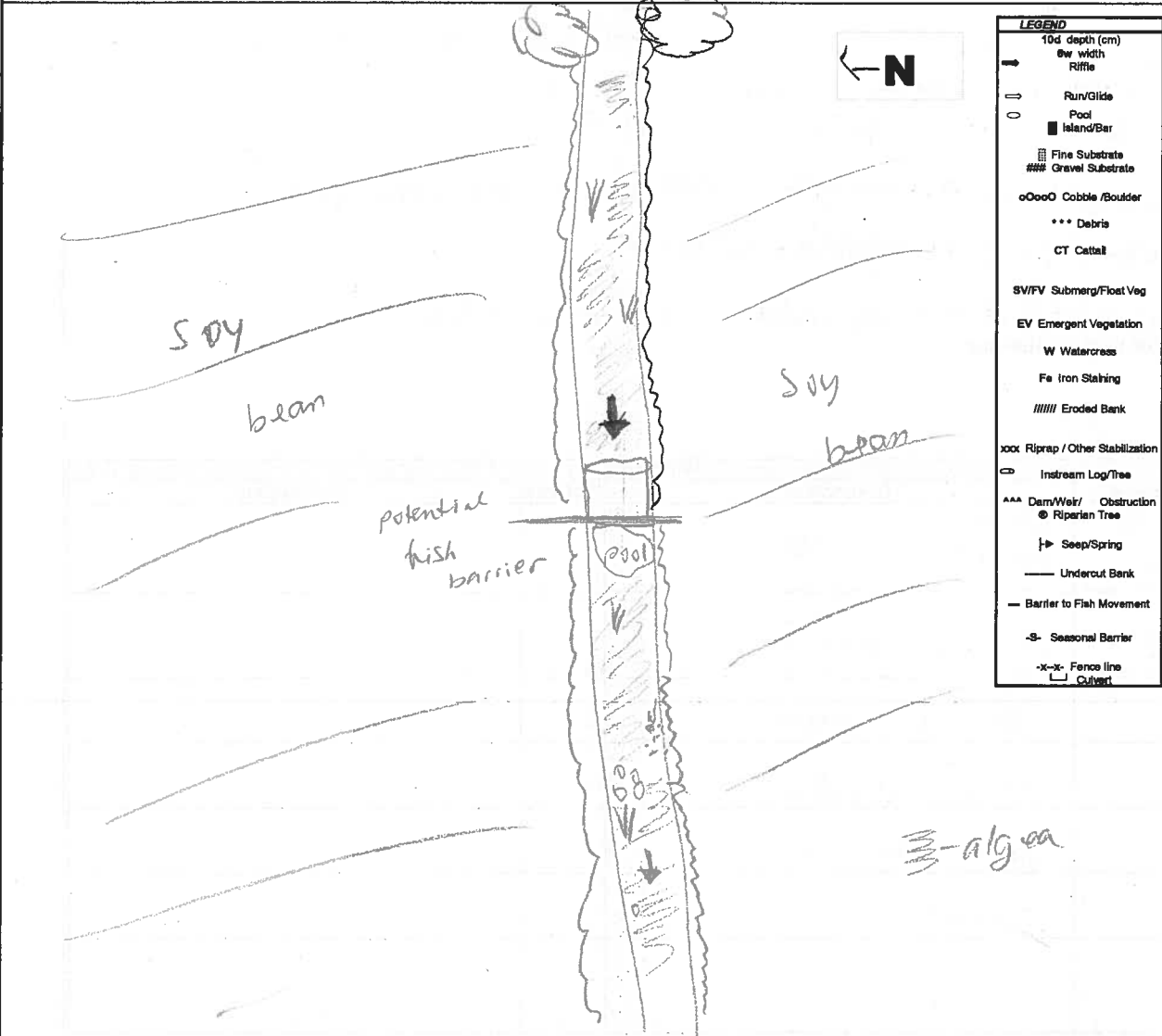
Bluewater

Land Parcel#

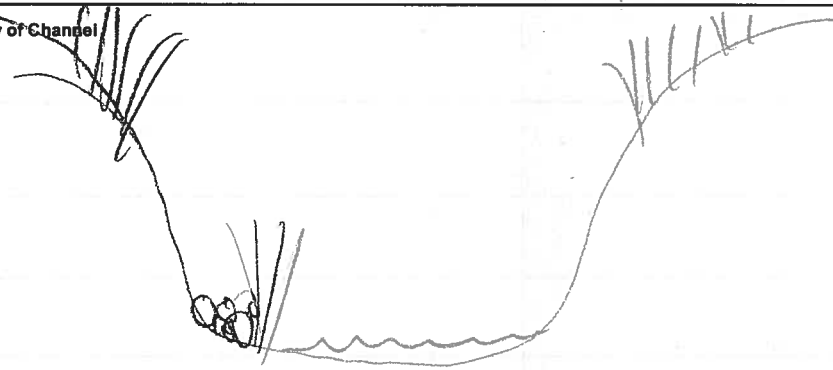
JER 1724

Site ID

R9.29 F



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: Slutka

Date: July 10, 2012

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 170611072 Site ID: R9.29 F
 Date: May 29 / 12 Start time: 12:45 End Time: 13:40
 Weather Conditions: Cloudy, 18°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

ASA
11072

Site Location

Hickory Creek Ln., west of First School Rd

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>0424072</u>	Northing: <u>4769475</u>	Description: <u>R9.29 start</u>
Easting: <u>423778</u>	Northing: <u>4769448</u>	Description: <u>R9.29 end</u>
Easting: <u>423932</u>	Northing: <u>4769434</u>	Description: <u>R9.29 wq</u>
Easting:	Northing:	Description:

Surrounding Land Use

Type of Watercourse

Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			

Description: Soy bean Description: straight

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tide drain inputs - flowing, rills

Is any portion of the water body underground or not as mapped? **Y** (N)
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -
 Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

Ground Water and Seepage Indicators

WT (°C): 21.38 AT (°C): 20°C
 pH: 7.10 Cond (µs/cm): 608
 D.O. (mg/L) 11.51
 Water Clarity: Clear Turbid 8/c
 Water Colour: brown

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

Notes: wq taken in pool ~ 0.1 m deep, algae blooms present

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): 250m				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): 2	Mean Wetted Depth (m): 0.28		Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): 2.4	Mean Bankfull Depth (m): 0.65		Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): 3.5	Mean Top of Bank Depth (m): 3.5		Description: evidence of erosion + slumping				
Flow Description: (high or low flow conditions, stagnant, etc) low water level moderate flow							
Habitat							
Substrate (< = >)			Morphological Structure (%)				
Description			Pool	Riffle	Run	Flat	
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			2				98
Clay packed bottom mk, sa, si, gr, co			Notes: one riffle - looks like farmer dumped rocks in creek				
Instream Cover (%) 70							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
	/	/	5	55	/	Average Depth: 0.07 (% Cover) 10	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) algae - attached, grasses, algae-blooms <i>reed canary</i>							
Canopy Cover (% closed cover):			Types of Cover (% cover)				
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>		Trees	Shrubs	Man-made structures		
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>		Grasses	Herbaceous	Other		
60-30% <input checked="" type="checkbox"/>			100				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%							
Notes: (vegetation species, types of structures) reed canary grasses							
Riparian Vegetation							
Width of riparian vegetation: 0.5m - meadow riparian (left + right bank)							
Description of vegetation community surrounding 30 m from watercourse: agri fields - soy.							
Obstructions to Fish Passage							
No Obstructions <input checked="" type="checkbox"/> Man-Made <input type="checkbox"/> Natural <input type="checkbox"/> Low Flow Barrier <input type="checkbox"/>							
Description of Barrier:							
Height of Barrier (m)			GPS Coordinates:				

Water Bodies Assessment Field Collection Form

AECOM

Date: May 29/12

Land Parcel/Site ID:

Sex 1706/1702
RQ29 F Page 3 of 4

Other General Comments Regarding the Study Area:

- minnows observed (~10)
- leopard frog observed on bank

Watercourse straight channelized feature. Grasses, in stream + on bank, provide all canopy cover (~50%). Substrate mulky + algae covered.

→ Upstream of study area watercourse appears similar for 20m although ~~is~~ is surrounded by forest on south side

Additional UTM Coordinates:

→ downstream of study area appears similar in dimensions but less vegetation (for ~20m)

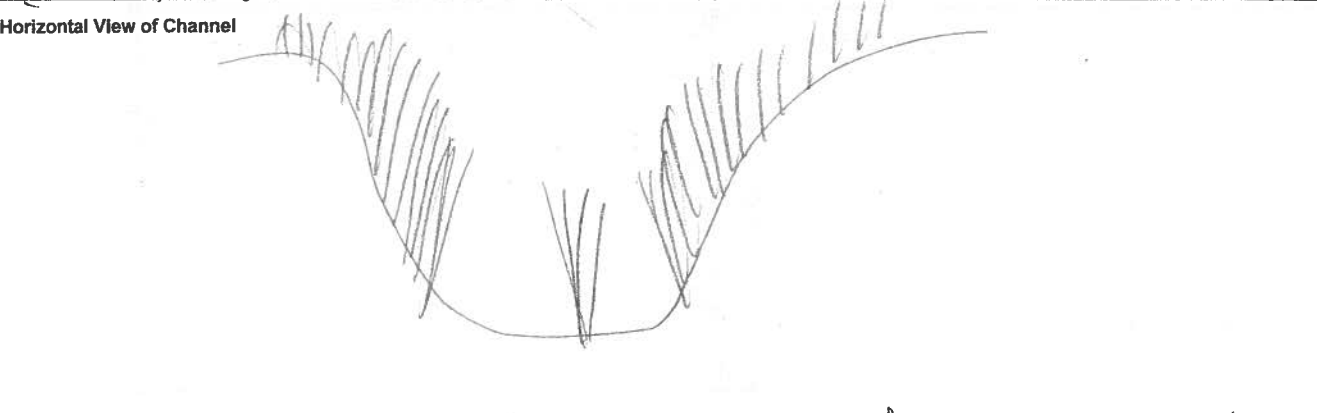
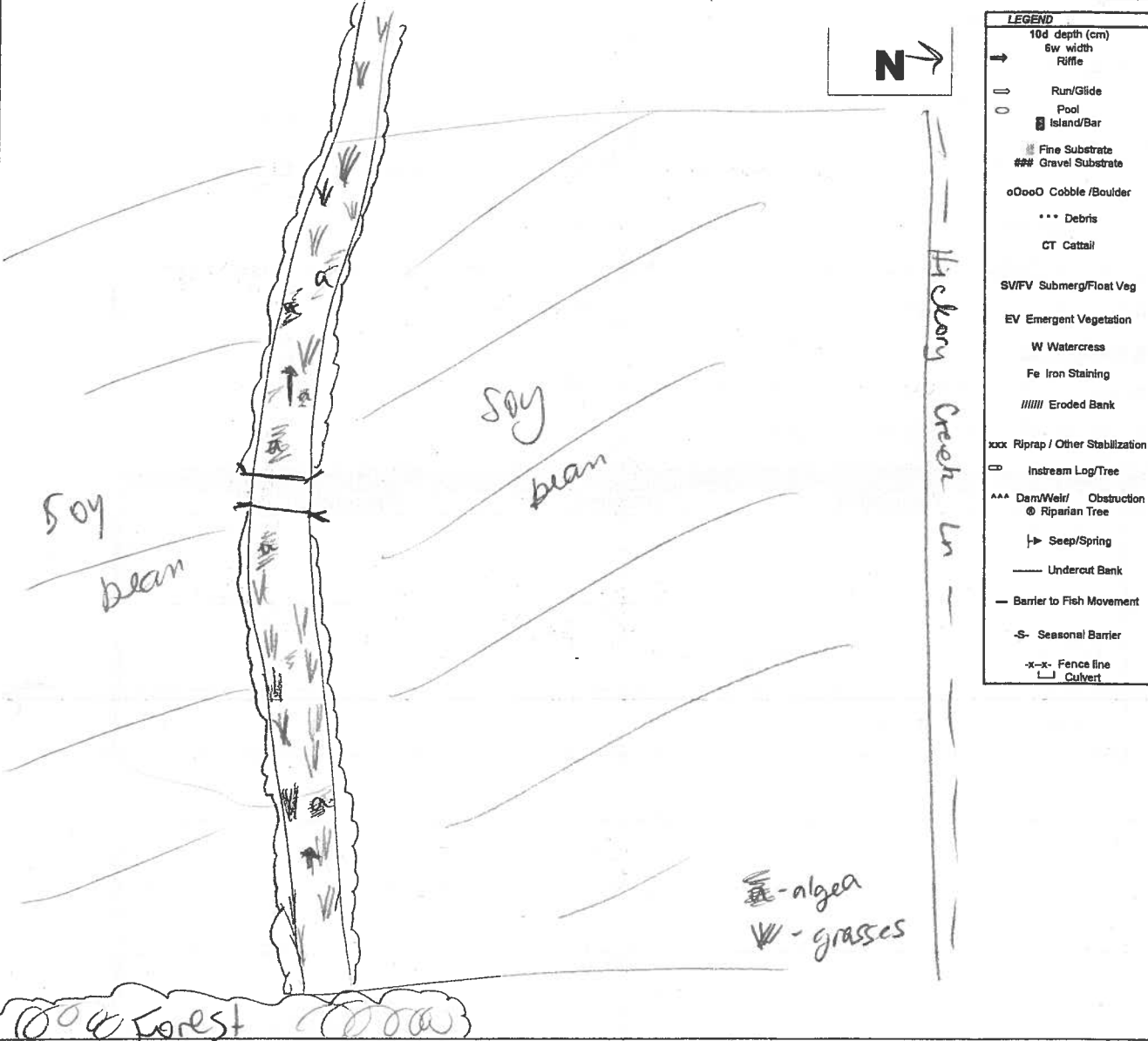
Photolog		Photolog	
Picture #	Description	Picture #	Description
1a 1b	Sheet maps of study area		
2-17	overview - walking east to west		
18-20	details of study area.		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Study Area: Jericho Goshen Bluewater Land Parcel# JER 17061 Site ID R9.29 F
1702



Initial QA/QC By: L. Bentley Date: June 9, 2012 Technical QA/QC By: [Signature] Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# ^{JE} 3435/3326/2760 Site ID: R9.29 B
 Date: May 30/12 Start time: 10:45 End Time: 12:15
 Weather Conditions: Sunny 20°C Field Crew: C. Egros, A. Arsenault
 Field Notes By: C. Egros

Site Location

Townsend Line and Nauvoo Rd.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 0427677 Northing: 4770578 Description: JCR 3435 R.9.29S T
 Easting: 0428208 Northing: 4770524 Description: JCR 3326 R.9.29W G
 Easting: 0428392 Northing: 4769879 Description: JCR 2760 R.9.29E N

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: soy + corn fields, deciduous forest + roadside		Description: channelized.	

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tile drains - some flowing, rock chute

Is any portion of the water body underground or not as mapped? Y / N
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 16.16 AT (°C): 20
 pH: 6.13 Cond (µs/cm): 712
 D.O. (mg/L): 9.10
 Water Clarity: Clear Turbid
 Water Colour: clear

Notes: clear when not disturbed (silt clouds water)

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling water
 Other Speedwell

Details:
 - small clumps + mats of Speedwell ground throughout
 - iron staining found on S side of Townsend Rd @ Nauvoo

Water Bodies Assessment Field Collection Form

Stream Morphology									
Site Length (m): 1 km				Bank Stability:					
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m): 1.5	Mean Wetted Depth (m): 0.08		Left Bank	<input checked="" type="checkbox"/> → <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Mean Bankfull Width (m): 2	Mean Bankfull Depth (m): 0.4		Right Bank	<input checked="" type="checkbox"/> → <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Mean Top of Bank Width (m): 3	Mean Top of Bank Depth (m): 3		Description: one area on 3326 - large bend & gabion basket present for stabilization						
Flow Description: (high or low flow conditions, stagnant, etc)									
slow flow, not visible in some locations									
Habitat									
Substrate (<=>)			Morphological Structure (%)						
Description			Pool	Riffle	Run	Flat			
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			/	/	/	100			
mk, si, cl > sa >> co			Notes: straight						
Instream Cover (%) 70									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks			
/	12	/	6	50	/	Average Depth: 0.05 (% Cover) 12			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)									
algae attached = grasses > cattail, pondweed									
Canopy Cover (% closed cover):				Types of Cover (% cover)					
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	20	Shrubs	60	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	20	Herbaceous	20	Other	
60-30%	<input checked="" type="checkbox"/>								
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%									
Notes: (vegetation species, types of structures)									
dogwood,									
Riparian Vegetation									
Width and Description of riparian vegetation:					RB -				
LB - < 0.5 - 2m - meadow					0.5 - > 30m → forest area - meadow + forest				
Overhanging Vegetation Present (Y/N)					% Overhanging Vegetation:				
Description of Overhanging Vegetation:					5				
not much overhanging shrubs, only a couple spots									
Obstructions to Fish Passage									
None Observed	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input checked="" type="checkbox"/>		
Description of Barrier: potential low flow barrier - throughout									
Height of Barrier (m)					GPS Coordinates:				
/					/				

Water Bodies Assessment Field Collection Form

AECOM

Date: May 30 / 12

Land Parcel/Site ID: JER 3435, 3326, 2760

Page 3 of 4
R9.29B

Other General Comments Regarding the Study Area:

- tadpoles observed
- cyprinids (~10), y04 (NE)

water plantain

Watercourse surveyed from west to east then south.

Overall watercourse similar throughout entire study area

- ↳ straight channelized stream, silt bottom, low water level, grasses in-stream but not completely choking it. Steep banks

Additional UTM Coordinates:

JER 3435 rock → rock pile (0427998, 4770535)

JER 2760 IRON → iron staining (0428300, 4770243)

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b	site overview from Townsend Rd.		
2	rock chute		
3-11	channel overview west of Northville		
12 12	Rock pile		
13-34	JER 3326		
35-39			
40-41	Iron staining		
42	bird nest		
43-48	JER 2760		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

JBR 3435/3326

Study Area:

Jericho

Goshen

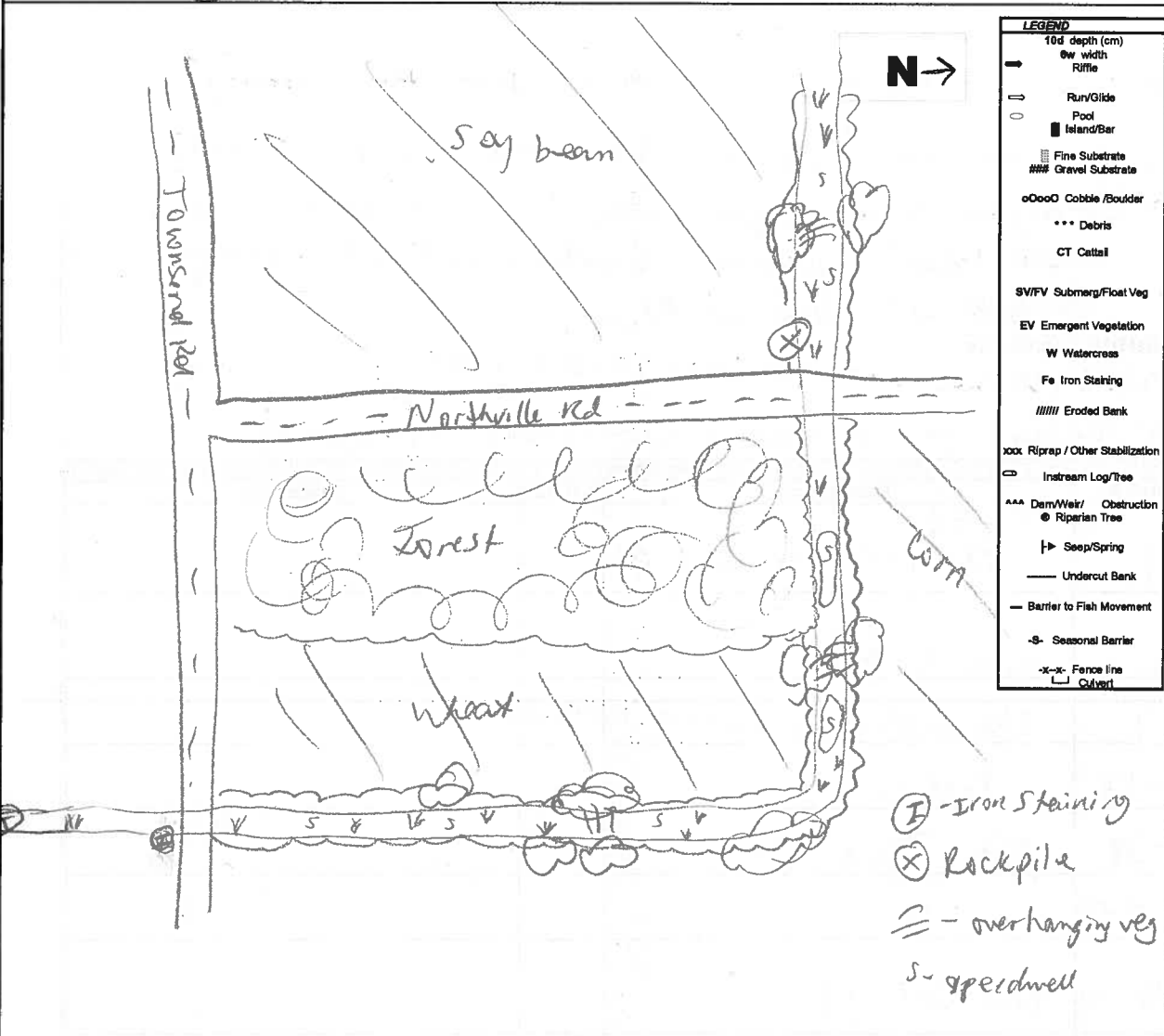
Blewater

Land Parcel#

2740

Site ID

R9.29B



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 9, 2012

Technical QA/QC By: [Signature]

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# Jer 2777 Site ID: R9.29A

Date: June 18/12 Start time: 10:50 End Time: 11:30

Weather Conditions: Cloudy, 25°C
 Field Crew: C. Boros, J. Eyr
 Field Notes By: C. Boros

Site Location

Narrow Rd, south of Hickory Creek

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 428393 Northing: 4769866 Description: R9.29 start

Easting: 428390 Northing: 4769366 Description: R9.29 w.g.

Easting: 428592 Northing: 4768952 Description: R9.29 end.

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

- Residential
 Agriculture
 Forest
 Other x
 Meadow
 Wetland
 Livestock

Type of Watercourse

- Intermittent
 Permanent
 Ephemeral
 Channelized
 Natural Channel

Description: Roadside ditches then corn field

Description: Tile drain fed

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tile drains - flowing by culvert

Is any portion of the water body underground or not as mapped? Y/N
 If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 18.7 AT (°C): 25°C
 pH: 7.15 Cond (µs/cm): 925
 D.O. (mg/L) Lo3
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: taken in stagnant pore highly vegetated ~0.07m deep

Ground Water and Seepage Indicators

- Watercress Bank Seepage
 Iron Staining None
 Bubbling water
 Other Speedwell

Details: a few plants at Hickory Creek Culvert.

Water Bodies Assessment Field Collection Form

Dry Channel:
width = 2m
bank full width = 2.5
depth = 0.6

Stream Morphology																		
Site Length (m): 575m		Bank Stability:																
Channel Dimensions <i>Ponded areas</i>		<table style="width:100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>			Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable														
Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
Mean Wetted Width (m): 1m	Mean Wetted Depth (m): 0.07	Description: <i>well vegetated</i>																
Mean Bankfull Width (m): 2.5	Mean Bankfull Depth (m): 0.6																	
Mean Top of Bank Width (m): 5	Mean Top of Bank Depth (m): 3																	

Flow Description: (high or low flow conditions, stagnant, etc)
stagnant pools + sections of dry channel

Habitat													
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Description: <i>si = cl =</i>	<table border="1" style="width:100%; text-align: center;"> <tr> <th colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>100</td> </tr> </table> Notes: <i>straight</i>	Morphological Structure (%)				Pool	Riffle	Run	Flat	-	-	-	100
Morphological Structure (%)													
Pool	Riffle	Run	Flat										
-	-	-	100										

Instream Cover (%) <i>90</i>						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
				<i>90</i>		Average Depth: (% Cover)

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)
Cattail = phragmites = grass sp.

Canopy Cover (% closed cover):				Types of Cover (% cover)		
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	Shrubs	Man-made structures
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>100</i>	Herbaceous	Other
60-30%	<input type="checkbox"/>					

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)
Cattail = phragmites = grass sp.

Riparian Vegetation	
Width and Description of riparian vegetation: LB - <i>< 0.5 meadow</i>	RB - <i>1.0m meadow</i>

Overhanging Vegetation Present *Y/N* % Overhanging Vegetation:

Description of Overhanging Vegetation:

Obstructions to Fish Passage							
None Observed	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input checked="" type="checkbox"/>
Description of Barrier: <i>patches of dry dry channel throughout</i>							
Height of Barrier (m)				GPS Coordinates:			

Water Bodies Assessment Field Collection Form

AECOM

Date: June 18 / 12

Land Parcel/Site ID: ^{Ra. 29A} JER 2777 Page 3 of 4

Other General Comments Regarding the Study Area:

- fish observed (~5) near culvert by Hickory Creek

 A straight channelized roadside ditch that is choked with grasses. Not flowing only isolated pools of water.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a 5/10	short channel overview walking south		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

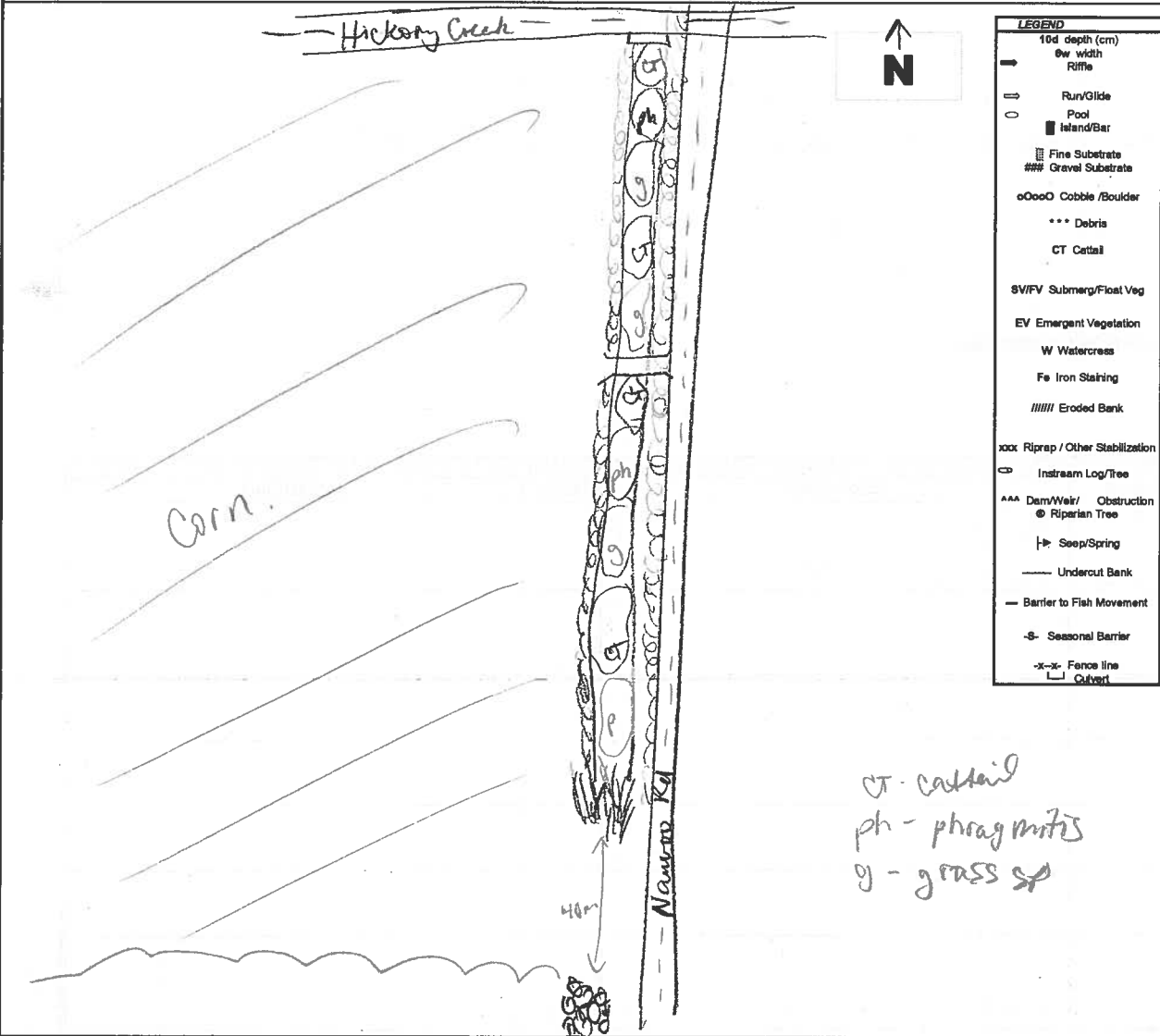
Goshen

Bluewater

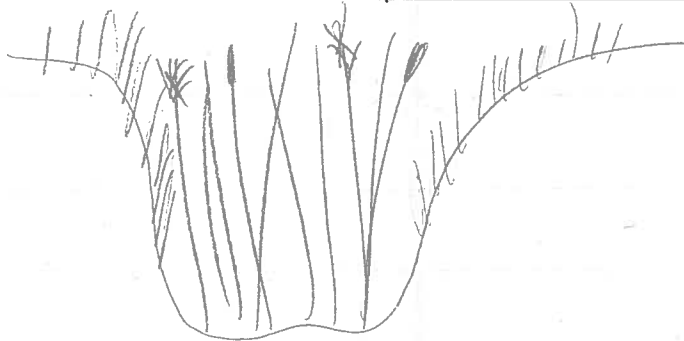
Land Parcel# JER 2777

Site ID

R 9. 29 A.



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: Slutkin

Date: July 16/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM			
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JER 136411330</u> Site ID: <u>R12.2</u>
Date: <u>July 31/12</u>	Start time: <u>16:45</u>	End Time: <u>17:15</u>	
Weather Conditions: <u>Sunny, 28°C</u>		Field Crew: <u>C. Barros, T. Sharney</u>	
		Field Notes By: <u>C. Barros</u>	
Site Location			
<u>E lorton, South of Brick Yard line</u>			
UTM Co-ordinates			
Easting: <u>421554</u>	Northing: <u>4763598</u>	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>		Details:	
Description: <u>wheat +</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	<u>Y</u>	<u>N</u>	
2) Temporary channel for surface drainage, that can be tilled or driven through?	<u>Y</u>	<u>N</u>	
3) Rock chutes or spillways?	<u>Y</u>	<u>N</u>	
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?			<u>Y</u>
5) Temporarily ponded areas that are normally farmed?	<u>Y</u>	<u>N</u>	
6) Artificial bodies of water intended for storage, treatment for farming purposes?			<u>Y</u>
8) Any other:	<u>filled in.</u>		
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>It appears the farmer has filled in the watercress area</u>			
<u>→ did not see it appear in JER1330</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1</u>	<u>North end</u>		
<u>2-6</u>	<u>Channel area</u>		

Assessment of Non-Water Body
(update to mapping required)

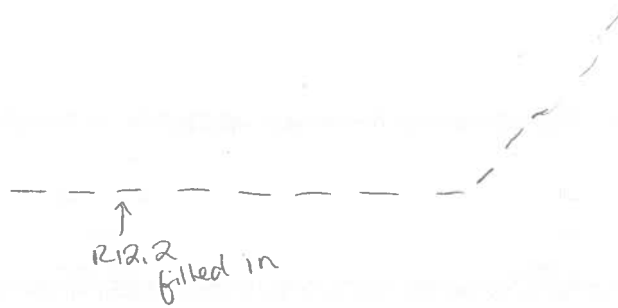
AECOM

Date: July 31/12

Land Parcel/Site ID: JER1364 R12.2

Page 2 of 2

Site Sketch 1330



JER 1364



Initial QA/QC: L. Bentley August 14, 2012
M. Butler Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jencho Goshen Bluewater Land Parcel# 2735/2680 Site ID: R12.54A
 Date: June 4/12 Start time: 14:45 End Time: 15:20

Weather Conditions: Sunny, 20°C Field Crew: C. Boros, S. Parai che
 Field Notes By: C. Boros

Site Location

Nanwoo Rd, north of Birnam Rd.

ASIA JER2735

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>428394</u>	Northing: <u>4767690</u>	Description: <u>R12.54 st</u>
Easting: <u>428590</u>	Northing: <u>4767837</u>	Description: <u>R12.54 end</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>
Other <input type="checkbox"/>	

Description: soy bean - south
corn field - north

Type of Watercourse

Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Ephemeral <input type="checkbox"/>	

Description: straight channel

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tile drain input - not flowing

Is any portion of the water body underground or not as mapped? Y (N)
 If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): <u>20</u>	AT (°C): <u>21.7</u>
pH: <u>7.86</u>	Cond (µs/cm): <u>710</u>
D.O. (mg/L) <u>5.55</u>	
Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>	

Water Colour: n/a

Notes: taken in small pool - 0.5m deep
Rounded in area

Ground Water and Seepage Indicators

Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>	

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology											
Site Length (m): <i>120 m</i>				Bank Stability:							
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable				
Mean Wetted Width (m):	<i>2.4</i>	Mean Wetted Depth (m):	<i>0.18</i>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Mean Bankfull Width (m):	<i>3.4</i>	Mean Bankfull Depth (m):	<i>1 m</i>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Mean Top of Bank Width (m):	<i>9</i>	Mean Top of Bank Depth (m):	<i>3.5</i>	Description: <i>well vegetated</i>							
Flow Description: (high or low flow conditions, stagnant, etc)											
<i>no observable flow</i>											
Habitat											
Substrate (<=>)				Morphological Structure (%)							
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>Si = mk</i>				Notes: <i>straight</i>							
				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;"><i>100</i></td> </tr> </tbody> </table>				Pool	Riffle	Run	Flat
Pool	Riffle	Run	Flat								
			<i>100</i>								
Instream Cover (%) <i>50</i>											
Other	<i>Small Woody Debris</i>	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
<i>/</i>	<i>5</i>	<i>/</i>	<i>/</i>	<i>45</i>	<i>/</i>	Average Depth: <i>/</i> (% Cover)					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
<i>Pondweed = algae - attached > grasses > algae - blooms</i>											
Canopy Cover (% closed cover):				Types of Cover (% cover)							
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>75</i>	Shrubs	<i>10</i>	Man-made structures			
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>15</i>	Herbaceous		Other			
60-30%	<input checked="" type="checkbox"/>										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
<i>maple, elm, willow, dogwood</i>											
Riparian Vegetation											
Width and Description of riparian vegetation:				Riparian Vegetation							
LB - <i>1-4 m trees + grass</i>				RB - <i>< 0.5 m - grasses</i>							
Overhanging Vegetation Present <input checked="" type="checkbox"/> N				% Overhanging Vegetation: <i>5</i>							
Description of Overhanging Vegetation: <i>willow + dogwood, sparse overhanging</i>											
Obstructions to Fish Passage											
None Observed <input checked="" type="checkbox"/>		Man-Made <input type="checkbox"/>		Natural <input type="checkbox"/>		Low Flow Barrier <input type="checkbox"/>					
Description of Barrier:											
Height of Barrier (m)				GPS Coordinates:							

Water Bodies Assessment Field Collection Form

AECOM

Date: June 4/12

Land Parcel/Site ID: JER 2735 / 2680 R12.54A

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frog observed.
- Cypripedium observed.

Watercourse is a straight channelized system. By the road there is dense aquatic veg but very little canopy cover. As it flows into the agr field there is little aquatic veg but high canopy cover. The substrate is silty muck.

Additional UTM Coordinates:

The water course on JER 2735 is similar to the roadside section of stream for ~40m. (ASA)

Photo log

Picture #	Description	Picture #	Description
13 3 44	looking west 2735		
13 3 45-47	east side - start		
1348	green frog		
1349-50	channel overview		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

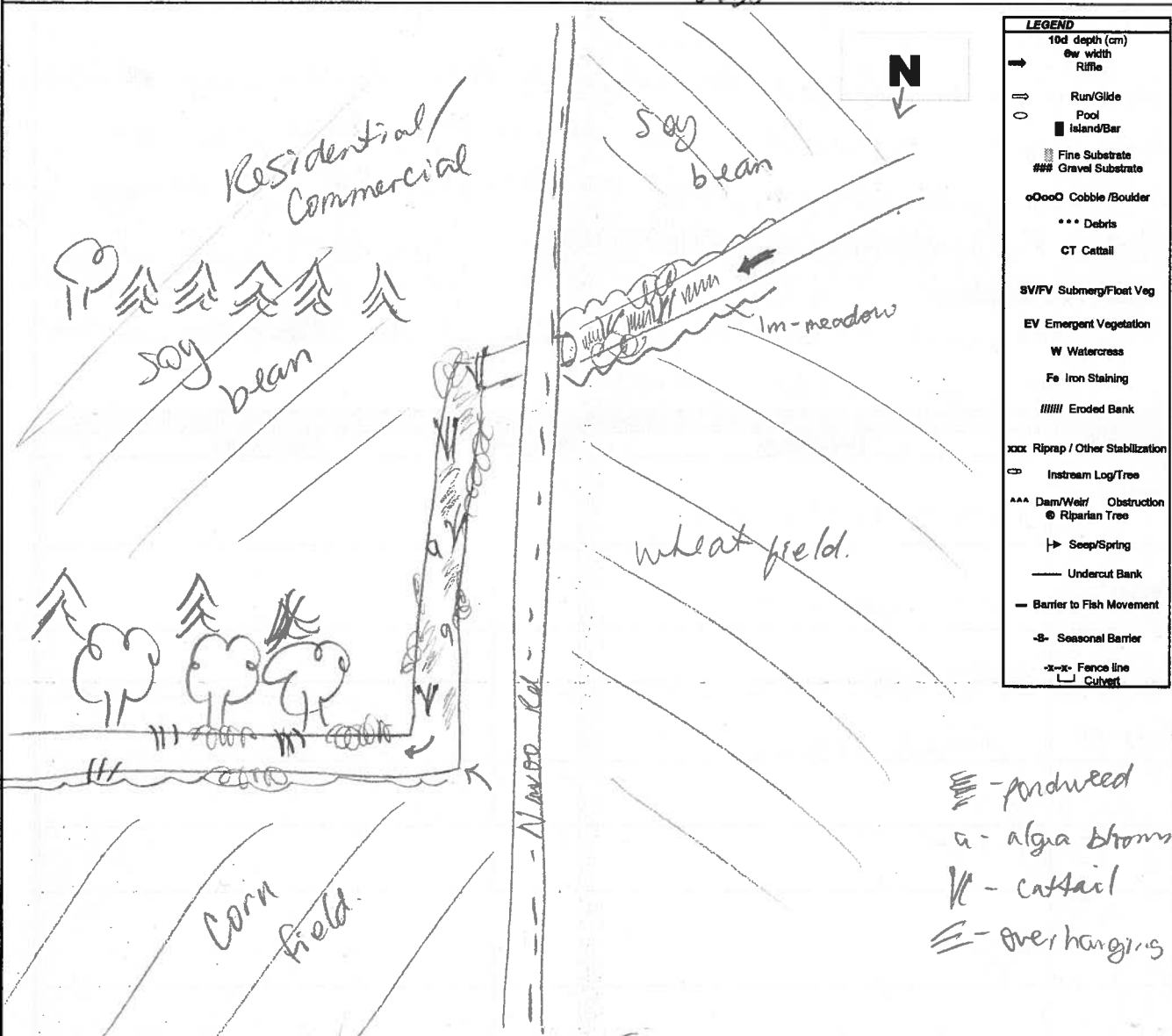
Bluewater

Land Parcel#

2680 / 2235

Site ID

R12.54A



LEGEND

- 10d depth (cm) →
- 0w width
- Rifle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- Gravel Substrate
- Cobble/Boulder
- Debris
- CT Cattail
- SV/FV Submerg/Floet Veg
- EV Emergent Vegetation
- W Watercross
- Fe Iron Staining
- Eroded Bank
- Riprap / Other Stabilization
- Instream Log/Tree
- Dam/Weir / Obstruction
- Riparian Tree
- Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- Seasonal Barrier
- Fence line
- Culvert

- pondweed
 a - algae bloom
 K - cattail
 - overhanging veg

Horizontal View of Channel



Initial QA/QC By: *L. Bentley*

Date: *June 14, 2012* Technical QA/QC By: *Sutton* Date:

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 2797 Site ID: R12.54 B
 Date: June 7/12 Start time: 15:30 End Time: 16:20

Weather Conditions:

Sunny, 21°C

Field Crew: C. Boros, S. Darniche
 Field Notes By: C. Boros

Site Location

South side of Birnam Rd, west of Nanwood Kd.

Roadside for JER 2792A # 2792

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>427661</u>	Northing: <u>4767143</u>	Description: <u>R12.54 st.</u>
Easting: <u>427577</u>	Northing: <u>4766907</u>	Description: <u>R12.54 w/b</u>
Easting: <u>427595</u>	Northing: <u>4766880</u>	Description: <u>R12.54 end 2</u>
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral _____

Description:

tilled field on west forest on right ~15m

Description:

runny channelized

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

None observed

Is any portion of the water body underground or not as mapped? N outside of Buffer Area

If Yes describe:
originally mapped as watercourse bearing west at forest but looks as though farmer has channelized it to keep going straight
visible on OT the

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 23.3 AT (°C): 27°C
 pH: 7.84 Cond (µs/cm): 681
 D.O. (mg/L): 5.03
 Water Clarity: Clear Turbid
 Water Colour: n/a

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Notes: pondweed in area, water depth ~ 0.10m

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <i>240m</i>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m):	<i>2.5</i>	Mean Wetted Depth (m):	<i>0.25</i>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<i>3.5</i>	Mean Bankfull Depth (m):	<i>0.85</i>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>4.5</i>	Mean Top of Bank Depth (m):	<i>1.5</i>	Description:				
				<i>no evidence of erosion</i>				
Flow Description: (high or low flow conditions, stagnant, etc)								
<i>not visible</i>								
Habitat								
Substrate (< = >)			Morphological Structure (%)					
Bo - Boulder	Description <i>mk = si = cl > sand</i>	Co - Cobble	Pool	Riffle	Run	Flat		
Gr - Gravel			<i>/</i>	<i>/</i>	<i>/</i>	<i>100</i>		
Sa - Sand								
Si - Silt								
Cl - Clay								
MK - Muck								
DT - Detritus								
			Notes:					
			<i>straight</i>					
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>30</i>	<i>/</i>	Average Depth: (% Cover) <i>/</i>		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)								
<i>Pondweed >> alga - attached > arrowhead</i>								
Canopy Cover (% closed cover):			Types of Cover (% cover)					
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>30</i>	Shrubs	<i>60</i>	Man-made structures
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>10</i>	Herbaceous		Other
60-30%	<input checked="" type="checkbox"/>							
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%								
Notes: (vegetation species, types of structures)								
<i>dogwood, willow</i>								
Riparian Vegetation								
Width and Description of riparian vegetation:	LB - <i>~15m forest</i>	Riparian Vegetation		RB - <i>< 0.4m - grass/weeds</i>				
Overhanging Vegetation Present	<i>0/1 N</i>	% Overhanging Vegetation:		<i>10</i>				
Description of Overhanging Vegetation:								
<i>dogwood overhanging by bank edge</i>								
Obstructions to Fish Passage								
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>	
Description of Barrier:								
Height of Barrier (m)			GPS Coordinates:					

Water Bodies Assessment Field Collection Form

AECOM

Date: June 7/12

Land Parcel/Site ID: JER 2797
2792A
2792

Page 3 of 4
P12.54B

Other General Comments Regarding the Study Area:

JER 2797
Straight channelized water course that is uniform in dimension.
Pondweed provides instream cover. There is low canopy cover and a soft bottom.

- Cyprinids observed (~5), 2 young mallard ducks observed, green frog heard calling in wetland area
* Channel not as mapped on JER 2797

Additional UTM Coordinates:

ASA JER 2792A - similar to water course on JER 2797

Photo log			
Picture #	Description	Picture #	Description
1489	South side		
1490	- North side of Road		
1491-97	walking South towards forest area		
1498-99	end of site		
1500-05	wetland area		
1506	Pond P12.22		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

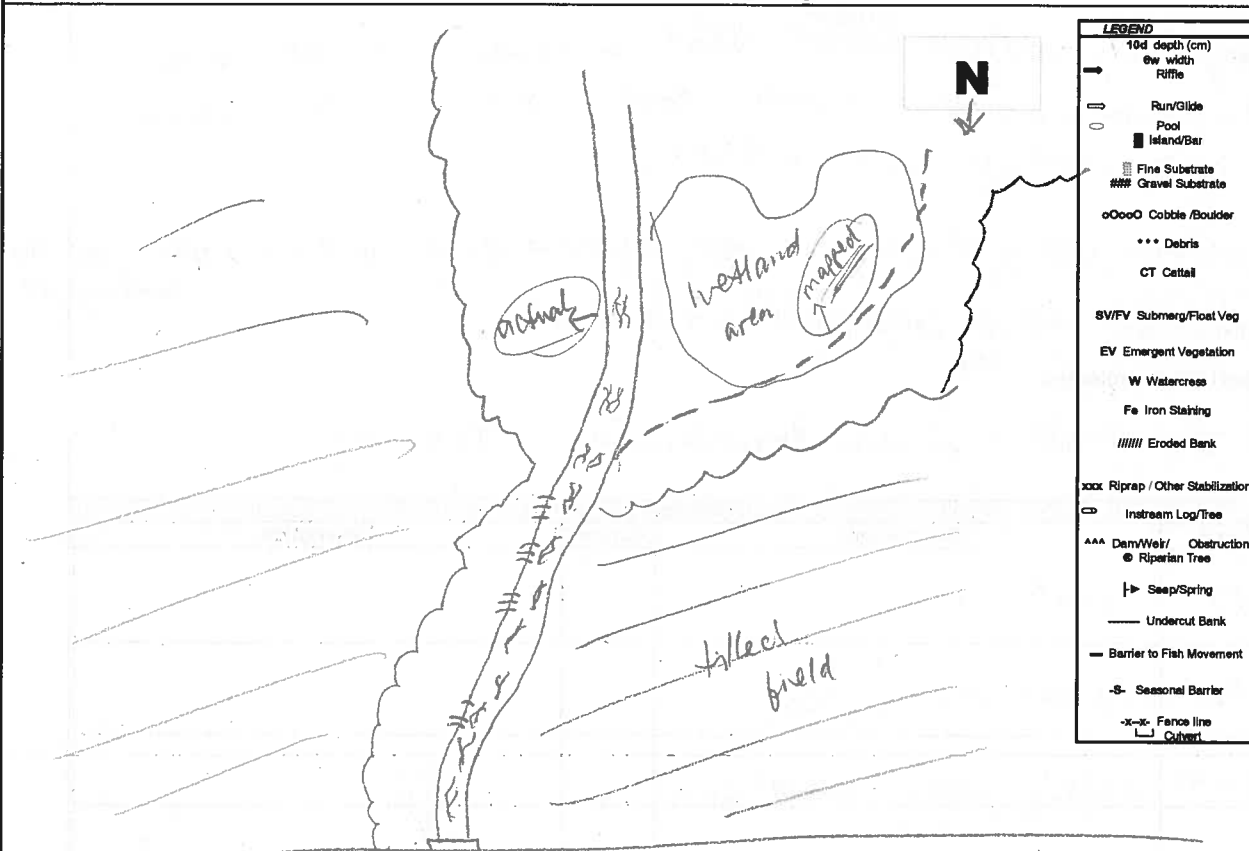
Bluewater

Land Parcel#

JER 2797
2792A
2792

Site ID

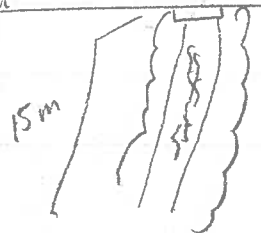
R/R 54 B



LEGEND

- 10d depth (cm)
- ⇌ @w width
- ⇌ Riffle
- ⇌ Run/Glide
- Pool
- Island/Bar
- ▨ Fine Substrate
- ### Gravel Substrate
- oOooO Cobble/Boulder
- *** Debris
- CT Cattail
- SW/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercress
- Fe Iron Slating
- ///// Eroded Bank
- xxx Riprap / Other Stabilization
- Instream Log/Tree
- AAA Dam/Weir/ Obstruction
- Riparian Tree
- ↳ Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- S- Seasonal Barrier
- x-x- Fence line
- └ Culvert

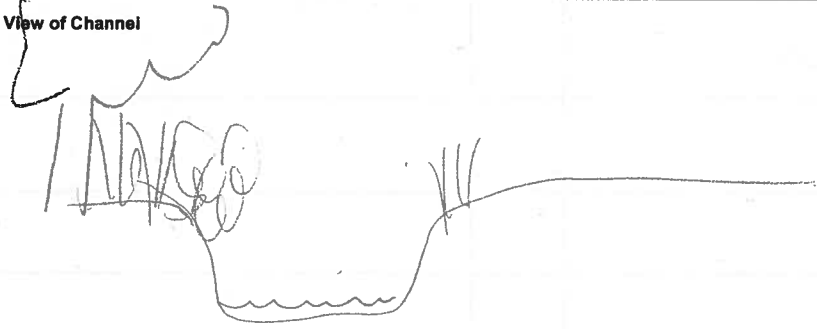
Birnam Rd



15m

≡ - overhanging veg
∩ - pondweed

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 13, 2012

Technical QA/QC By: J. Tuttle

Date: Oct 2/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 2967/2946/2913 Site ID: R12.82
 Date: May 31/12 Start time: 15:00 End Time: 15:50
 Weather Conditions: Sunny, 15°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

ASA
2913

Site Location

Wisbeach Rd, South of Birnam Rd.

UTM Co-ordinates

Easting: 0433270 Northing: 4766233 Description: JER 2967 RD. 82
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other
 Description: wheat + corn fields

Ground Water and Seepage Indicators

Watercross Bank Seepage
 Iron Staining None
 Bubbling
 Details: _____

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? Y / (N)
- 2) Temporary channel for surface drainage, that can be tilled or driven through? (Y) N
- 3) Rock chutes or spillways? Y / (N)
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / (N)
- 5) Temporarily ponded areas that are normally farmed? Y / (N)
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / (N)
- 8) Any other:

Description: (i.e. length of change, if it reappears, if there is evidence of water)

No evidence of water conveyance

Photo log

Picture #	Description	Picture #	Description
<u>1-2</u>	<u>JER 2967 - looking south</u>		
<u>3-5</u>	<u>looking at JER 2946</u>		
<u>6</u>	<u>looking west from wisbeach rd</u>		

7 looking east from wisbeach rd

Assessment of Non-Water Body
(update to mapping required)

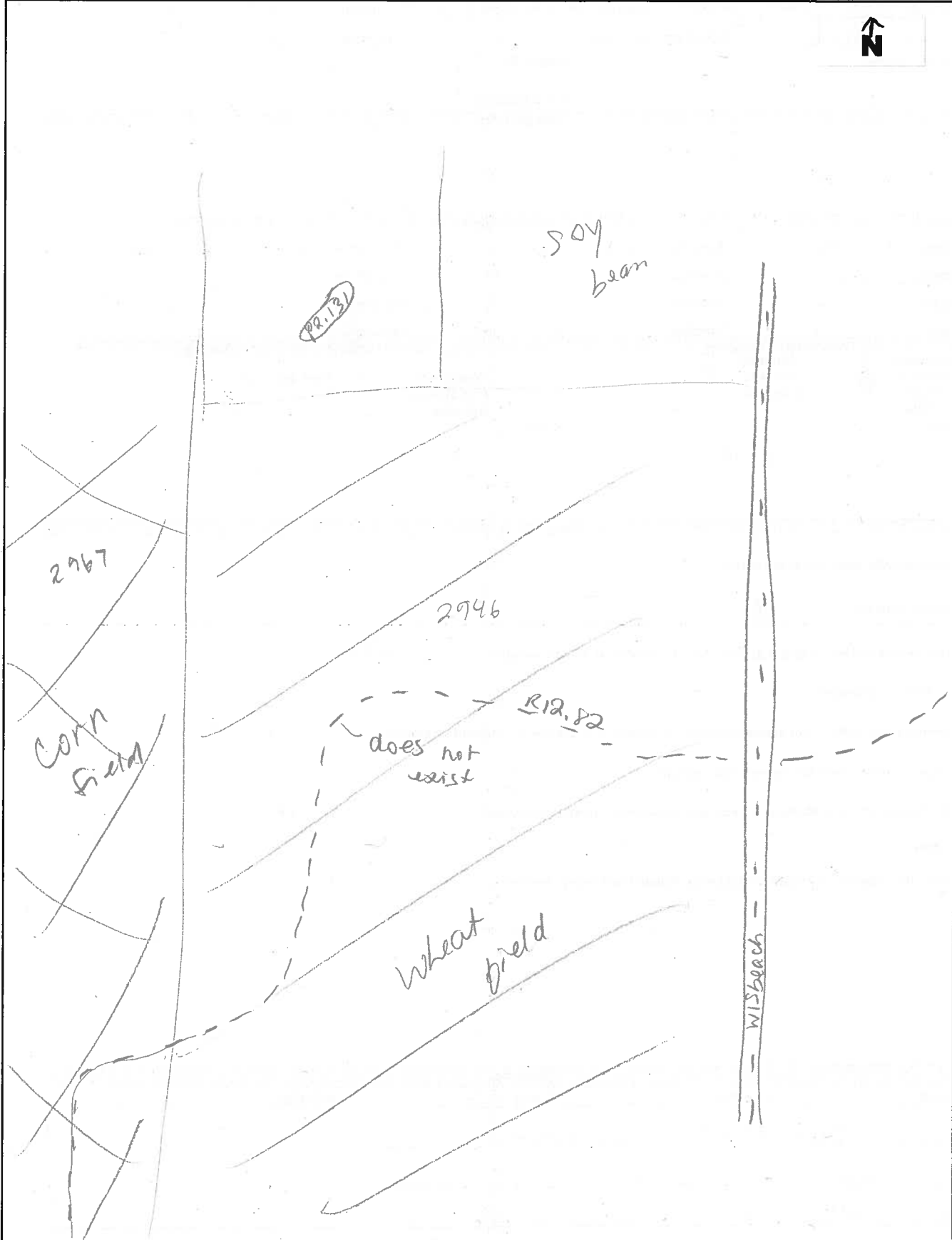
AECOM

Date: May 31/12

Land Parcel/Site ID:

K12.82 JER 29107/2946/2913 page 2 of 2

Site Sketch



Initial QA/QC: Liberty June 9, 2012
Final Oct 2/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM																			
General Information																			
Study Area: <u>Jericho</u> <u>Goshen</u> <u>Bluewater</u>	Land Parcel# <u>JER 2836</u> Site ID: <u>R12.123</u>																		
Date: <u>June 25/12</u> Start time: <u>15:00</u>	End Time: <u>15:10</u>																		
Weather Conditions: <u>Sunny 16°C</u>	Field Crew: <u>CiBoros, J. Epp</u> Field Notes By: <u>CiBoros</u>																		
Site Location																			
<u>Birnam Rd, east of Bethel Rd.</u> Roadside Survey																			
UTM Co-ordinates																			
Easting: <u>426647</u> Northing: <u>4767147</u> Description: <u>R12.123</u>																			
Easting: _____ Northing: _____ Description: _____																			
Easting: _____ Northing: _____ Description: _____																			
Easting: _____ Northing: _____ Description: _____																			
<table border="0" style="width:100%;"> <tr> <td align="center" colspan="2">Surrounding Landuse</td> </tr> <tr> <td>Residential <input type="checkbox"/></td> <td>Meadow <input type="checkbox"/></td> </tr> <tr> <td>Agriculture <input checked="" type="checkbox"/></td> <td>Wetland <input type="checkbox"/></td> </tr> <tr> <td>Forest <input type="checkbox"/></td> <td>Livestock <input type="checkbox"/></td> </tr> <tr> <td>Other _____</td> <td></td> </tr> </table>	Surrounding Landuse		Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Other _____		<table border="0" style="width:100%;"> <tr> <td align="center" colspan="2">Ground Water and Seepage Indicators</td> </tr> <tr> <td>Watercress <input type="checkbox"/></td> <td>Bank Seepage <input type="checkbox"/></td> </tr> <tr> <td>Iron Staining <input type="checkbox"/></td> <td>None <input checked="" type="checkbox"/></td> </tr> <tr> <td>Bubbling <input type="checkbox"/></td> <td>_____ <input type="checkbox"/></td> </tr> </table>	Ground Water and Seepage Indicators		Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>	Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Surrounding Landuse																			
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>																		
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>																		
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>																		
Other _____																			
Ground Water and Seepage Indicators																			
Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>																		
Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>																		
Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>																		
Description: <u>wheat field</u>	Details: _____																		
Feature Description																			
Is the mapped water body any of the below:																			
1) a grassed waterway? <u>Y</u> / <u>(N)</u>																			
2) Temporary channel for surface drainage, that can be tilled or driven through? <u>(Y)</u> / <u>N</u>																			
3) Rock chutes or spillways? <u>Y</u> / <u>(N)</u>																			
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? <u>Y</u> / <u>(N)</u>																			
5) Temporarily ponded areas that are normally farmed? <u>Y</u> / <u>(N)</u>																			
6) Artificial bodies of water intended for storage, treatment for farming purposes? <u>Y</u> / <u>(N)</u>																			
8) Any other:																			
Description: (i.e. length of change, if it reappears, if there is evidence of water)																			
<u>Most likely ploughed through → no outlet drain observed</u>																			
Photo log																			
Picture #	Description	Picture #	Description																
<u>10</u>	<u>street overview</u>																		

Assessment of Non-Water Body
(update to mapping required)

AECOM

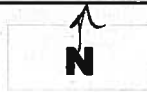
Date: June 25/12

Land Parcel/Site ID:

JER 2836 R12.123

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley June 26, 2012

Technical QA/QC: S. Atkinson July 10/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOR 1395 Site ID: PI.35
 Date: June 12/12 Start time: 14:20 pm End Time: 14:30 pm

Weather Conditions:

25°C Sunny

Field Crew: C. Boros, J. Epp

Field Notes By: J. Epp

Site Location

Elginfield, East of Petesube ASA Roadside

UTM Co-ordinates

Easting: 438815 Northing: 4777221 Description: PI.35

Easting: Northing: Description:

Surrounding Landuse

- Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Pond

- Natural Dammed
 Permanent Seasonal
 Dugout Pond Used for Farming
 Vernal Pools

Description:

Pasture, no livestock seen, but electric fence is humming.

Description:

no defined shape, low lying area, in small valley

In-Situ Water Quality

WT (°C): AT (°C):
 pH: Cond (s/cm):
 D.O. (mg/L)

Water Clarity: Clear Turbid

Water Colour: ASA could not access

Ground Water and Seepage Indicators

- Watercress Bank Seepage
 Iron Staining None
 Bubbling

Details:

ASA could not access

Wildlife Observations

Observations of Fish and Wildlife

ASA could not access

In-Situ Habitat

- Substrate (< = >)
 Bo - Boulder Description
 Co - Cobble
 Gr - Gravel
 Sa - Sand
 Si - Silt
 Cl - Clay
 MK - Muck
 DT - Detritus

ASA could

Physical Characteristics of Pond

Estimated Size: 10x7m Estimated Depth (m): ↓

Notes:

ASA could not access

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
<u>ASA could not access</u>						

Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

Buckweed.

Description and Width of Riparian Vegetation

livestock pasture, grasses, some trees.

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: June 12/12

Land Parcel/Site ID: BOR1395

Page 2 of 2
Pl. 35

Online Pond Y N

Provide Description ~~could not find any more info~~ looks

Offline Pond Y N

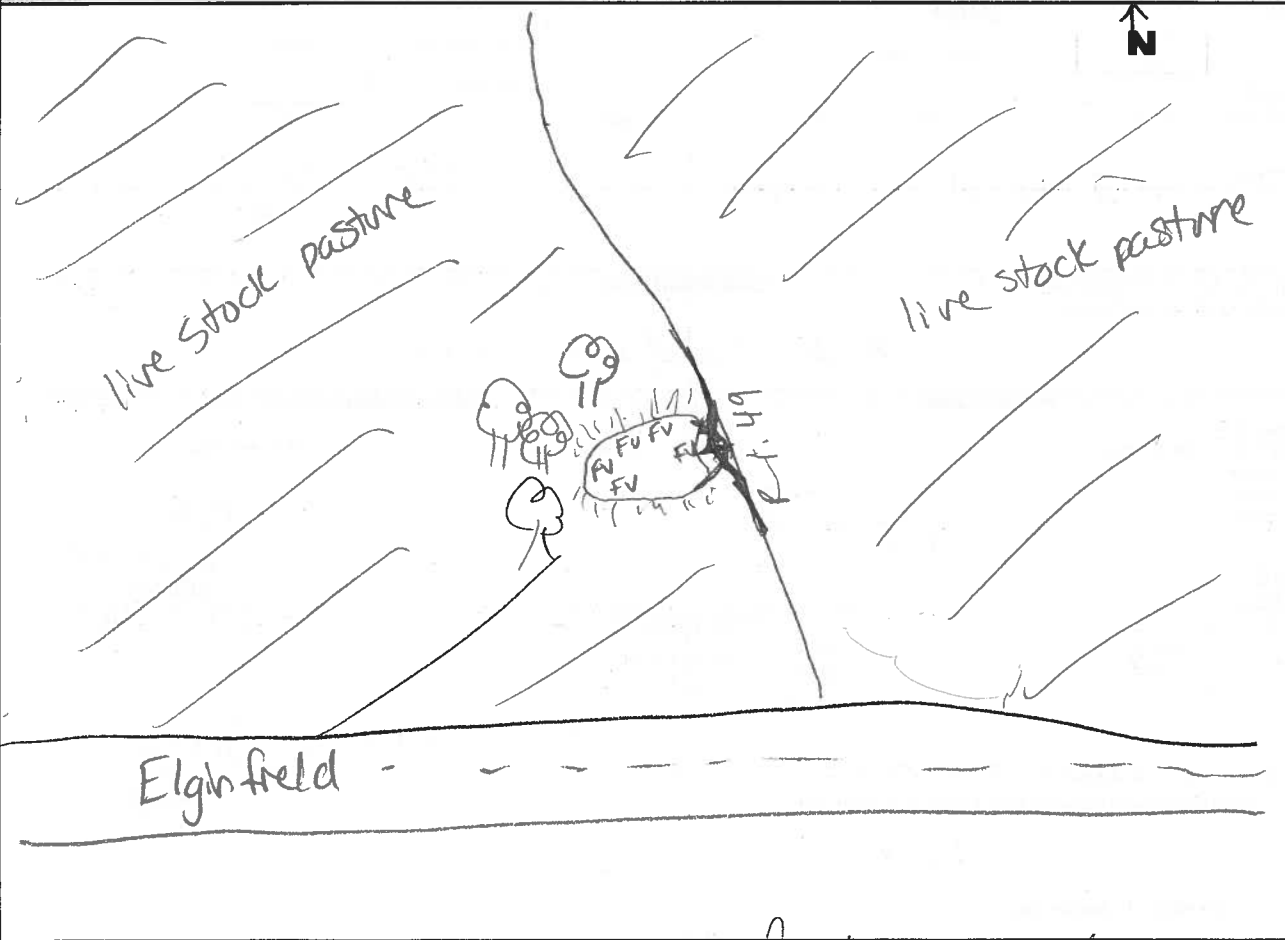
to be an online pond, watercourse enters pond.

Other General Comments Regarding the Study Area:

very small pond in middle of livestock pasture, not being used at time of investigation but electric fence was humming. R1.49 goes directly into pond and exits on other side. Some floating duckweed.

Picture #		Photo log	
Picture #	Description	Picture #	Description
1a 1b-2	sheet site overview		

Sketch of Pond



Initial QA/QC By: *W Bentley*

Date: June 26, 2012

Technical QA/QC By: *Sarkkan*

Date: July 10/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOR 1415 Site ID: PJ.24
 Date: May 24/12 Start time: 15:40 End Time: 15:45

Weather Conditions: Sunny 25°C Field Crew: C. Boros, J. Egg
 Field Notes By: C. Boros

Site Location

Elginfield Rd., east of Sylvan.

Roadside Survey

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 487006 Northing: 4777643 Description: PJ.24
 Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: old corn field

Type of Pond

Natural Dammed
 Permanent Seasonal
 Dugout Pond Used for Farming
 Vernal Pools

Description: -could not assess

In-Situ Water Quality

WT (°C): / AT (°C): /
 pH: / Cond (s/cm): /
 D.O. (mg/L) /
 Water Clarity: Clear Turbid
 Water Colour: no access

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

Wildlife Observations

Observations of Fish and Wildlife: no observations

In-Situ Habitat

Substrate (<=>)
 Bo - Boulder
 Co - Cobble
 Gr - Gravel
 Sa - Sand
 Si - Silt
 Cl - Clay
 MK - Muck
 DT - Detritus

Physical Characteristics of Pond

Estimated Size: / Estimated Depth (m): /
 Notes:

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

Description and Width of Riparian Vegetation

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: May 24/12

Land Parcel/Site ID: Box 1415 P1.24

Page 2 of 2

Online Pond Y / N

Provide Description

Could not assess

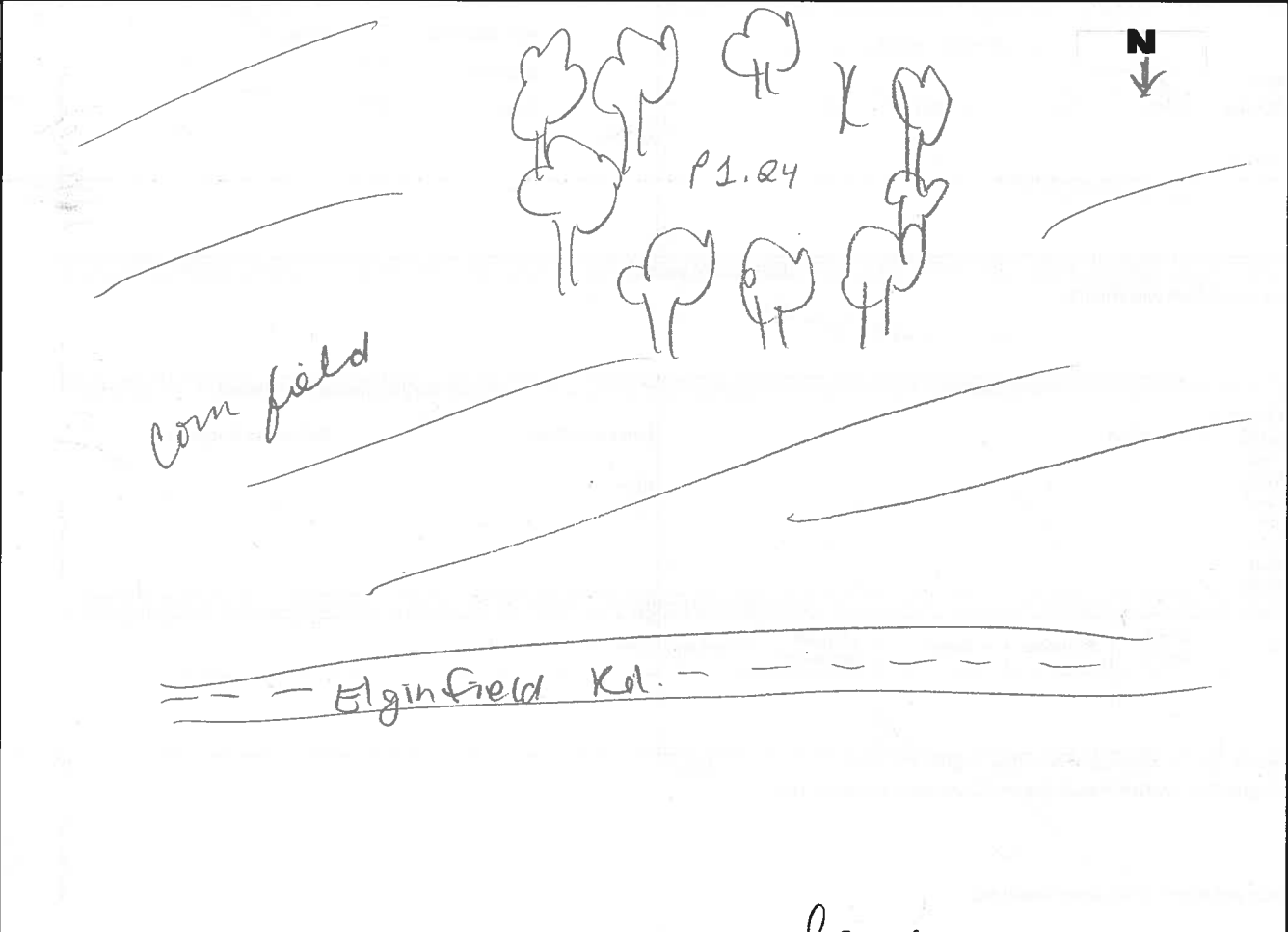
Offline Pond Y / N

Other General Comments Regarding the Study Area:

Large deciduous trees surrounded area where pond should be located. Could not see water from road

Picture #	Description	Photo log	
		Picture #	Description
1a 1b-2	Sheet Overview from road		

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: May 30 2012

Technical QA/QC By: [Signature]

Date: Oct 2/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOR2020 Site ID: P1.27
 Date: June 18/12 Start time: 15:00 pm End Time: 15:10 pm
 Weather Conditions: Cloudy, rain 20°
 Field Crew: C. Barros, J. Epp
 Field Notes By: J. Epp

Site Location

Elgin Field, West of Roddick

ASA
Roadside

UTM Co-ordinates

Easting: 439231 Northing: 4777126 Description: P1.27

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: Cattle

Type of Pond

Natural Dammed
 Permanent Seasonal
 Dugout Pond Used for Farming
 Vernal Pools

Description: Steep banks

In-Situ Water Quality

WT (°C):
 pH:
 D.O. (mg/L)
 Water Clarity: Clear Turbid
 Water Colour: ASA

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Details: ASA

Wildlife Observations

Observations of Fish and Wildlife
 None observed ASA

In-Situ Habitat

Substrate (<=>)
 Bo - Boulder
 Co - Cobble
 Gr - Gravel
 Sa - Sand
 Si - Silt
 Cl - Clay
 MK - Muck
 DT - Detritus
 ASA

Physical Characteristics of Pond

Estimated Size: 15x7 m Estimated Depth (m): n/a
 Notes: ASA

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

ASA

Description and Width of Riparian Vegetation

21m Active livestock → cattle
 grasses and some shrubs

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: June 18/12

Land Parcel/Site ID: BOR 2020

PI. 27 Page 2 of 2

Online Pond Y / N

Provide Description

Not connected to water course.

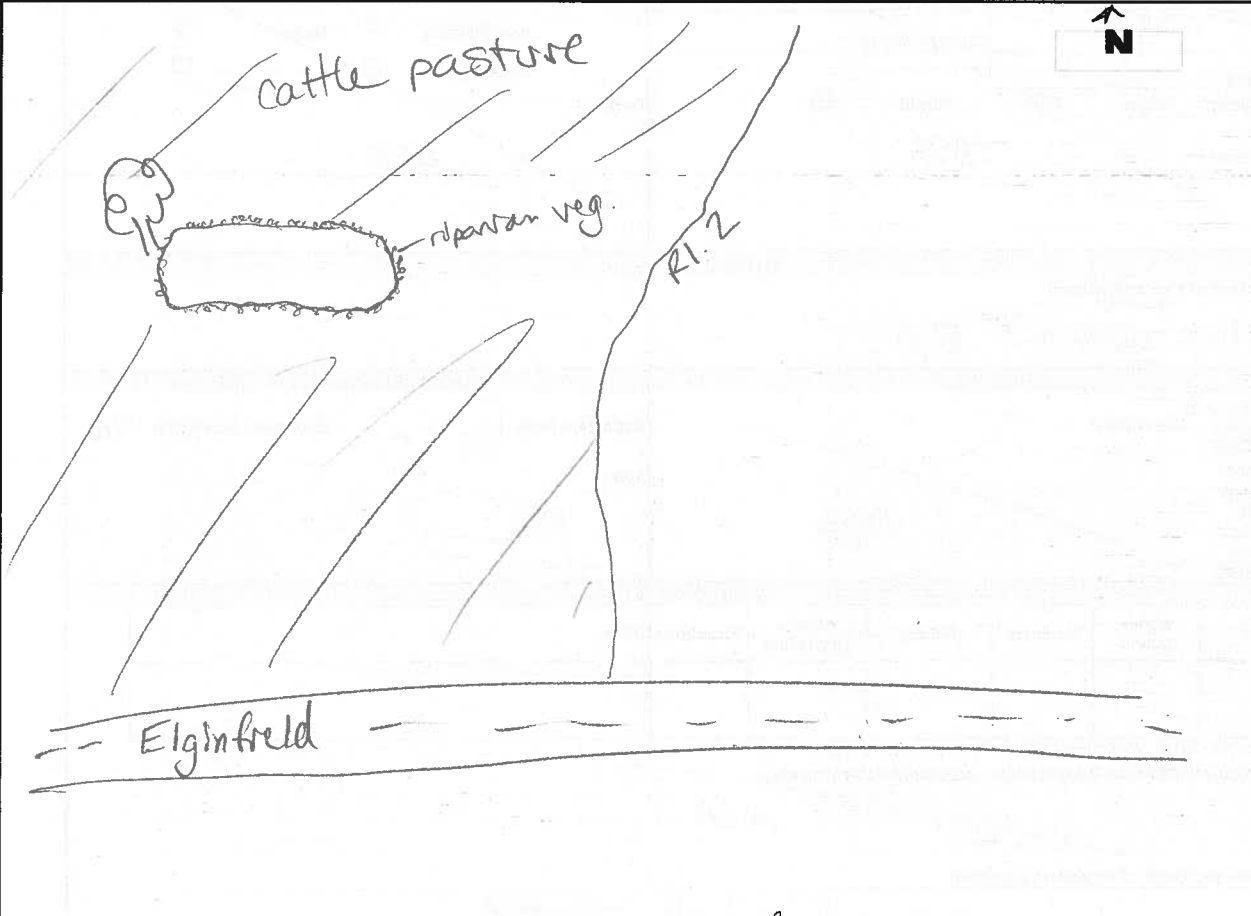
Offline Pond Y / N

Other General Comments Regarding the Study Area:

Pond is located in active cattle pasture with little riparian vegetation and ~~is~~ accessible to cattle. Surrounding area is grasses.

Picture #	Description	Photo log	
		Picture #	Description
1a	street		
1b	overview		
2	close up.		

Sketch of Pond



Initial QA/QC By: L Bentley

Date: June 26 2012

Technical QA/QC By: S Atkin

Date: July 10/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOL 2099 Site ID: P1.23

Date: May 24/12 Start time: 15:45 End Time: 15:55

Weather Conditions: Sunny, 25°C Field Crew: C. Barros, J. Epp
Field Notes By: C. Barros

Site Location

Elginfield Rd, east of Sylvan Rd.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 437070 Northing: 4777649 Description: P1.23

Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other

Description: corn field surrounding + road side

Type of Pond

Natural Dammed
Permanent Seasonal
Dugout Pond Used for Farming
Vernal Pools

Description: not sure if natural or man made

In-Situ Water Quality

WT (°C): AT (°C):
pH: / Cond (s/cm): /
D.O. (mg/L) /
Water Clarity: Clear Turbid
Water Colour: dry

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling
Other

Details:

Wildlife Observations

Observations of Fish and Wildlife

In-Situ Habitat

Substrate (< = >)
Bo - Boulder Description
Co - Cobble dry
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK - Muck
DT - Detritus

Physical Characteristics of Pond

Estimated Size: 20m x 15m Estimated Depth (m): dry
Notes:

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
				/		

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

Description and Width of Riparian Vegetation

trees + shrubs on north, road to grass on south

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: May 24/12

Land Parcel/Site ID: Box 2098 Pl. 23 Page 2 of 2

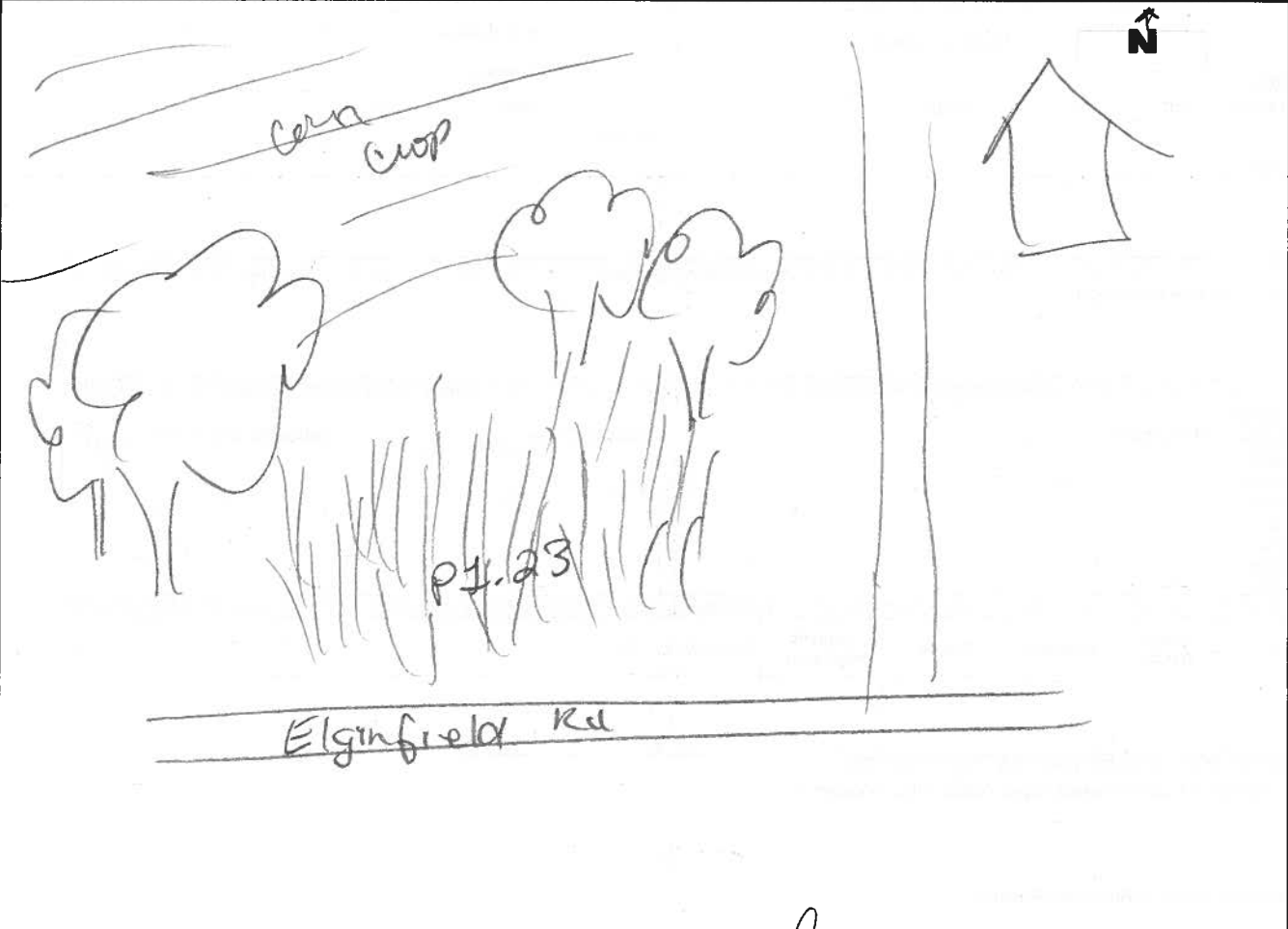
Online Pond / Provide Description no streams present
 Offline Pond /

Other General Comments Regarding the Study Area:

Pond was dry + phragmites choked

Picture #		Description		Photo log	
Picture #	Description	Picture #	Description	Picture #	Description
1a b-2	Sheet Overview				

Sketch of Pond



Initial QA/QC By: Bentley

Date: May 29, 2012

Technical QA/QC By: [Signature]

Date: 7/2/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM		Page 1 of 2	
General Information			
Study Area: Jericho	Goshen	Bluewater	Land Parcel# B021513
Date: June 12/12	Start time: 13:30 pm	End Time: 13:45 pm	Site ID: P1.32
Weather Conditions: 25°C Sunny.		Field Crew: C. Baros, J. Epp	Field Notes By: J. Epp.
Sits Location			
Elginfield, East Rete Sebe		ASA Roadside	
UTM Co-ordinates			
Easting: 438469	Northing: 4777307	Description: P1.32	
Surrounding Landuse		Type of Pond	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Natural <input type="checkbox"/>	Dammed <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Seasonal <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Dugout Pond <input checked="" type="checkbox"/>	Used for Farming <input type="checkbox"/>
Other <input type="checkbox"/>		Vernal Pools <input type="checkbox"/>	
Description: corn field to North, wheat field to North east		Description: steep banks.	
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C):	AT (°C):	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH:	Cond (s/cm):	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L)		Bubbling <input type="checkbox"/>	
Water Clarity: Clear <input type="checkbox"/>	Turbid <input checked="" type="checkbox"/>	Details: none observed.	
Water Colour: ASA	Brown / greenish		
Wildlife Observations			
Observations of Fish and Wildlife Red Red winged blackbirds			
In-Situ Habitat		Physical Characteristics of Pond	
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		Estimated Size: 20x10m Estimated Depth (m): N/A	
ASA		ASA	
In-Situ Cover (%)			
None	Woody Debris	Boulders	Cobble
			ASA
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%			
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) Aquatic veg present → floating algae around edges, cattails + submergent vegetation.			
Description and Width of Riparian Vegetation 3 m buffer, grasses, some cattails			

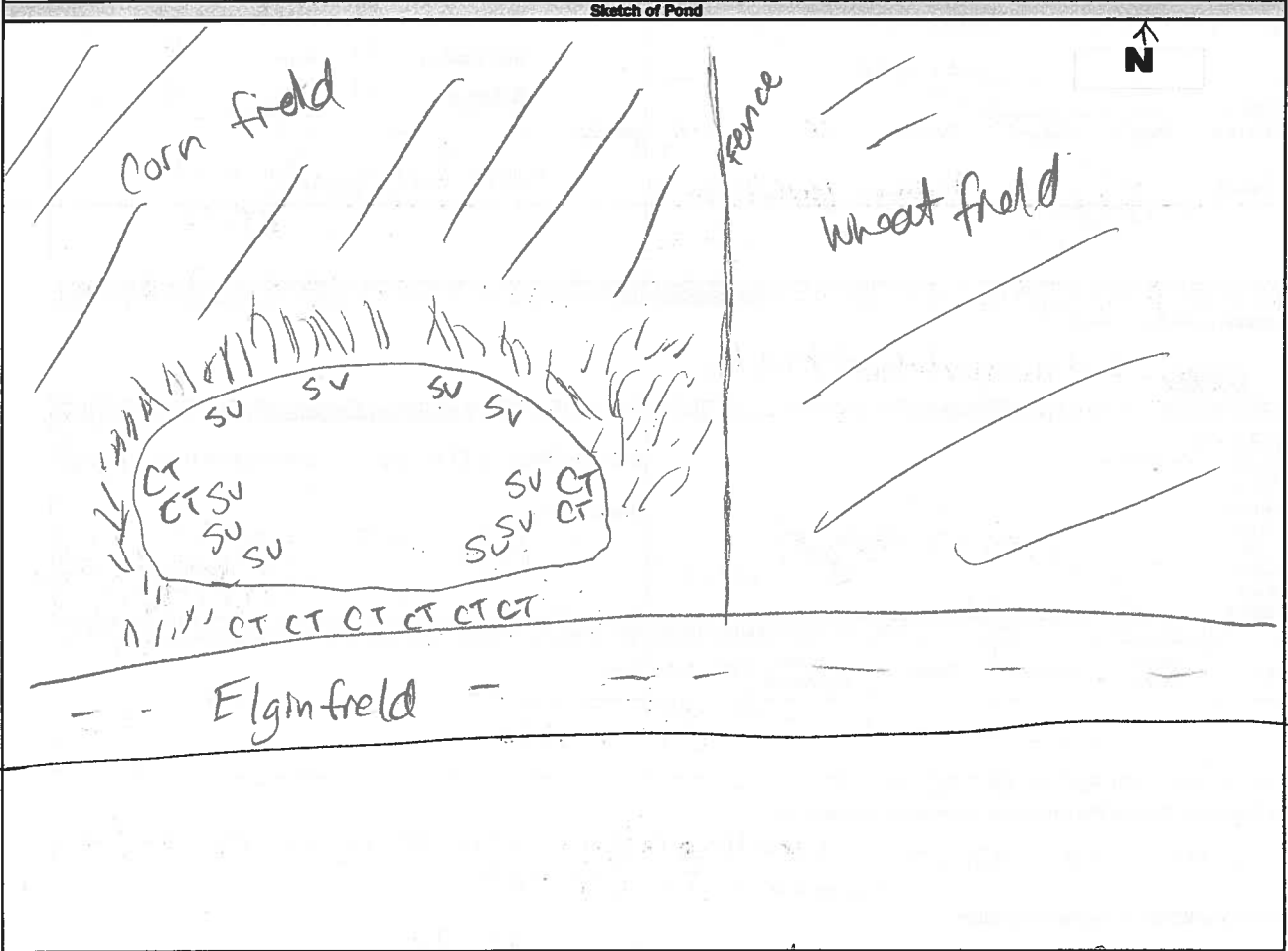
Water Bodies (Pond) Assessment Field Collection Form

AECOM Date: June 12/12 Land Parcel/Site ID: B0R1513 Page 2 of 2
 PI. 32

Online Pond / Provide Description No connection observed
 Offline Pond / N

Other General Comments Regarding the Study Area:
 Dugout pond in low lying area right near the roadside (Elgin field). Some aquatic vegetation visible from Roadside

Picture #		Photo log	
Picture #	Description	Picture #	Description
1a 153	Sketch pond overview		



Initial QA/QC By: L. Bentley Date: June 26, 2012 Technical QA/QC By: Sutton Date: July 10/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# B021351 Site ID: P1.31
 Date: June 12/12 Start time: 13:50 pm End Time: 14:00 pm

Weather Conditions:

25°C Sunny

Field Crew: C. Barros, J. Epp

Field Notes By: J. Epp

Site Location

Elgin field, East of Rete Sebe

ASA Roadside

UTM Co-ordinates

Easting: 438555 Northing: 4777267 Description: P1.31

Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Pond

Natural Dammed
 Permanent Seasonal
 Dugout Pond Used for Farming
 Vernal Pools

Description: Deciduous + Coniferous forest

Description: cannot see pond through forest. ASA.

In-Situ Water Quality

WT (°C): AT (°C):
 pH: Cond (s/cm):
 D.O. (mg/L)
 Water Clarity: Clear Turbid
 Water Colour: could not see pond ASA

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Details: could not see pond ASA

Wildlife Observations

Observations of Fish and Wildlife

None observed

In-Situ Habitat

Substrate (<=>) Description
 Bo - Boulder
 Co - Cobble
 Gr - Gravel
 Sa - Sand
 Si - Silt
 Cl - Clay
 MK - Muck
 DT - Detritus
 could not see pond ASA

Physical Characteristics of Pond

Estimated Size: Estimated Depth (m):
 Notes: could not see pond ASA

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
could not see pond through forest ASA						

Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

Description and Width of Riparian Vegetation

could not see pond through forest ASA

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: June 12/12

Land Parcel/Site ID: BOR1351

Page 2 of 2
PI. 31

Online Pond Y / N

Provide Description

could not see pond.

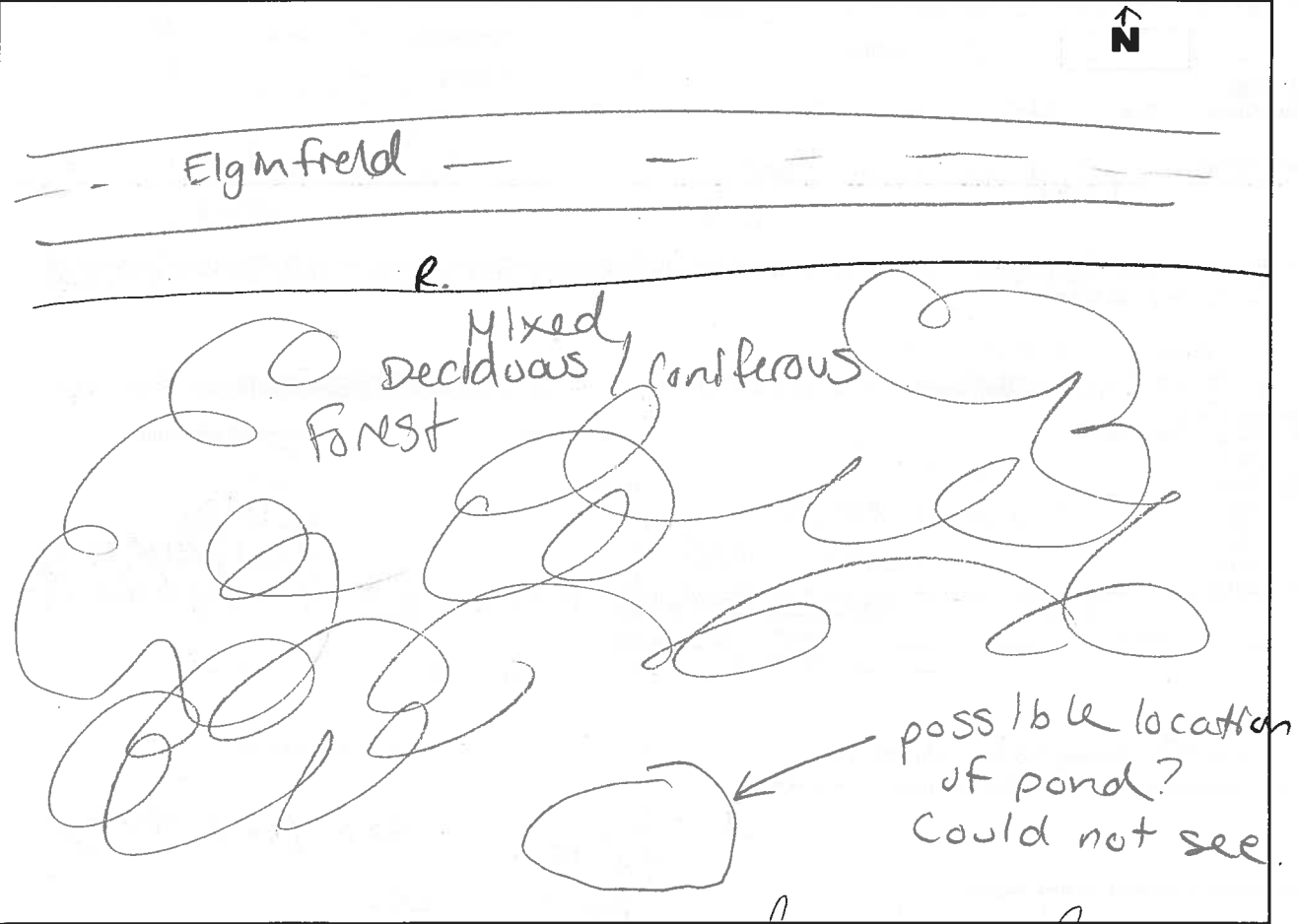
Offline Pond Y / N

Other General Comments Regarding the Study Area:

Roadside ASA, could not see pond through the forest

Picture #		Description	Photo log	
Picture #	Description	Picture #	Description	
1a 1b	sheet site overgrown			

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: [Signature]

Date: July 10/12

Water Bodies (Pond) Assessment Field Collection Form

P1.45

AECOM		Page 1 of 2				
General Information						
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>BOR 1395</u> Site ID: <u>Pond BOR 1395</u>			
Date: <u>June 12/12</u>	Start time: <u>14:00</u> pm	End Time: <u>14:20</u> pm				
Weather Conditions: <u>25°C Sunny</u>		Field Crew: <u>C. Baros, J. Epp</u> Field Notes By: <u>J. Epp</u>				
Site Location						
<u>Elgmsfeld; East of Pete Sebe</u> <u>ASA Roadside</u>						
UTM Co-ordinates						
Easting: <u>438722</u>	Northing: <u>4777242</u>	Description: <u>PBOR 1395</u>				
Surrounding Landuse						
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Type of Pond				
Agriculture <input type="checkbox"/>	Wetland <input type="checkbox"/>	Natural <input type="checkbox"/>	Dammed Seasonal <input type="checkbox"/>			
Forest <input type="checkbox"/>	Livestock <input checked="" type="checkbox"/>	Dugout Pond <input type="checkbox"/>	Used for Farming <input type="checkbox"/>			
Other <input type="checkbox"/>		Vernal Pools <input type="checkbox"/>				
Description: <u>Electric cow fence, no livestock present.</u>		Description: <u>could not assess, ASA</u>				
In-Situ Water Quality		Ground Water and Seepage Indicators				
WT (°C): _____	AT (°C): _____	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>			
pH: _____	Cond (s/cm): _____	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>			
D.O. (mg/L) _____		Bubbling <input type="checkbox"/>				
Water Clarity: <u>Clear</u> <input type="checkbox"/> <u>Turbid</u> <input checked="" type="checkbox"/>		Details: <u>ASA no access</u>				
Water Colour: <u>could not assess, can only see a tiny part of pond</u>						
Wildlife Observations						
Observations of Fish and Wildlife <u>ASA no access</u>						
In-Situ Habitat		Physical Characteristics of Pond				
Substrate (<=>) Bo - Boulder Description Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		Estimated Size:	Estimated Depth (m):			
<u>ASA no access</u>		<u>ASA no access</u>				
In-Situ Cover (%)						
None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
						<u>ASA no access</u>
Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>saw some floating algae at edges</u>						
Description and Width of Riparian Vegetation <u>grasses - pasture area</u>						

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: June 12/12

Land Parcel/Site ID: BOR 1395

Page 2 of 2

Pond

Online Pond Y / N

Provide Description

could not assess

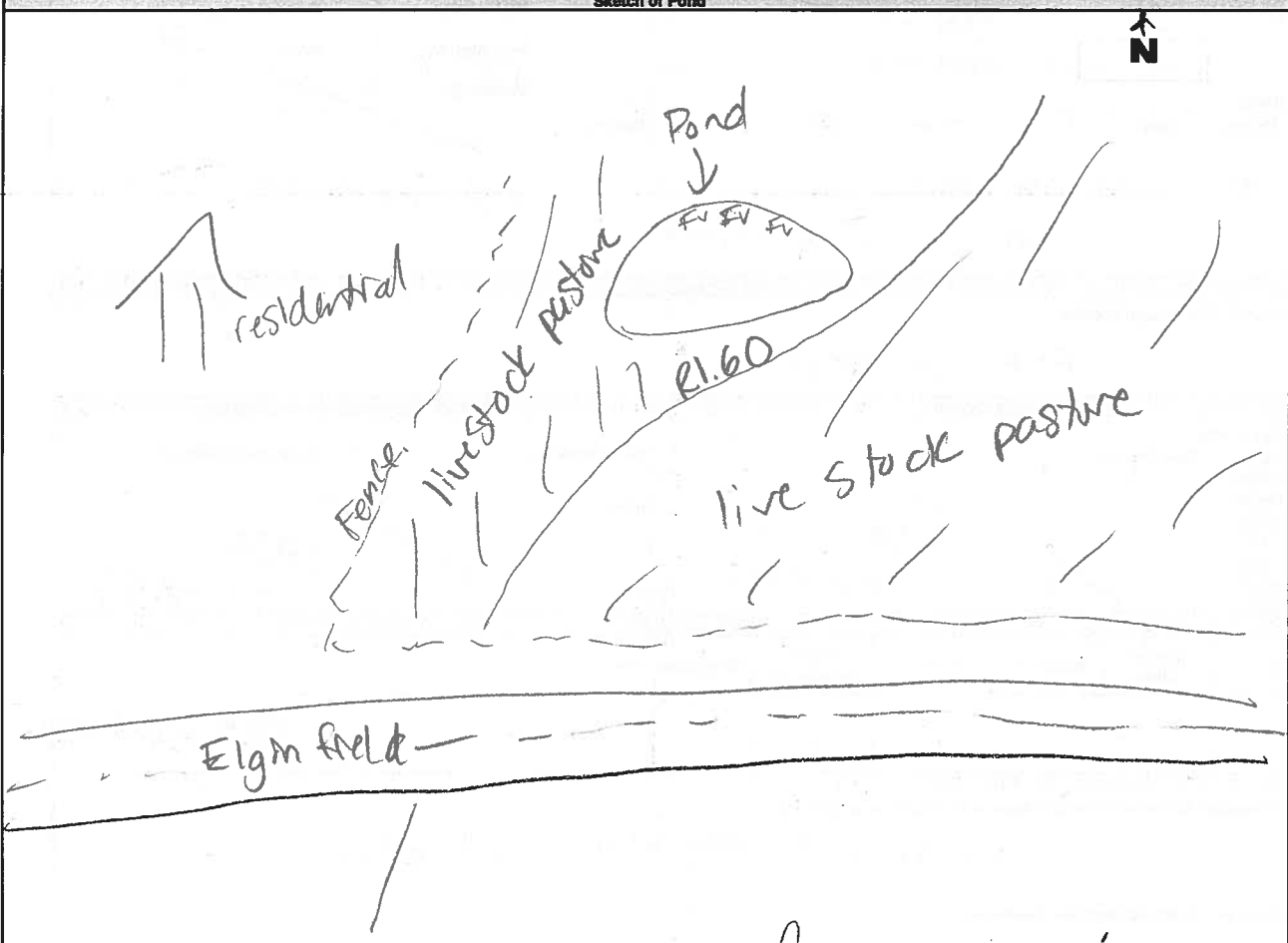
Offline Pond Y / N

Other General Comments Regarding the Study Area:

Could only see tip of pond. In a livestock pasture area, no livestock seen, but electric fence was buzzing.

Picture #		Description	Photo log	
Picture #		Description	Picture #	Description
1a	1b	sheet overview looking North		

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: June 26 2012

Technical QA/QC By:

Slutkin

Date:

July 10/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM						General Information								
Study Area: <u>Jericho</u>		Goshen		Bluewater		Land Parcel# <u>BOR 1166</u>		Site ID: <u>PI. 38</u>						
Date: <u>June 18/12</u>		Start time: <u>14:45</u>		End Time: <u>14:50</u>		Field Crew: <u>C. Boros, J. Epp</u>		Field Notes By: <u>C. Boros</u>						
Weather Conditions: <u>Rain, 18°C</u>														
Site Location														
<u>Elgin Field Rd., east of Pet Sebe</u> <u>Roadside Survey</u>														
UTM Co-ordinates														
Easting: <u>437860</u>			Northing: <u>4777435</u>			Description: <u>PI. 38</u>								
Easting:			Northing:			Description:								
Surrounding Landuse						Type of Pond								
Residential <input checked="" type="checkbox"/>		Meadow <input type="checkbox"/>		Agriculture <input type="checkbox"/>		Wetland <input type="checkbox"/>		Natural <input type="checkbox"/>		Dammed <input type="checkbox"/>		Seasonal <input type="checkbox"/>		
Forest <input type="checkbox"/>		Livestock <input type="checkbox"/>						Dugout Pond <input type="checkbox"/>		Used for Farming <input type="checkbox"/>				
Other <input type="checkbox"/>								Vernal Pools <input type="checkbox"/>						
Description:						Description: <u>does not exist</u>								
In-Situ Water Quality						Ground Water and Seepage Indicators								
WT (°C):			AT (°C):			Watercress <input type="checkbox"/>		Bank Seepage <input type="checkbox"/>						
pH:			Cond (s/cm):			Iron Staining <input type="checkbox"/>		None <input type="checkbox"/>						
D.O. (mg/L)						Bubbling <input type="checkbox"/>								
Water Clarity: <u>Clear</u> <input type="checkbox"/>			<u>Turbid</u> <input type="checkbox"/>			Details:								
Water Colour:														
Wildlife Observations														
Observations of Fish and Wildlife														
In-Situ Habitat						Physical Characteristics of Pond								
Substrate (<=>)						Estimated Size:								
Bo - Boulder						Estimated Depth (m):								
Co - Cobble						Notes:								
Gr - Gravel														
Sa - Sand														
Si - Silt														
Cl - Clay														
MK - Muck														
DT - Detritus														
In-Situ Cover (%)														
None		Woody Debris		Boulders		Cobble		Aquatic Vegetation*		Structures		Other		
<p>Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%</p> <p>*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)</p>														
Description and Width of Riparian Vegetation														

Water Bodies (Pond) Assessment Field Collection Form

AECOM Date: June 18/12 Land Parcel/Site ID: Bar 1166/ ^{Pl. 33} ~~XXXX~~ Page 2 of 2

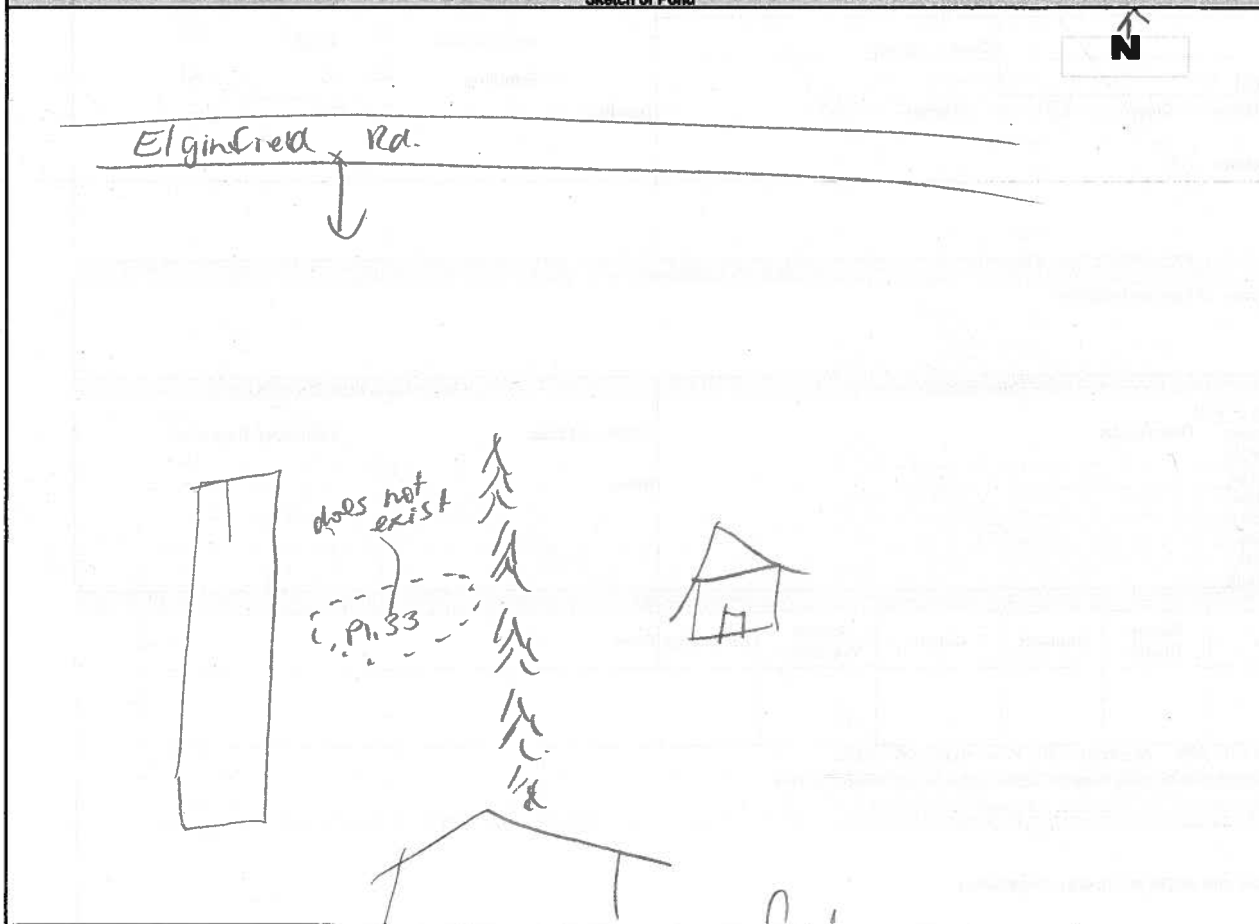
Online Pond Y / Provide Description
 Offline Pond Y /

Other General Comments Regarding the Study Area:

Does not exist

Picture #	Description	Photo log	
		Picture #	Description
¹⁰ 1b	Sheet overview		
2	Close up		

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: June 26 2012

Technical QA/QC By: [Signature]

Date: July 10/12

P2.143

Significant Wildlife Habitat Form

AECOM

Study Area: BLW JER GSH Map #: JER6803/3777/3776/0-JER3777
 Date: 2012-05-24 Time Started: 10:20 a.m.
 Field Staff: Tom Shorey Jess Pfeiffer Time Finished: 1:50 P.m.
 Weather Conditions: SUNNY, 15km/h Wind, 26C

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
 (FET1, FOC, FOM, FOD, SWC, SWM, SWD)
 Nest bowls present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Number of nests: _____
 Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____
 Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
 (CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)
 Standing water present: No Yes (if yes, photograph and complete the following) *Applies to both ponds*
 UTM: _____ Area of standing water delineated on field map
 Water depth (m): 1-2m % open water: 100 % emergent vegetation: 2%
 Potential to hold water until at least July in most years: Yes / No
 Description of standing water (permanent pool, evidence of annual spring flooding, etc): Permanent Ponds -
Dug, with very little surrounding veg.
 Area and soil/substrate of shoreline habitat: Sandy Soils surrounding ponds, with very
little surrounding veg.
 Type and abundance of cover in open water habitat: Very little to no cover in open
water - Some grass sp -> 2% cover
 Type and abundance of cover in surrounding habitat: Recently Planted - Appears to be
restoration project.
 Evidence of disturbance (e.g. cattle grazing): - Restoration of old farmland
 Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: observed
several - heard frogs in both ponds as well
as Am. Toad Tadpoles
 Complete Vernal Pool Habitat Description Form

Snake Hibernacula
 Fissured rock/foundation or rock/debris pile present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Likelihood to extend below frost line: _____
 % canopy cover: _____ % slope: _____ Distance to open canopy (m): _____
 Description of fissure or stone pile (composition/material, dimensions, etc): _____
 Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)
 Evidence of seep or spring: No Yes (if yes, photograph and complete the following)
 UTM: 432792 4781404 Description (indicator species, etc): Jewelweed, observed
Skunk cabbage in area of seepage

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# ~~3~~ ^{Box 2103} Site ID: P2.33
 Date: June 12, 2012 Start time: 11:50 End Time: 12:10

Weather Conditions: 25°C Cloudy Field Crew: C. Boros, J. Epp
 Field Notes By: J. Epp

Site Location

East of Arkonay, on Elgin field

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 434335 Northing: 4777835 Description: P2.33

Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Pond

Natural Dammed
 Permanent Seasonal
 Dugout Pond Used for Farming
 Vernal Pools

Description: Deciduous/swamp forest.

Description: Not a pond, possible swamp area in the spring.

In-Situ Water Quality

WT (°C): AT (°C):
 pH: Cond (s/cm):
 D.O. (mg/L)
 Water Clarity: Clear Turbid
 Water Colour: no water

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details: none observed.

Wildlife Observations

Observations of Fish and Wildlife

Frog seen.

In-Situ Habitat

Substrate (< = >)
 Bo - Boulder Description
 Co - Cobble
 Gr - Gravel
 Sa - Sand
 Si - Silt
 Cl - Clay
 MK - Muck
 DT - Detritus
 Cl

Physical Characteristics of Pond

Estimated Size: Estimated Depth (m): n/a
 Notes: not a pond.

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
/						

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

not a pond.

Description and Width of Riparian Vegetation

Deciduous forest, Basswood, Ash 7.30 m on East

Water Bodies (Pond) Assessment Field Collection Form

AECOM

Date: June 12/12

Land Parcel/Site ID: BOR 2103

P2.33 Page 2 of 2

Online Pond N

Provide Description No obvious connection to the Ausable River (R2.2)

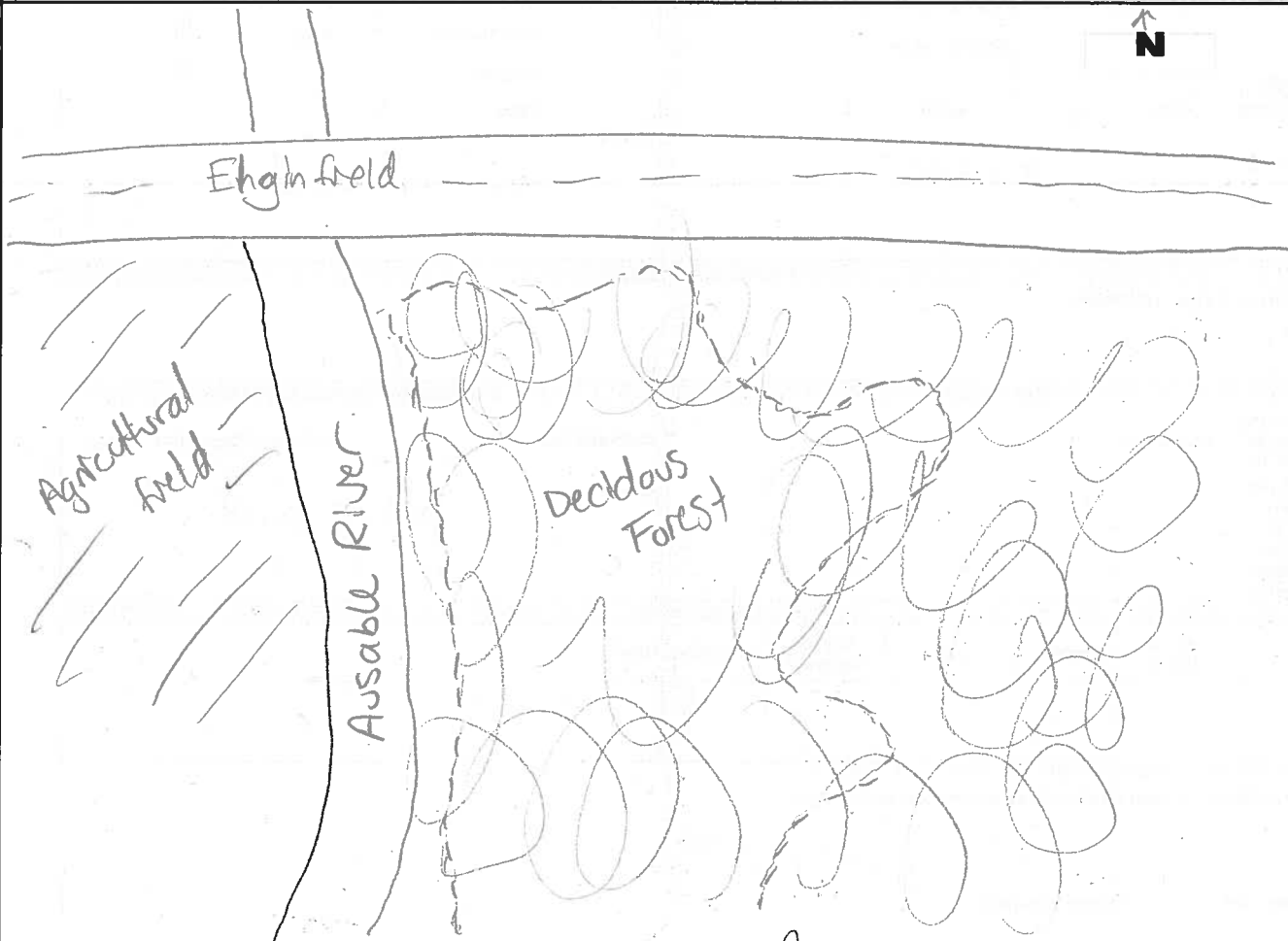
Offline Pond N

Other General Comments Regarding the Study Area:

Area had no water, and was full of trails + ~~fire~~ tracks where some water was pooled. In the middle of forest area adjacent to the Ausable River, low lying area in a valley.

		Photo log	
Picture #	Description	Picture #	Description
10a	Sheet		
1b	looking at forest from road		
2-3	in forest		

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: [Signature]

Date: July 10/12

P2.144

AECOM		Page 1 of 2				
General Information						
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>BOR1854A</u> Site ID: <u>Pond - BOR1854A</u>			
Date: <u>MAY 16/12</u>	Start time: <u>15:35 PM</u>	End Time: <u>16:10 PM</u>				
Weather Conditions: <u>Sunny, 14°C windy.</u>		Field Crew: <u>S. LOHNES J. EPP</u>	ASA from BOR1958			
		Field Notes By: <u>S. LOHNES</u>				
Site Location						
<u>north of Elginfield Rd, 120m west of Sylvan</u>						
UTM Co-ordinates						
Easting: <u>436240</u>	Northing: <u>4777944</u>	Description: <u>closest could get to pond.</u>				
Surrounding Landuse		Type of Pond				
Residential <input checked="" type="checkbox"/>	Meadow <input checked="" type="checkbox"/>	Natural <input checked="" type="checkbox"/>	Dammed <input type="checkbox"/>			
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input type="checkbox"/>	Seasonal <input type="checkbox"/>			
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Dugout Pond <input type="checkbox"/>	Used for Farming <input type="checkbox"/>			
Other <input type="checkbox"/>		Vernal Pools <input type="checkbox"/>				
Description: <u>pasture land + residential</u>		Description: <u>appears natural.</u>				
In-Situ Water Quality		Ground Water and Seepage indicators				
WT (°C):	AT (°C):	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>			
pH:	Cond (µs/cm):	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>			
D.O. (mg/L)		Bubbling <input type="checkbox"/>				
Water Clarity: <u>Clear</u> <input type="checkbox"/>	<u>Turbid</u> <input type="checkbox"/>	Details: <u>could not assess</u>				
Water Colour: <u>ASA</u>		<u>ASA</u>				
Wildlife Observations						
Observations of Fish and Wildlife <u>green frogs heard.</u>						
In-Situ Habitat		Physical Characteristics of Pond				
Substrate (<=>)	Description	Estimated Size: <u>10x5</u>	Estimated Depth (m): <u>unk.</u>			
Bo - Boulder		Notes: <u>ASA</u>				
Co - Cobble						
Gr - Gravel						
Sa - Sand						
Si - Silt						
Cl - Clay						
MK - Muck						
DT - Detritus						
In-Situ Cover (%)						
None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other
				<u>65</u>		
Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)						
<u>emergent veg - cattails</u>						
Description and Width of Riparian Vegetation						
<u>meadow grasses, some shrubs</u>						

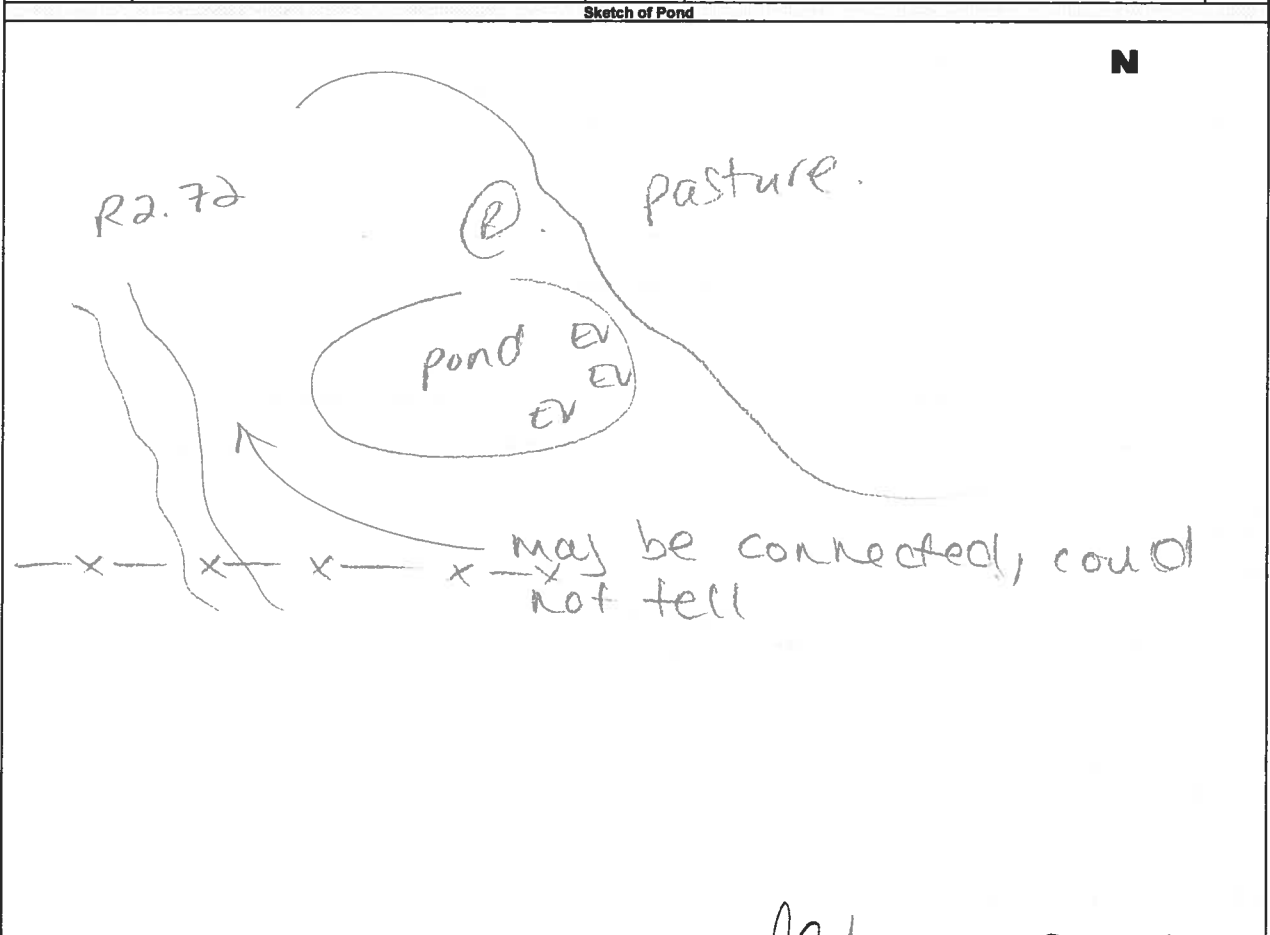
P2.144

AECOM Date: MAY 16/12 Land Parcel/Site ID: BOR1954A Page 2 of 2

Online Pond Y/N Provide Description could not tell, but perhaps?
 Offline Pond Y/N

Other General Comments Regarding the Study Area:
 pond was naturalized and in an area w/ very hydrophilic soils + marshy vegetation type.

Photo log	
Picture #	Description
	See photos w/ R2.72 - BOR1958.



Initial QA/QC By: L Bentley Date: Oct. 25/12 Technical QA/QC By: [Signature] Date: Oct 2/12

Water Bodies (Pond) Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3294 Site ID: P. 3294 P2, 136

Date: May 15/12 Start time: 16:10 End Time: 11:20

Weather Conditions: Sunny 21°C Field Crew: C. Boros, A. Arseneault
Field Notes By: C. Boros

Site Location

Arkona Ln, South of Kennedy Rd.

UTM Co-ordinates

Easting: Northing: Description:

Easting: Northing: Description:

Surrounding Landuse

- Residential
- Agriculture
- Forest
- Other
- Meadow
- Wetland
- Livestock

Description: small planted forest then residential property to east

Type of Pond

- Natural
- Permanent
- Dugout Pond
- Vernal Pools
- Dammed
- Seasonal
- Used for Farming

Description:

In-Situ Water Quality

WT (°C): AT (°C):

pH: Cond (s/cm):

D.O. (mg/L)

Water Clarity: Clear Turbid

Water Colour: did not collect w/ wq completed downstream

Ground Water and Seepage Indicators

- Watercress
- Iron Staining
- Bubbling
- Bank Seepage
- None

Details:

Wildlife Observations

Observations of Fish and Wildlife

In-Situ Habitat

- Substrate (<=>)
- Bo - Boulder
 - Co - Cobble
 - Gr - Gravel
 - Sa - Sand
 - Si - Silt
 - Cl - Clay
 - MK - Muck
 - DT - Detritus

Physical Characteristics of Pond

Estimated Size: 80m x 30m Estimated Depth (m): n/a

Notes: no deep to wade

In-Situ Cover (%)

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Structures	Other

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)

could not assess

Description and Width of Riparian Vegetation

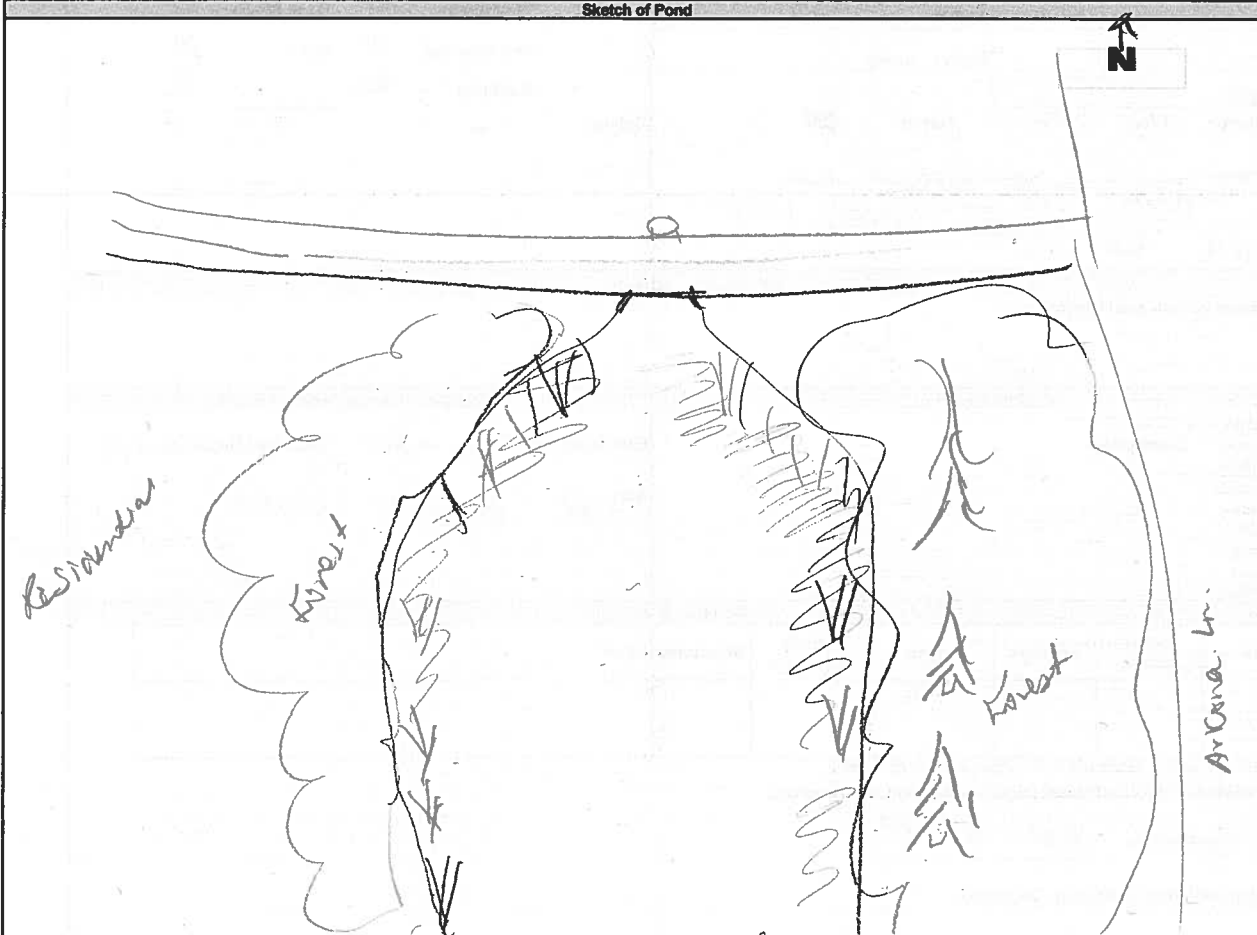
Water Bodies (Pond) Assessment Field Collection Form

AECOM Date: *May 15/12* Land Parcel/Site ID: *JER 3294 Pond* Page 2 of 2

Online Pond N Provide Description *the property owners have dammed the stream*
 Offline Pond Y N

Other General Comments Regarding the Study Area:
algae + grasses line the perimeter of the pond.

		Photo log	
Picture #	Description	Picture #	Description



Initial QA/QC By: *L. Bentley* Date: *June 4, 2012* Technical QA/QC By: *[Signature]* Date: *June 11/12*

Water Bodies (Pond) Assessment Field Collection Form

AECOM		Page 1 of 2	
General Information			
Study Area: <u>Jegcho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JER 3653</u> Site ID: <u>P2.140</u>
Date: <u>June 18/12</u>	Start time: <u>9:30</u>	End Time: <u>10:10</u>	
Weather Conditions: <u>Sunny, 20°C</u>		Field Crew: <u>C. Boros, J. EPP</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Arkona Line, North of Arkona town.</u>			
UTM Co-ordinates			
Easting: <u>431257</u>	Northing: <u>4771700</u>	Description: <u>P2.140</u>	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Pond	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Natural <input type="checkbox"/>	Dammed <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Seasonal <input type="checkbox"/>
Forest <input checked="" type="checkbox"/>	Livestock <input checked="" type="checkbox"/>	Dugout Pond <input checked="" type="checkbox"/>	Used for Farming <input type="checkbox"/>
Other <input type="checkbox"/>		Vernal Pools <input type="checkbox"/>	
Description: <u>at edge of forest then surrounded by hay/straw field</u>		Description: <u>could be used for cattle</u>	
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>/</u>	AT (°C): <u>/</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>/</u>	Cond (s/cm): <u>/</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L): <u>/</u>		Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Water Clarity: Clear <input type="checkbox"/>	Turbid <input checked="" type="checkbox"/>	Details:	
Water Colour: <u>brown</u> <u>could not access - fence</u>			
Wildlife Observations			
Observations of Fish and Wildlife <u>~30 green frogs, 2 snails</u>			
In-Situ Habitat		Physical Characteristics of Pond	
Substrate (<=>)	Description	Estimated Size: <u>10 x 15 m</u>	Estimated Depth (m): <u>↓</u>
Bo - Boulder		Notes:	<u>could not access</u>
Co - Cobble			
Gr - Gravel			
Sa - Sand	<u>cl=si</u>		
Si - Silt			
Cl - Clay			
MK - Muck			
DT - Detritus			
In-Situ Cover (%)			
None	Woody Debris	Boulders	Cobble
	5	/	/
			15
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%			
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>pondweed >> water lilies, algae - attached</u>			
Description and Width of Riparian Vegetation <u>fence the 0.15 m of meadow + trees</u>			

Water Bodies (Pond) Assessment Field Collection Form

ASCOM

Date: June 18/12

Land Parcel/Site ID: JEL 3653

Page 2 of 2
P2.140

Online Pond /

Provide Description no streams in area

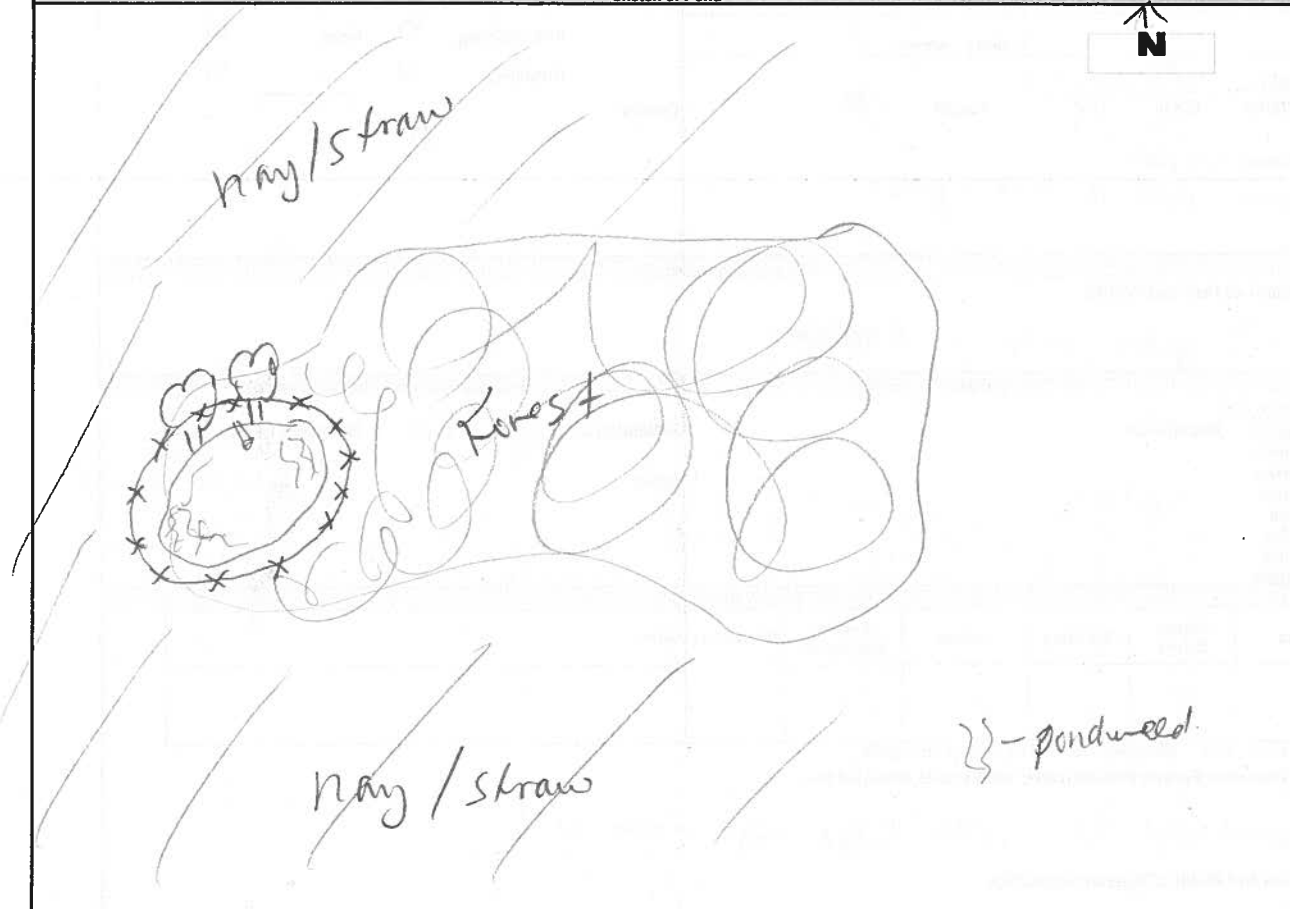
Offline Pond /

Other General Comments Regarding the Study Area:

small pond fenced off - possibly to prevent cattle from entering.

Picture #		Description	Photo log	
			Picture #	Description
1a		shrub		
1b		forest area		
2-5		pond overview		

Sketch of Pond



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: S. Atken

Date: July 10/12