

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):	0.15	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Mean Bankfull Width (m):	4.5	Mean Bankfull Depth (m):	0.7	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Mean Top of Bank Width (m):	5	Mean Top of Bank Depth (m):	0.8	Description: erosion on meanders							
Flow Description: (high or low flow conditions, stagnant, etc)											
slow flow											
Habitat											
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Description sa > si = cl = gr > bo				Morphological Structure (%)							
				Pool	Riffle	Run	Flat				
				10	2	8	80				
				Notes: riffle/run areas very narrow in width (~1m); pool/flat (~4.5m)							
Instream Cover (%) 40											
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
/	20	4	/	15	/	Average Depth: 0.10m (% Cover) 1					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
alge - attached, filamentous, bl ooms											
Canopy Cover (% closed cover):				Types of Cover (% cover)							
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	90	Shrubs	5				
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	5	Herbaceous	/				
60-30%	<input type="checkbox"/>			Man-made structures							
				Other							
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
willow, alder, ash											
Riparian Vegetation											
Width and Description of riparian vegetation: LB - 720m forest				RB - >20m forest							
Overhanging Vegetation Present Y/N				% 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:							

R38

AECOM

Date: June 7/12

Land Parcel/Site ID: R3 800th
JUL 3272 Page 3 of 4

Other General Comments Regarding the Study Area:

- Cyprinids observed, schools of YOY observed

Natural watercourse that meanders, has sequences of run, pool (riffle only once) and has a substrate dominated by sand. There is erosion on meander bends and the fallen trees provide good fish habitat cover. Canopy cover is high → mature deciduous forest.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	Sheet		
1b	Start of Channel - north end		
5-17	Channel preview walking south to Ar kona Rd.		
2-4	before convergence		
19-21	inlets at Ar kona		
22	view from Ar kona Rd.		

R3B

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

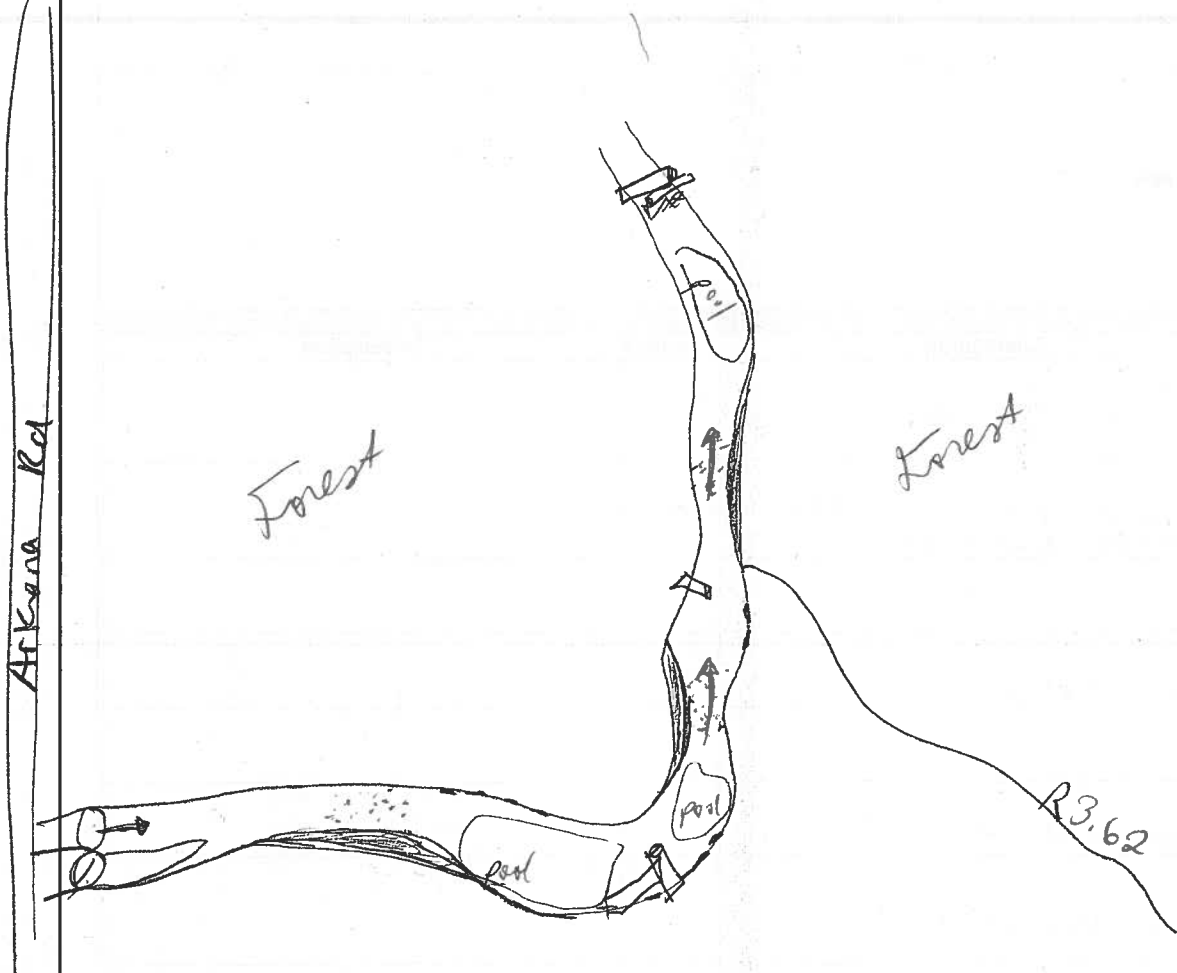
JER-3272

Site ID

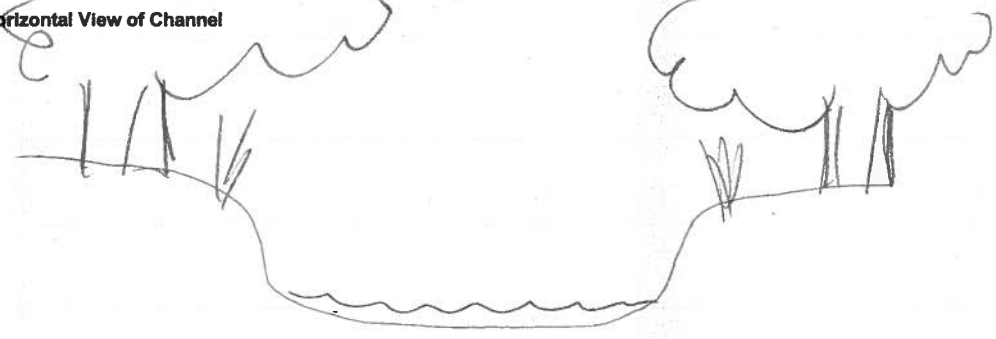
R3 south



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



Horizontal View of Channel



Initial QA/QC By: *L. Bentley*

Date: *June 13, 2012*

Technical QA/QC By: *[Signature]*

Date: *Oct 2/12*

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Dericho Goshen Bluewater Land Parcel# JUL 9166 Site ID: R3 B
 Date: June 7/12 Start time: 14:00 3588 End Time: 15:10
 Weather Conditions: Sunny, 19°C Field Crew: C. Barros, S. Darciche
 Field Notes By: C. Barros

Site Location

west of Arkona, south of Ridge Rd.

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

Easting: 432049 Northing: 4777396 Description: R3 end / wq
 Easting: 432181 Northing: 4777509 Description: pool
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Description: deciduous - thick understory

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral _____

Description: meanders

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? Y/N
 If Yes describe:

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

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

in small valley

In-Situ Water Quality

WT (°C): 18.34 AT (°C): 19°C
 pH: 7.33 Cond (µs/cm): 550
 D.O. (mg/L) 9.36
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: taken in sun, algae present
~10cm of water.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling Bittercress
 Other

Details: Water seeped x
small clumps throughout

Water Bodies Assessment Field Collection Form

Stream Morphology									
Site Length (m): <i>400m</i>			Bank Stability:						
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable			
Mean Wetted Width (m):	<i>1.7</i>	Mean Wetted Depth (m):	<i>0.12</i>	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Bankfull Width (m):	<i>4</i>	Mean Bankfull Depth (m):	<i>0.7</i>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Top of Bank Width (m):	<i>5.5</i>	Mean Top of Bank Depth (m):	<i>1</i>	Description:					
				<i>roots exposed, erosion evidence</i>					
Flow Description: (high or low flow conditions, stagnant, etc)									
<i>slow, low flow</i>									
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			<i>20</i>	<i>5</i>	<i>15</i>	<i>60</i>			
<i>sa = gr = si = cl > co = bo</i>			Notes:						
			<i>riffle / run / pool sequences present</i>						
Instream Cover (%) <i>80</i>									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks			
<i>/</i>	<i>20</i>	<i>5</i>	<i>15</i>	<i>30</i>	<i>/</i>	Average Depth: <i>0.20m</i> (% Cover) <i>10</i> → <i>under tree roots</i>			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)									
<i>algae - attached, filamentous</i>									
Canopy Cover (% closed cover):			Types of Cover (% cover)						
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>90</i>	Shrubs	<i>10</i>	Man-made structures	
<i>90-60%</i>	<input checked="" 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>dm, aspen,</i>									
Riparian Vegetation									
Width and Description of riparian vegetation:			LB - <i>720m forest</i>			RB - <i>720m forest</i>			
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <i>5</i>						
Description of Overhanging Vegetation:									
<i>overhanging dogwood - does not cover stream but occasionally over large pool</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:									
<i>/</i>									
Height of Barrier (m)			GPS Coordinates:						
<i>/</i>			<i>/</i>						

Water Bodies Assessment Field Collection Form

AECOM

Date: June 7/12

Land Parcel/Site ID:

R3B
JER 91000/3588 Page 3 of 4

Other General Comments Regarding the Study Area:

Natural meandering stream, riffle, run pool sequence present. It runs through a forest w a thick understory. The substrate is a mix of sa, si, cl, gr + co. Woody debris + algae provide ~~the~~ majority of instream cover.

One large pool observed ~ 3x3 ^m and depth > 60cm.

Overhanging veg present + schools of YOY + cyprinids present

Additional UTM Coordinates:

(largest fish ~ 8cm)

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b-2	Culvert		
3-16	Starting at Arkona walking west - channel overview		
17-23	pool		
24-30	Channel overview		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

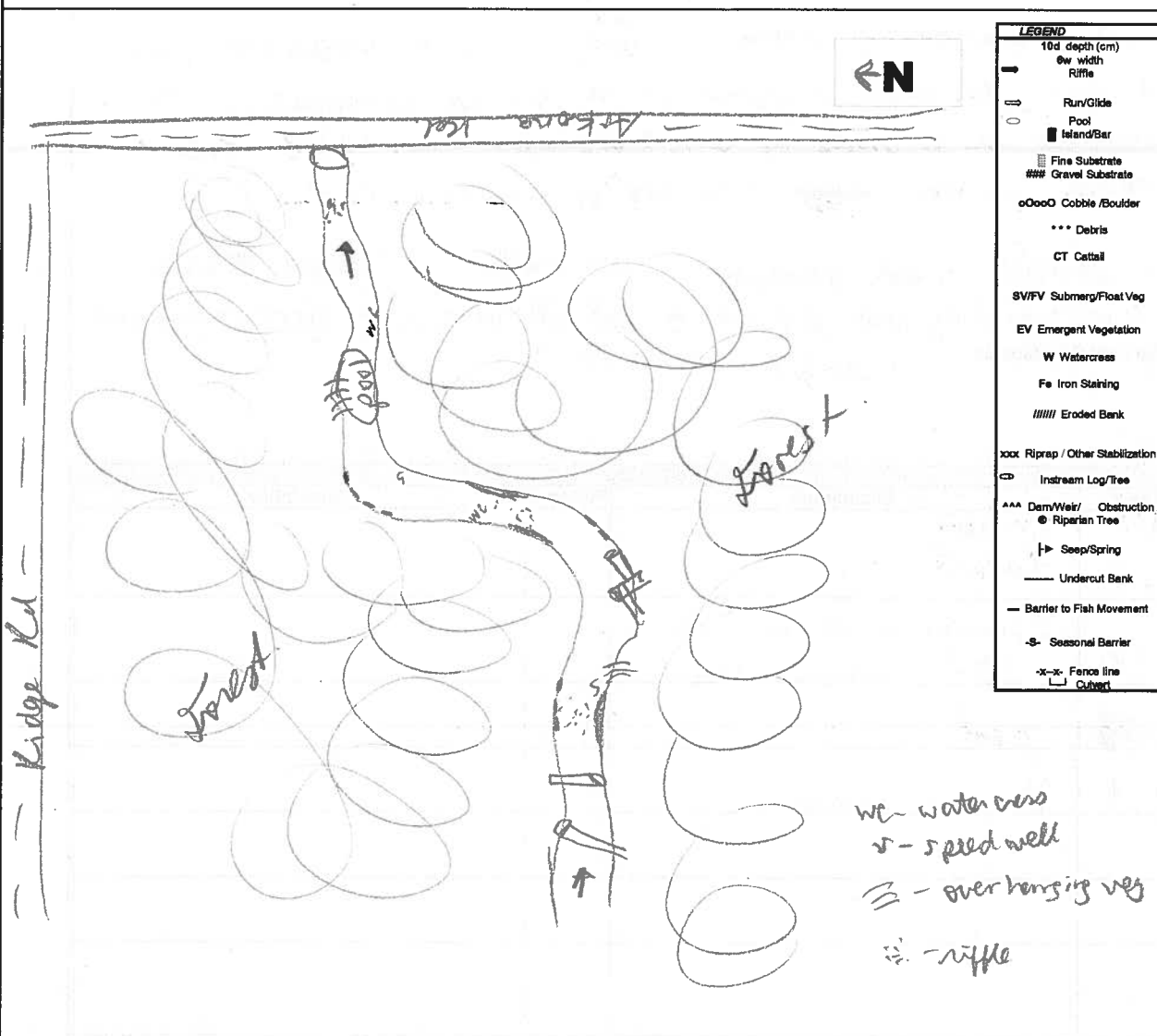
Bluewater

Land Parcel#

JL-12 9/66
3588

Site ID

R3B.



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 13, 2012

Technical QA/QC By: J. Walker

Date: Oct 2/12

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

AECOM		Page 1 of 2	
General Information			
Study Area: <u>Jericho</u> <input type="checkbox"/> Goshen <input type="checkbox"/> Bluewater <input type="checkbox"/>	Land Parcel# <u>JER 3589 (ASA)</u>	Site ID: <u>R3.64</u>	
Date: <u>June 7/12</u>	Start time: <u>14h05</u>	End Time: <u>15h00</u>	
Weather Conditions: <u>Sunny day! 24°C</u>	Field Crew: <u>LPoros & Daraiche</u>	Field Notes By: <u>S Daraiche</u>	
Site Location			
<u>West of Arkona Rd. South of Ridge Rd.</u>			
UTM Co-ordinates			
Easting: <u>432177</u>	Northing: <u>4777365</u>	Description: <u>R3.64END</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input checked="" type="checkbox"/>	Meadow <input type="checkbox"/>	Watercross <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: <u>water way Clover meadow</u>		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?	<u>Y</u> / 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)			
<u>→ tilled section on JER3589 and in the field of #3588 (winter wash) the channel runs at R3.64END.</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1487</u>	<u>Facing south (residential zone)</u>		
<u>1400</u>	<u>clover meadow Facing south</u>		

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

AECOM

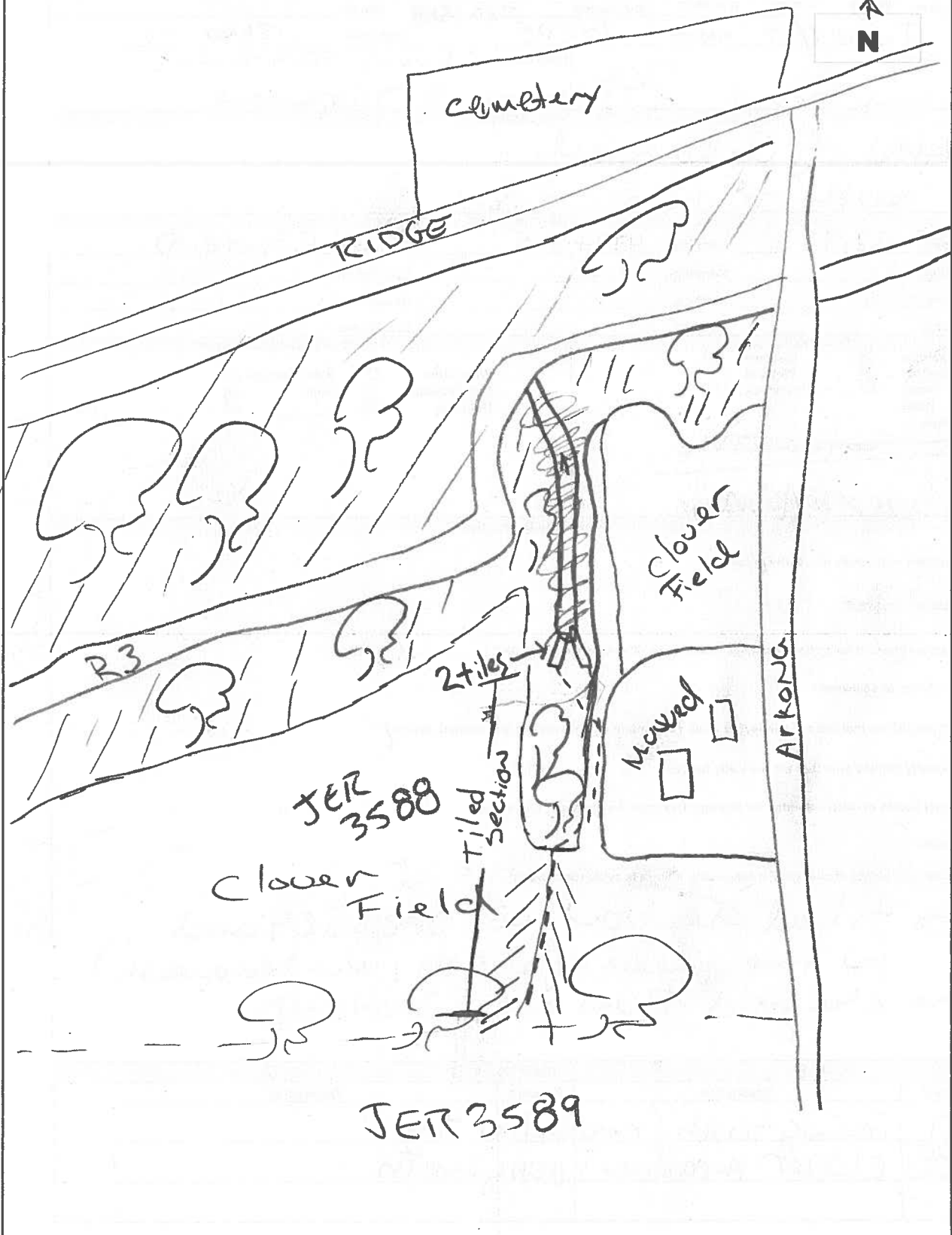
Date: June 7/12

Land Parcel/Site ID: JER 3588-3589 (ASA)

Page 2 of 2

R 3.64

Site Sketch



Initial DA/QC: L Bentley June 13, 2012
J. Arthur Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

JER 3589(AS)

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# SER 3588 Site ID: R3.64

Date: June 7/12 Start time: 1405 End Time: 1500

Weather Conditions: Sunny day 24°C Field Crew: S. DARACHE & BONOS

Field Notes By: S. Darache

Site Location

South of Ridge and

West of Arkona

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

Easting: 432134 Northing: 4777434 Description: R3.64ST

Easting: 432177 Northing: 4777365 Description: R3.64END

Easting: Northing: Description:

Easting: Northing: Description:

Surrounding Landuse

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

Description:

Band of forest

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description:

straight + meander

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

Tile drainage to the start (R3.64end)
(X2) No Flow

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)

Rolling hills

In-Situ Water Quality

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

Water Colour:

Notes:

Dry

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): <u>200m</u>				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): <u> </u>	Mean Wetted Depth (m): <u> </u>		Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): <u>0.60</u>	Mean Bankfull Depth (m): <u>0.25</u>		Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): <u>0.80</u>	Mean Top of Bank Depth (m): <u>0.40</u>		Description: <u>Vegetated</u>				
Flow Description: (high or low flow conditions, stagnant, etc)							
<u>No flow, Dry channel</u>							
Habitat							
Substrate (<=>)			Morphological Structure (%)				
Bo - Boulder	Description		Pool	Riffle	Run	Flat	
Co - Cobble	<u>Si</u>		<u>100</u>				
Gr - Gravel							
Sa - Sand							
Si - Silt							
Cl - Clay							
MK - Muck	Notes: <u>when flowing</u>						
DT - Detritus							
Instream Cover (%)							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
					<u>X</u>	Average Depth: <u> </u>	
Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)							
<u>None</u>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>45</u>	Man-made structures	
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<u>45</u>	Herbaceous	
60-30%	<input type="checkbox"/>					Other	
Note: Low = 0 - 30% ; Moderate = 30 - 60% ; High = 60 - 100%							
Notes: (vegetation species, types of structures)							
<u>ASH, willow shrubs, Dog wood</u>							
Riparian Vegetation							
Width and Description of riparian vegetation:	LB - <u>5m</u>				RB - <u>> 10</u>		
Overhanging Vegetation Present	<input checked="" type="checkbox"/>				% Overhanging Vegetation:	<u>90</u>	
Description of Overhanging Vegetation: <u>willow shrubs, Dog wood</u>							
Obstructions to Fish Passage							
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	
Description of Barrier:							
Height of Barrier (m):							
GPS Coordinates:							

Water Bodies Assessment Field Collection Form

AECOM

Date: June 7/12

Land Parcel/Site ID:

(ASA)
JER 3589
JER 3588

Page 3 of 4

R 3.64

Other General Comments Regarding the Study Area:

- Straight and meander intermittent channel. Drain the 2 fields upstream.
- follow a residential gravel across of a band forest
- dry, the tile not flowing

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1479	VIS From R 3.64 ST		
1480	DIS Facing South Dry		
1481	VIS Facing South Dry		
1482	} end of WB		
1483			
1484		Start to RUN at R 3.64 End	
1485	}		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

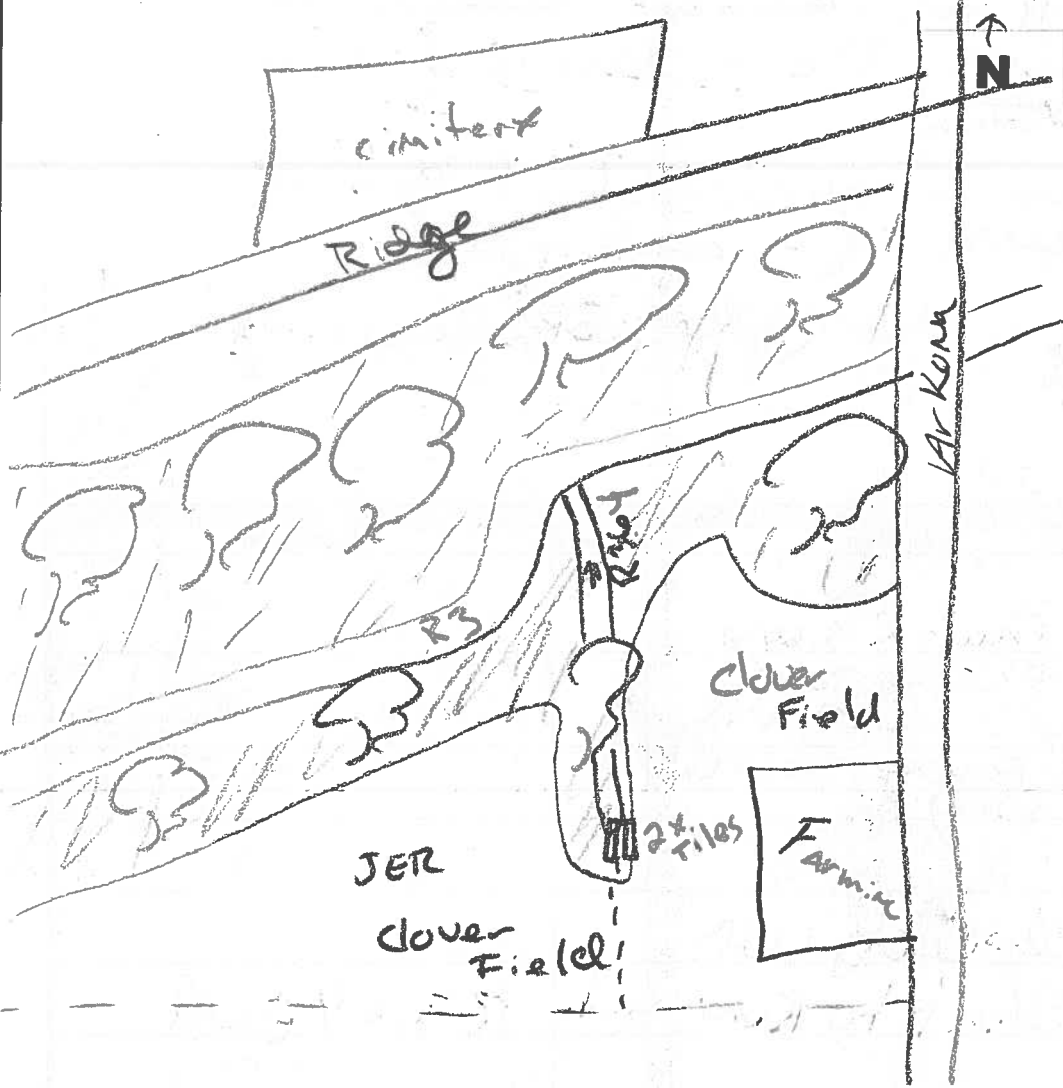
Bluewater

Land Parcel#

JER 3588 / 3589

Site ID

R 3.64

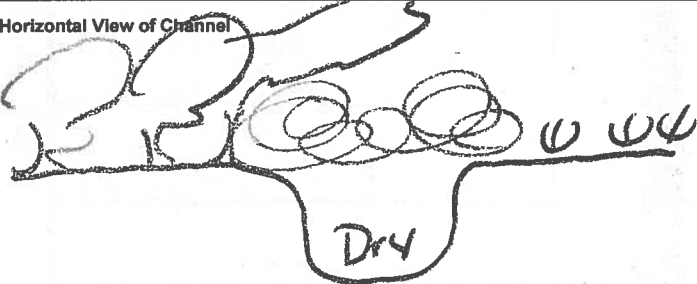


LEGEND

- 10d depth (cm)
- 8w width
- Riffle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- Gravel Substrate
- Cobble/Boulder
- Debris
- CT Cattail
- SV/FV Submerg/Floet Veg
- EV Emergent Vegetation
- W Watercress
- 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

JER 3589

Horizontal View of Channel



Initial QA/QC By: *L. Benney*

Date: *June 13 2012*

Technical QA/QC By: *Slutem* Date: *Oct 2/12*

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

AECOM

Page 1 of 2

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3589 Site ID: R.3.64
 Date: May 14/12 Start time: 14:15 End Time: 14:25
 Weather Conditions: Sunny 18°C Field Crew: C. Booras, A. Arsenault
 Field Notes By: C. Booras

Site Location

Arkona Ln., north of Farmers Ln

UTM Co-ordinates

Easting: 0432284 Northing: 4776878 Description: JER 3589 - at drain
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercross <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: 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)

Temp channel that when flowing appears to drain into sewer, that is by road. → see drawing.

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>sewer + culvert at road</u>		
<u>2-3</u>	<u>overview</u>		

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

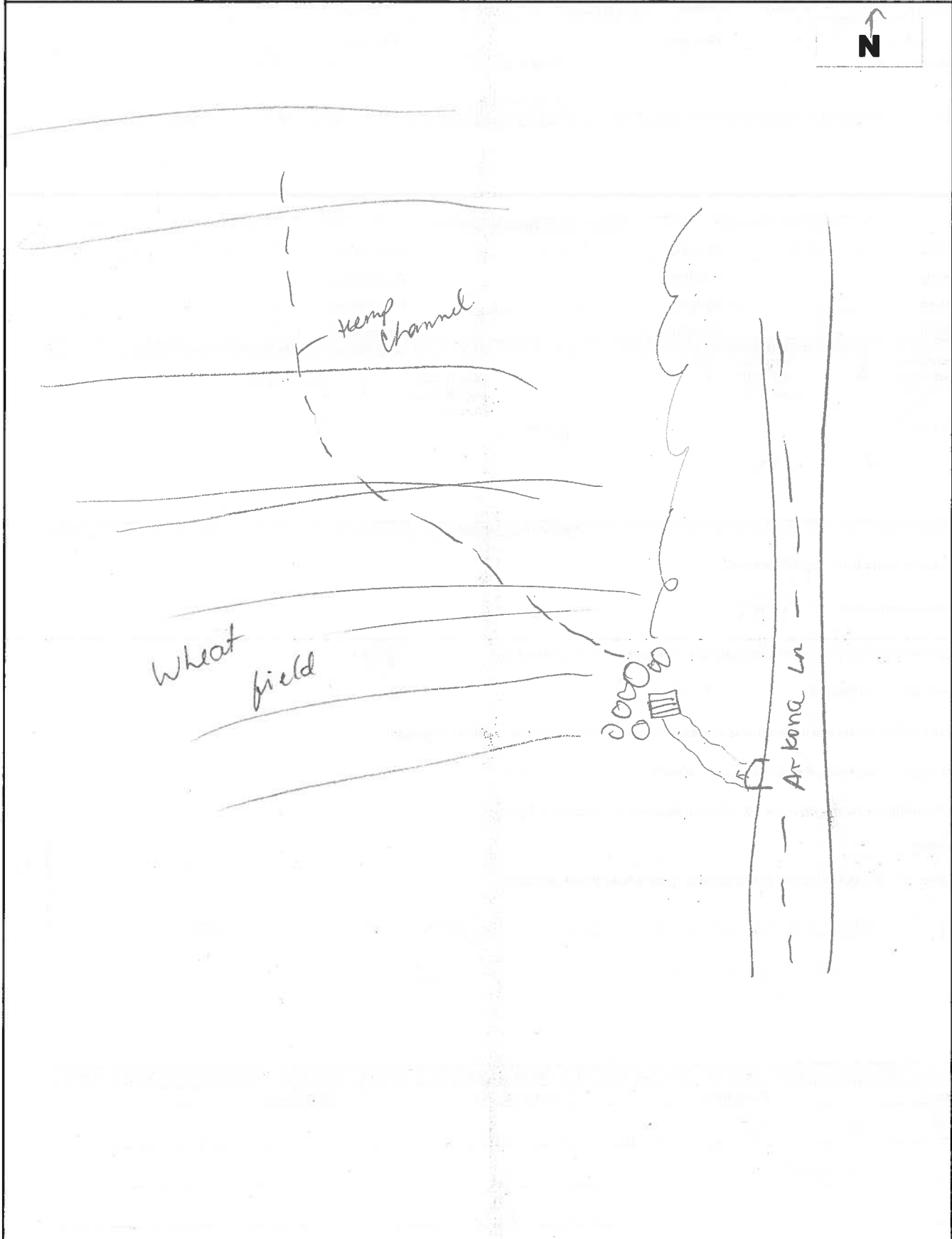
AECOM

Date: May 17, 2012

Land Parcel/Site ID: JER 3589 R3.64

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley May 22, 2012
Technical QA/QC: S. Aiken May 29, 2012

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

AECOM		Page 1 of 2	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JEP 1068/1102</u> Site ID: <u>R3.68</u>
Date: <u>May 23/12</u>	Start time: <u>12:20</u>	End Time: <u>12:40</u>	
Weather Conditions: <u>Sunny, 23°C</u>		Field Crew: <u>C. Boros, J. Epp</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Farmers Ln, East of Gordon</u>			
UTM Co-ordinates			
Easting: <u>431184</u>	Northing: <u>4775762</u>	Description: <u>R3.68s - Jer 1102</u>	
Easting: <u>431119</u>	Northing: <u>4776327</u>	Description: <u>R3.68e - roadside</u>	
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>planted crop field</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	Y / <u>N</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?	<u>(Y)</u> / N		
3) Rock chutes or spillways?	Y / <u>(N)</u>		
4) Roadside ditches that are not connected or do not contain a permanent or Intermittent stream?	Y / <u>(N)</u>		
5) Temporarily ponded areas that are normally farmed?	Y / <u>(N)</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?	Y / <u>(N)</u>		
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>did not see evidence of buried channel at roadside</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>10</u>	<u>sheet</u>		
<u>15-3</u>	<u>North side</u>		
<u>4-5</u>	<u>South side</u>		
<u>6-7</u>	<u>↓</u>		

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

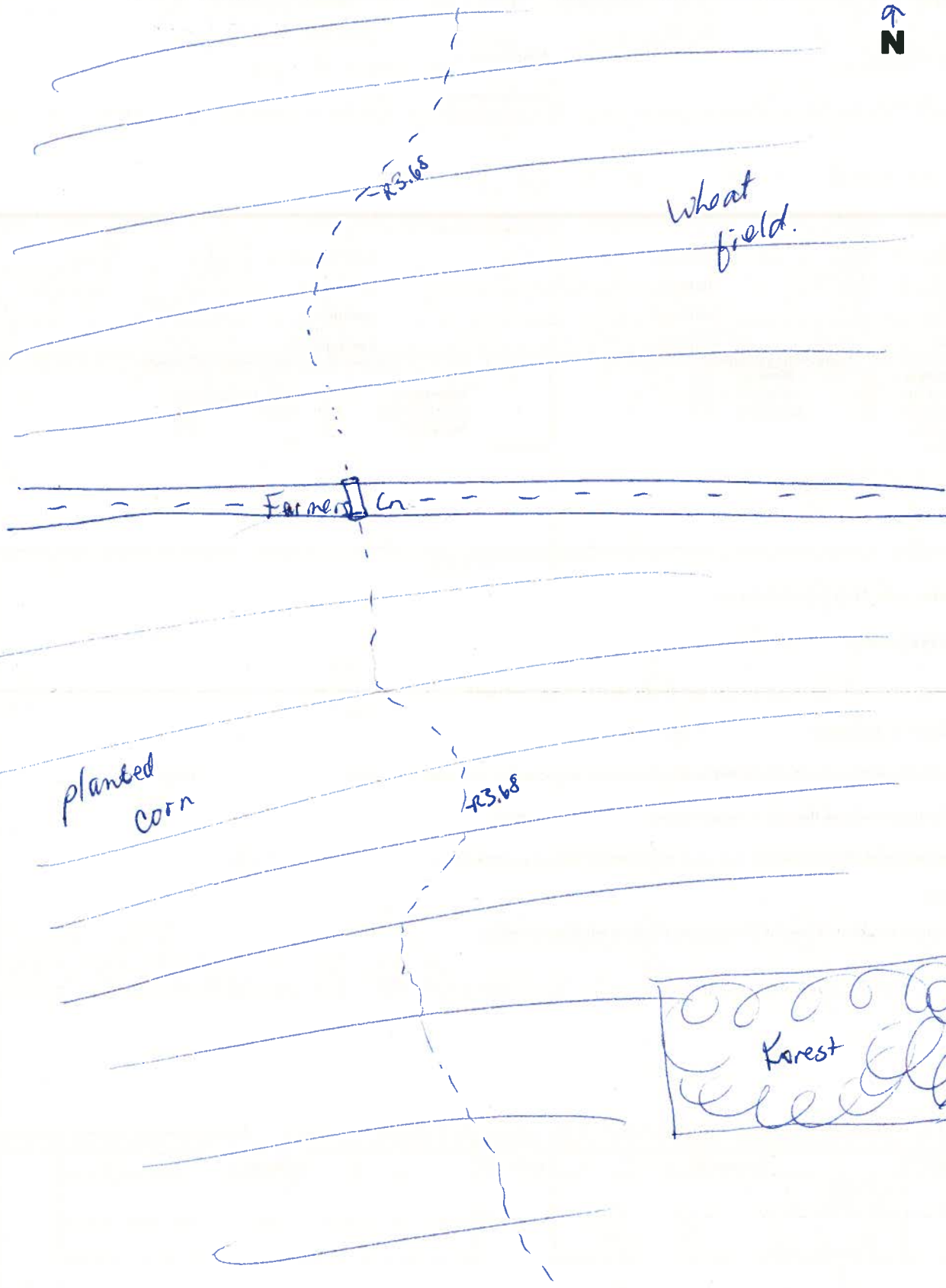
AECOM

Date: May 23/12

Land Parcel/Site ID: JER 1068/1102 R3.60

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley May 30, 2012

Sketch for 11/12

Property ID: JER 1102 Date: May 23/12
Property Access: Kimmers Ln, east of Gordon Start Time: 12:20
End Time: 12:45

Field Investigators: C. Barros, J. Epp Weather: _____

Terrestrial Feature Present: No Yes

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

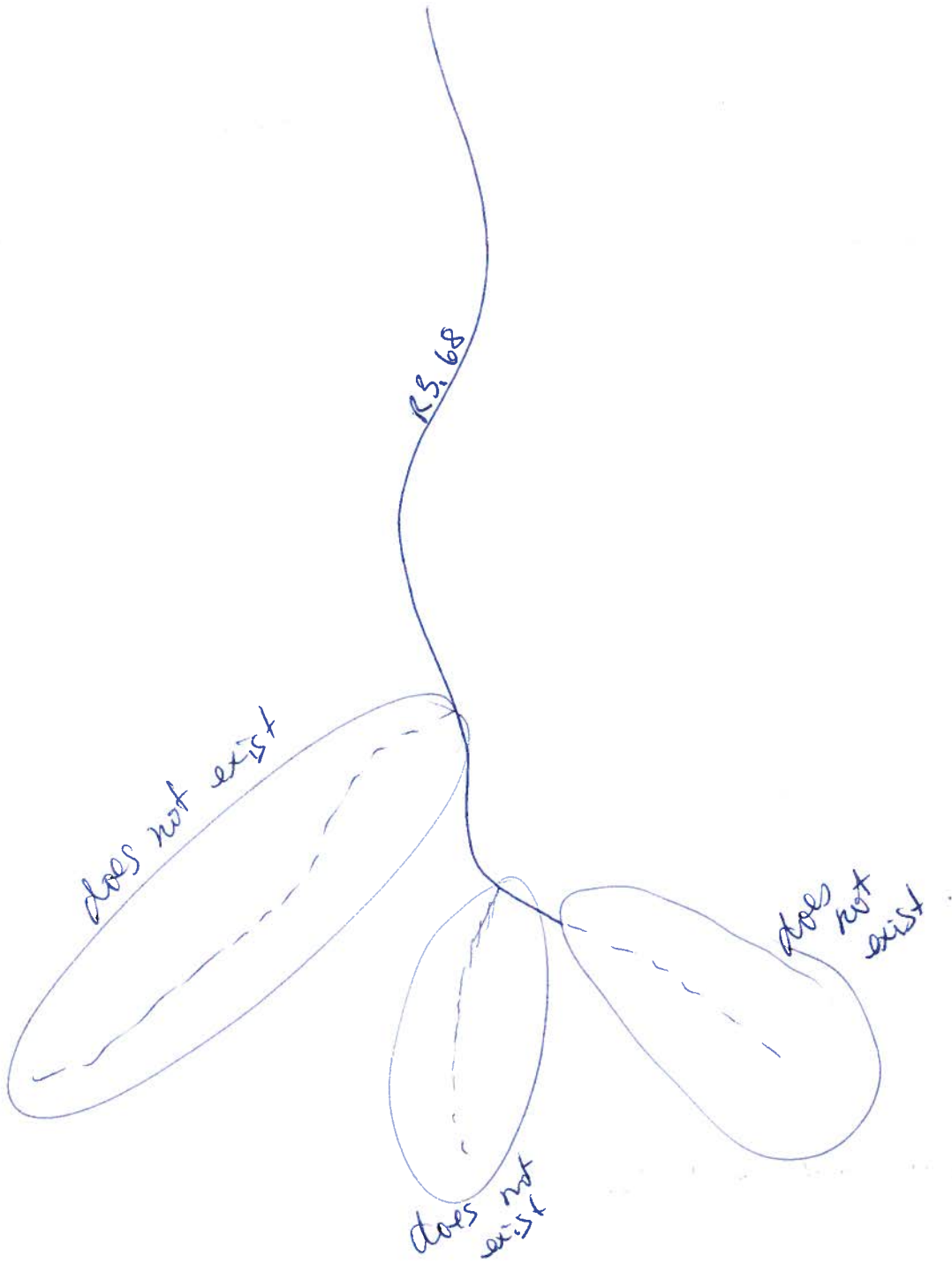
Photograph Numbers: _____

Aquatic Feature Present: No Yes

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

- walked the property and no swales
or waterbodies observed
↳ see map on back

Photograph Numbers: _____



Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3589 Site ID: R3.66
 Date: May 14 12 Start time: 14:30 End Time: 15:50
 Weather Conditions: Sunny 15°C Field Crew: C. Barros, A. Arsenault
 Field Notes By: C. Barros

Site Location

Arkona Ln North of Farmers Ln

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

Easting: <u>0431599</u>	Northing: <u>4777117</u>	Description: <u>R3.66 start</u>
Easting: <u>0431646</u>	Northing: <u>4777009</u>	Description: <u>R3.66 @ wq</u>
Easting: <u>0431836</u>	Northing: <u>4776720</u>	Description: <u>R3.66 end</u>
Easting:	Northing:	Description:

Surrounding Landuse

Residential
 Agriculture
 Forest
 Other
 Meadow
 Wetland
 Livestock

Description: meadow + forest in center area but all surrounded by wheat fields

Type of Watercourse

Intermittent
 Permanent
 Ephemeral
 Channelized
 Natural Channel

Description: starting to naturalize

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

Tile drains 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)

slightly hilly

In-Situ Water Quality

WT (°C): 19.2 AT (°C): 18°C
 pH: 6.66 Cond (µs/cm): 518
 D.O. (mg/L) 14.58
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: will calibrate pH meter for next site
algae present

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details: Small sporadic clumps

Water Bodies Assessment Field Collection Form

Stream Morphology			
Site Length (m): <i>~300m</i>		Bank Stability:	
Channel Dimensions		Stable	Slightly unstable
Mean Wetted Width (m): <i>0.9</i>	Mean Wetted Depth (m): <i>0.15</i>	Moderately unstable	Unstable
Mean Bankfull Width (m): <i>1.3</i>	Mean Bankfull Depth (m): <i>0.45</i>	Left Bank <input type="checkbox"/> Stable <input type="checkbox"/> Slightly unstable <input checked="" type="checkbox"/> Moderately unstable <input type="checkbox"/> Unstable <input type="checkbox"/>	Right Bank <input type="checkbox"/> Stable <input type="checkbox"/> Slightly unstable <input checked="" type="checkbox"/> Moderately unstable <input type="checkbox"/> Unstable <input type="checkbox"/>
Mean Top of Bank Width (m): <i>3</i>	Mean Top of Bank Depth (m): <i>1</i>	Description: <i>erosion + slumping observed throughout</i>	
Flow Description: (high or low flow conditions, stagnant, etc) <i>slow flow</i>			

Habitat									
Substrate (<=>)	Morphological Structure (%)								
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	<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 style="text-align: center;"><i>20</i></td> <td style="text-align: center;"><i>20</i></td> <td style="text-align: center;"><i>40</i></td> <td style="text-align: center;"><i>20</i></td> </tr> </tbody> </table>	Pool	Riffle	Run	Flat	<i>20</i>	<i>20</i>	<i>40</i>	<i>20</i>
Pool	Riffle	Run	Flat						
<i>20</i>	<i>20</i>	<i>40</i>	<i>20</i>						
Description: <i>clay packed bottom</i>	Notes: <i>riffle, run, pool sequence present</i>								

Instream Cover (%) <i>80</i>						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
<i>/</i>	<i>5</i>	<i>/</i>	<i>30</i>	<i>40</i>	<i>/</i>	Average Depth: <i>0.10 m</i> (% Cover) <i>5</i>

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

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

algae - mats attached > algae blooms

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 checked="" type="checkbox"/>	0% <input type="checkbox"/>	Grasses <i>10</i>	Herbaceous _____	Other _____
60-30% <input type="checkbox"/>				

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

Notes: (vegetation species, types of structures)

dogwood, willow, maple

Riparian Vegetation

Width of riparian vegetation: *E+W - 5 m riparian meadow + forest*

Description of vegetation community surrounding 30 m from watercourse:

agri wheat field

Obstructions to Fish Passage			
No Obstructions <input type="checkbox"/>	Man-Made <input checked="" type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>
Description of Barrier: <i>parched culvert</i>		GPS Coordinates: <i>0431688, 4776929</i>	
Height of Barrier (m) <i>0.3</i>			

Other General Comments Regarding the Study Area:

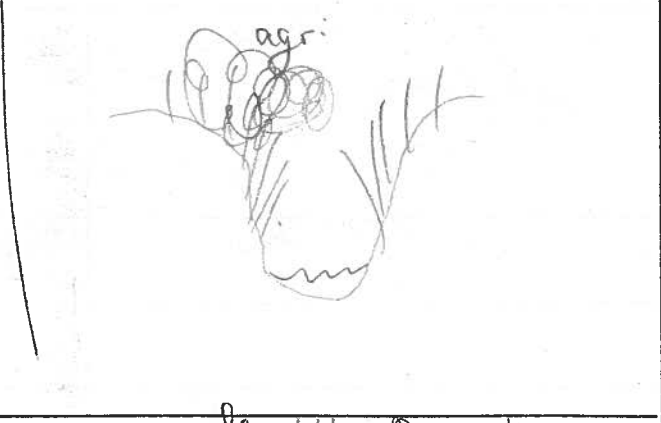
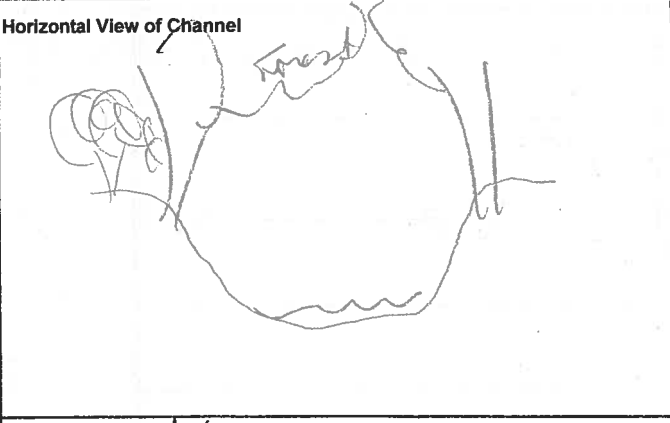
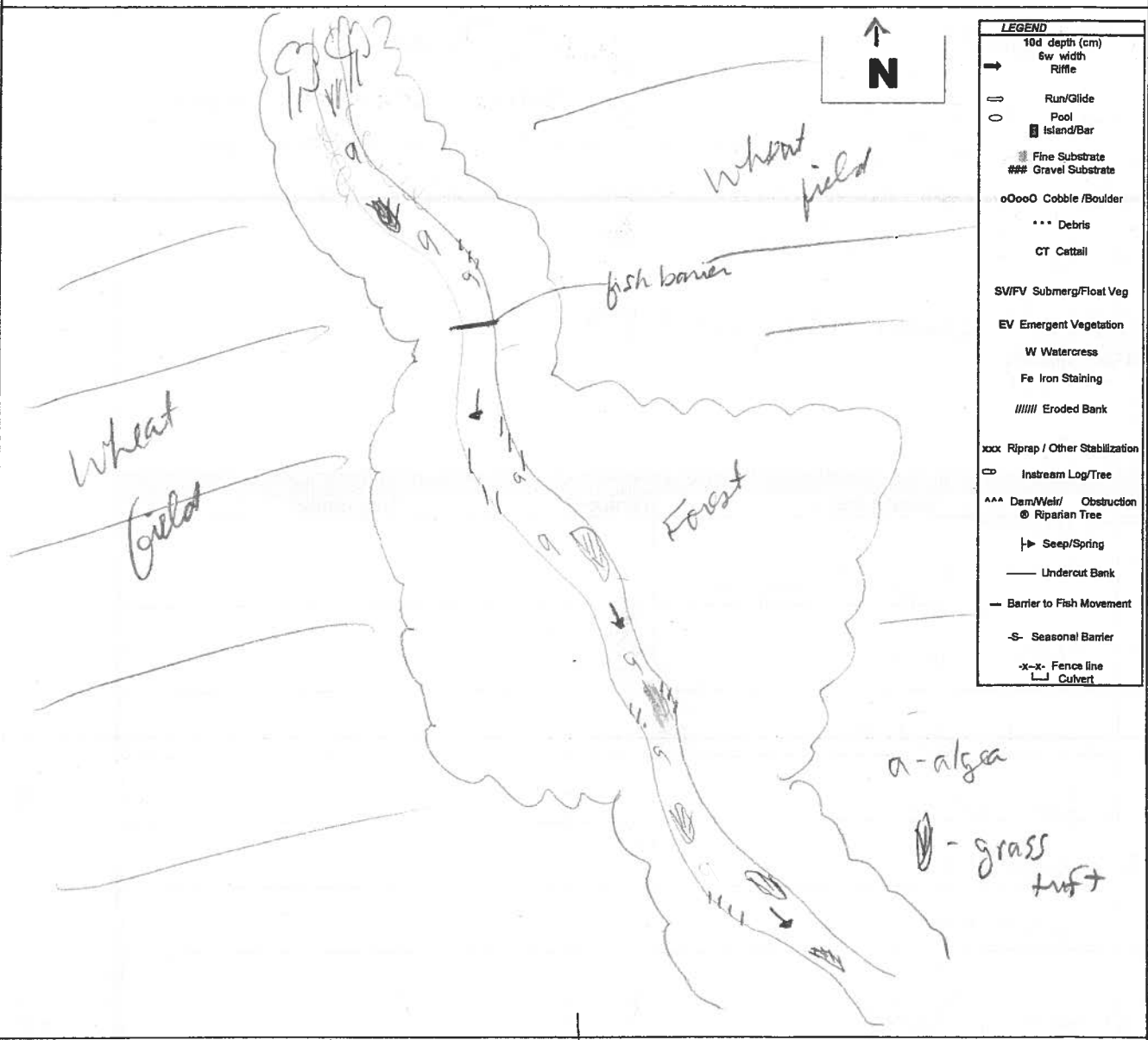
- frogs observed
- watercourse starting to meander in larger channel, wetted width narrow at riffle, wider at pools → riffle, run, pool sequence, canopy cover high (shrubs), instream cover mostly algae, substrate a mix.
- No barrier between 3589 and 3591

Additional UTM Coordinates:

Photo Log

Picture #	Description	Picture #	Description
1	→ overview		
2-3	→ looking downstream past study area		
4-5	looking upstream		
6-14	walking up stream		
15	fish barrier		
16-17	culvert area		
18-19	forest area		
20			
21-22	south of forest		
23	surrounding topography		

Study Area: Jericho Goshen Bluewater Land Parcel# 3589 Site ID R3,66



Initial QA/QC By: Jm Date: Oct 2/12 Technical QA/QC By: [Signature] Date: Oct 2/12

Property ID: JER3589 Date: May 14/12
Property Access: _____ Start Time: 14:30
End Time: 15:50

Field Investigators: C. Boros A. Arsenault Weather: Sunny, 18°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)

ploughed wheat field
↳ evidence of drainage trough
JER3589 Recon 0432094, 4776919

Photograph Numbers: 1 - overview

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	Goshen	Bluewater	Land Parcel# <u>JER1008</u> Site ID: <u>A Hammer (2459)</u>
Date: <u>May 24/12</u>	Start time: <u>14:00</u>	End Time: <u>14:20</u>	
Weather Conditions: <u>Sunny, 25°C</u>		Field Crew: <u>C. Boros J. Epp</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Ravenswood Ln, West of Jericho Rd.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Eastings: <u>425343</u>	Northing: <u>4779805</u>	Description: _____	
Eastings: _____	Northing: _____	Description: _____	
Eastings: _____	Northing: _____	Description: _____	
Eastings: _____	Northing: _____	Description: _____	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input checked="" type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other _____		Description: _____	
Description: <u>forest on west</u> <u>Corn field on east</u>		Description: <u>appears to be overflow ditch</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>none observed</u>			
Is any portion of the water body underground or not as mapped? <u>(Y) N</u>			
If Yes describe: <u>Not a mapped watercourse</u>			
GPS Coordinate Easting -	Northing -	Description- <u>GPS above</u>	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>flat</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): _____	AT (°C): _____	Watercress <input checked="" 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"/>	_____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input type="checkbox"/>	<u>Turbid</u> <input type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: _____		Details: <u>small mats.</u>	
Notes: <u>Water level too low</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology					
Site Length (m): <u>200m</u>			Bank Stability:		
Channel Dimensions			Stable	Slightly unstable	Moderately unstable
Mean Wetted Width (m): <u>1.5</u>	Mean Wetted Depth (m): <u>0.10</u>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): <u>2</u>	Mean Bankfull Depth (m): <u>0.8</u>		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): <u>2.5</u>	Mean Top of Bank Depth (m): <u>0.7</u>	Description: <u>no erosion</u>			
Flow Description: (high or low flow conditions, stagnant, etc) <u>no flow observed</u>					
Habitat					
Substrate (<=>)			Morphological Structure (%)		
Description			Pool	Riffle	Run
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>mk, cl, si</u>			Notes: <u>no meanders</u>		
Instream Cover (%) <u>60</u>					
Other	<u>Small Woody Debris</u>	Boulders	Cobble	Aquatic Vegetation*	None
—	<u>10</u>	—	—	<u>50</u>	—
Average Depth: _____ (% Cover) _____					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%					
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>algae - attached + blooms > waterlilies</u>					
Canopy Cover (% closed cover):			Types of Cover (% cover)		
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <u>80</u>	Shrubs <u>20</u>
90-80%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____
60-30%	<input type="checkbox"/>			Man-made structures _____	Other _____
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%					
Notes: (vegetation species, types of structures) <u>deciduous trees.</u>					
Riparian Vegetation					
Width and Description of riparian vegetation: <u>east - 15m - forest</u>			West <u>> 30m - forest</u>		
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <u>40</u>		
Description of Overhanging Vegetation: <u>shrubs + small trees</u>					
Obstructions to Fish Passage					
None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input checked="" type="checkbox"/>		
Description of Barrier: <u>no flow + dry channel at east + south end</u>					
Height of Barrier (m) _____			GPS Coordinates: _____		

Water Bodies Assessment Field Collection Form

R4.59

AECOM

Date: May 24/12

Land Parcel/Site ID: JER 1008

Page 3 of 4

~~unmapped~~

Other General Comments Regarding the Study Area:

This is on unmapped watercourse found on JER 1008.
It is a channel that runs along the east side of
Feature 213. It is channelized and is most
likely used for overflow - It was ponded in the
corner but becomes dry 20m out to the east and
20m out to the south.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
18	overview		
	↓ South to east		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

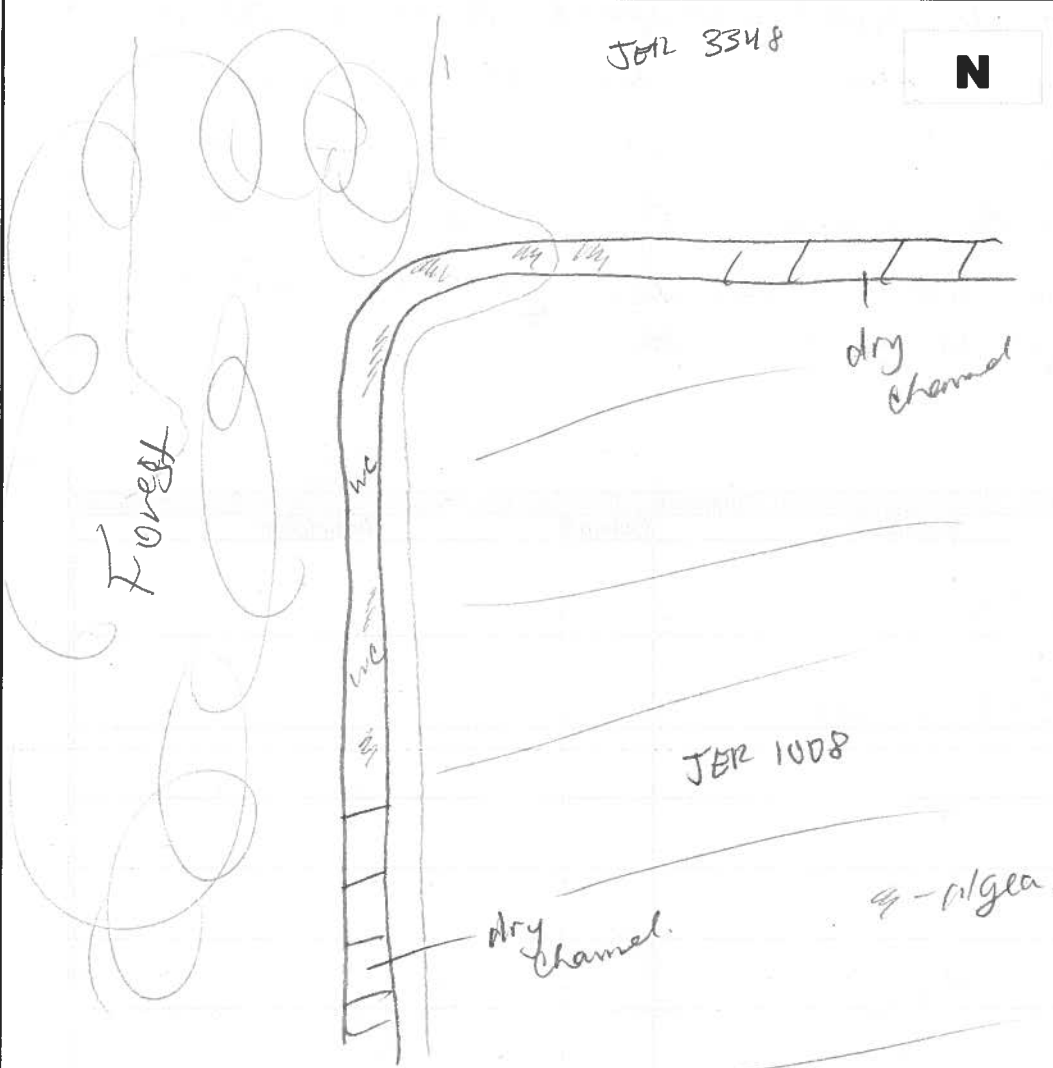
Bluewater

Land Parcel#

JER 1008

Site ID

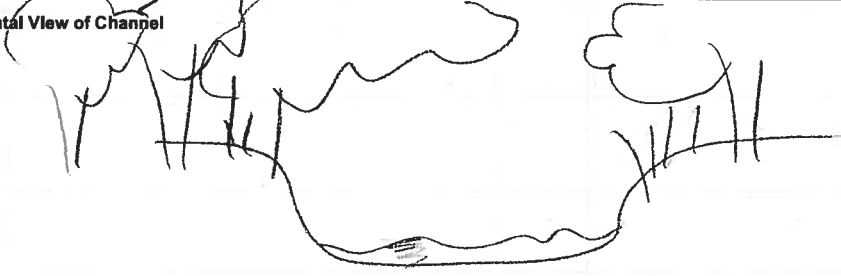
* R4.59



LEGEND

- 10d depth (cm)
- 0w width
- Riffle
- Run/Glide
- Pool
- Island/Bar
- ▨ Fine Substrate
- ### Gravel Substrate
- oOoo Cobble / Boulder
- *** Debris
- CT Cattail
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercross
- Fe Iron Staking
- ///// 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

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 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: <u>Jericho</u>	Goshen	Bluewater	Land Parcel# <u>1003/3457</u> ^{JE12 3454/3457}
Date: <u>June 8/12</u>	Start time: <u>8:45</u>	End Time: <u>10:00</u>	Site ID: <u>R4.8 E</u>
Weather Conditions: <u>Sunny, 16°C</u>		Field Crew: <u>C. Boros, S. Paraiiche</u>	
		Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Elliott Rd, south of Pork Franks Rd.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>427403</u>	Northing: <u>4782831</u>	Description: <u>R4.8 start</u>	
Easting: <u>427320</u>	Northing: <u>4782962</u>	Description: <u>R4.8 wq</u>	
Easting: <u>427367</u>	Northing: <u>4783818</u>	Description: <u>R4.8 end</u>	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input checked="" type="checkbox"/> /pasture	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 checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	<input type="checkbox"/>
Other <input type="checkbox"/>		Description: <u>Begins in a small natural stream then becomes channelized</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>tile drains observed - not flowing</u>			
Is any portion of the water body underground or not as mapped? <u>Y/N</u>			
If Yes describe:			
/ / /			
GPS Coordinate: Easting -	Northing -	Description -	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>St. Lilly</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>15.00</u>	AT (°C): <u>23°C</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>8.04</u>	Cond (µs/cm): <u>691</u>	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
D.O. (mg/L) <u>5.71</u>		Bubbling <input type="checkbox"/> <u>water</u>	<input checked="" type="checkbox"/>
Water Clarity: <u>Clear</u>	<input checked="" type="checkbox"/> Turbid st. <input checked="" type="checkbox"/>	Other <input type="checkbox"/> <u>Speedwell</u>	
Water Colour: <u>n/a</u>	<u>in pool areas</u>	Details: <u>sporadic plants</u>	
Notes: <u>wq taken in small pool area</u>			

ASA
0125

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>720m</u>			Bank Stability:																	
Channel Dimensions			<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 type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>2.2</u>	Mean Wetted Depth (m): <u>0.25</u>	Description: <u>evidence of erosion throughout + some areas of channeling</u>																		
Mean Bankfull Width (m): <u>5.5</u>	Mean Bankfull Depth (m): <u>0.9</u>																			
Mean Top of Bank Width (m): <u>6.8</u>	Mean Top of Bank Depth (m): <u>2.5</u>																			
Flow Description: (high or low flow conditions, stagnant, etc) <u>slow flow, low level</u>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>gr > sa = si = c / = co</u>			<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td><u>30</u></td> <td><u>5</u></td> <td><u>15</u></td> <td><u>50</u></td> </tr> </table>			Pool	Riffle	Run	Flat	<u>30</u>	<u>5</u>	<u>15</u>	<u>50</u>							
Pool	Riffle	Run	Flat																	
<u>30</u>	<u>5</u>	<u>15</u>	<u>50</u>																	
			Notes: <u>meandering + areas of narrowing (runs)</u>																	
Instream Cover (%) <u>70</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
	<u>25</u>		<u>10</u>	<u>30</u>		Average Depth: <u>0.2</u> (% Cover) <u>5</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>algae - attached, filamentous</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees <u>50</u> Shrubs <u>40</u> Man-made structures _____																		
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses _____ Herbaceous <u>10</u> Other _____																		
60-30% <input checked="" type="checkbox"/>																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <u>willow > dogwood, sumac</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Riparian Vegetation																	
LB - <u>< 0.5 - 3m - meadow</u>			RB - <u>< 0.5 - 7m - meadow + forest</u>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <u>10</u>																	
Description of Overhanging Vegetation:			<u>shading whole stream</u>																	
<u>overhanging dogwood in dense patches + also bankside only shading half the stream</u>																				
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 8 / 12

Land Parcel/Site ID:

JER 3454

Page 3 of 4

1003
9125 R4BE

Other General Comments Regarding the Study Area:

Snapping turtle observed JER1003

- Cyprinids observed (12), school of 40y's

The watercourse begins in a natural channel on the east side of Elliot Rd. It is meandering in riffle, run, pool sequences. Canopy cover is high, as it flows into JER3454 it becomes more channelized however has areas that narrow creating runs and then pools.

Additional UTM Coordinates: Overhanging veg^{and/or} woody debris found in most pools. Canopy cover is less dense. Watercourse is starting to naturalize - blumping + erosion present.

Photo log

Picture #	Description	Picture #	Description
(1517)			
(1517)	at road culvert looking out 1003		
(1518-19) 2-3	end point of JER1003		
1520-21	riffle		
1522-23	JER 3454 starting from South going North		
↳ 1539	→ end photo		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

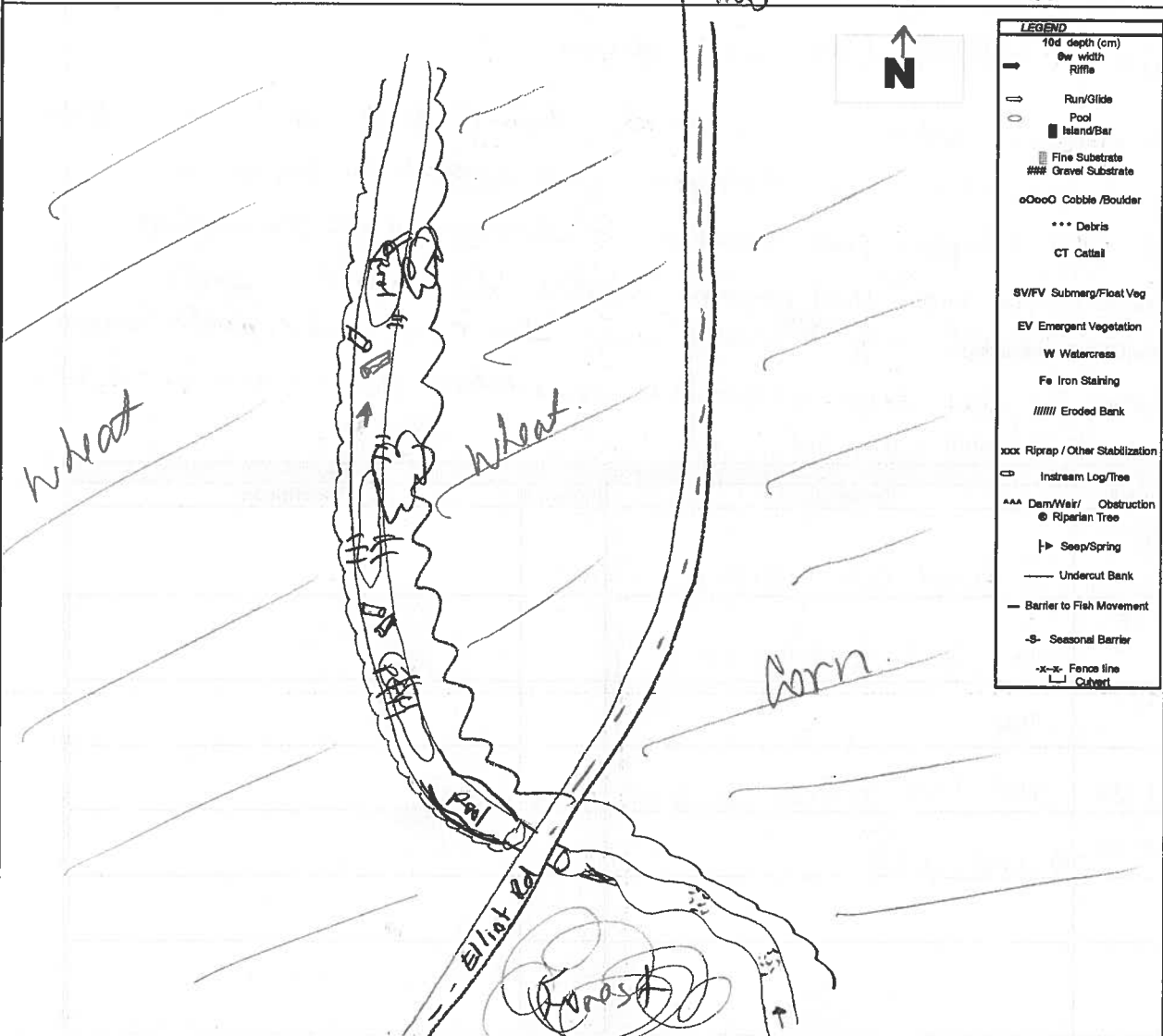
Study Area:

Jericho Goshen Bluewater Land Parcel#

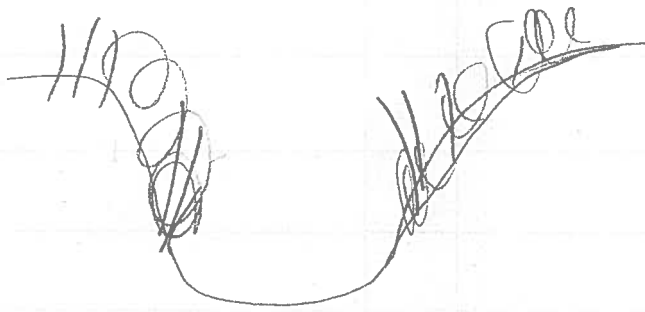
JER 3454
1003
9125

Site ID

R4, 8 E



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 13, 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 3388 6139 Site ID: R4.F

Date: June 6/12 Start time: 16:15 End Time: 16:50

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

Site Location

Jericho Rd., south of Ridge Rd.

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

Easting: <u>4258284</u>	Northing: <u>4776468</u>	Description: <u>R4 st</u>
Easting: <u>426101</u>	Northing: <u>4776322</u>	Description: <u>R4 wdg</u>
Easting: <u>428414</u>	Northing: <u>4776294</u>	Description: <u>R4 end</u>
Easting:	Northing:	Description:

Surrounding Landuse

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

Description: west - agri crop
east - pasture

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"/>		<input type="checkbox"/>

Description: straight

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

drainage ditches (rills) - 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>22.9</u>	AT (°C): <u>26</u>
pH: <u>8.99</u>	Cond (µs/cm): <u>463</u>
D.O. (mg/L) <u>10.72</u>	
Water Clarity: <u>Clear</u> <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>	
Water Colour: <u>n/a</u>	

Notes: taken under concrete bridge.

Ground Water and Seepage Indicators

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

Details: small clumps

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>200m</u>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Stable</td> <td style="text-align: center;">Slightly unstable</td> <td style="text-align: center;">Moderately unstable</td> <td style="text-align: center;">Unstable</td> </tr> <tr> <td>Left Bank</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>2</u>	Mean Wetted Depth (m): <u>0.25</u>	Description: <u>erosion evidence - during high energy flows</u>																		
Mean Bankfull Width (m): <u>3</u>	Mean Bankfull Depth (m): <u>0.7</u>																			
Mean Top of Bank Width (m): <u>7</u>	Mean Top of Bank Depth (m): <u>3</u>																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
<u>slow</u>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td style="text-align: center;"><u>5</u></td> <td></td> <td style="text-align: center;"><u>95</u></td> </tr> </table>			Pool	Riffle	Run	Flat		<u>5</u>		<u>95</u>							
Pool	Riffle	Run	Flat																	
	<u>5</u>		<u>95</u>																	
<u>si = sa = gr > cl > co</u> <small>mk</small>			Notes: <u>riffle at bridge area</u>																	
Instream Cover (%) <u>60</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	<u>5</u>	/	<u>5</u>	45 <u>45</u>	/	Average Depth: <u>0.10</u> (% Cover) <u>5</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<u>algae - attached >> algae - filamentous >> pondweed</u> <u>arrow head, grass</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>10</u>	Shrubs	<u>75</u>	Man-made structures												
90-80%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<u>15</u>	Herbaceous		Other												
60-30%	<input checked="" type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<u>Common reed, dogwood, willow</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:	LB - <u>E side -> 15 - pasture/hay field</u>			RB - <u>11 to LB</u>																
	<u>W side - 2m - meadow</u>																			
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N			% Overhanging Vegetation: <u>2</u>																	
Description of Overhanging Vegetation: <u>some dogwood overhanging - not dense + very little</u>																				
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 6/12*

Land Parcel/Site ID: *J62 3388*
1139 R4E

Page 3 of 4

Other General Comments Regarding the Study Area:

- 40y fish observed under culvert (~15)
- Tadpoles observed

It is a straight channelized watercourse that ~~has~~ has moderate instream cover due to algae, low canopy cover, and a soft substrate.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
<i>1a</i>	<i>Sheet</i>		
<i>1b</i>	<i>west overview</i>		
<i>2-10</i>	<i>west channel overview</i>		
<i>11-17</i>	<i>east channel overview</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

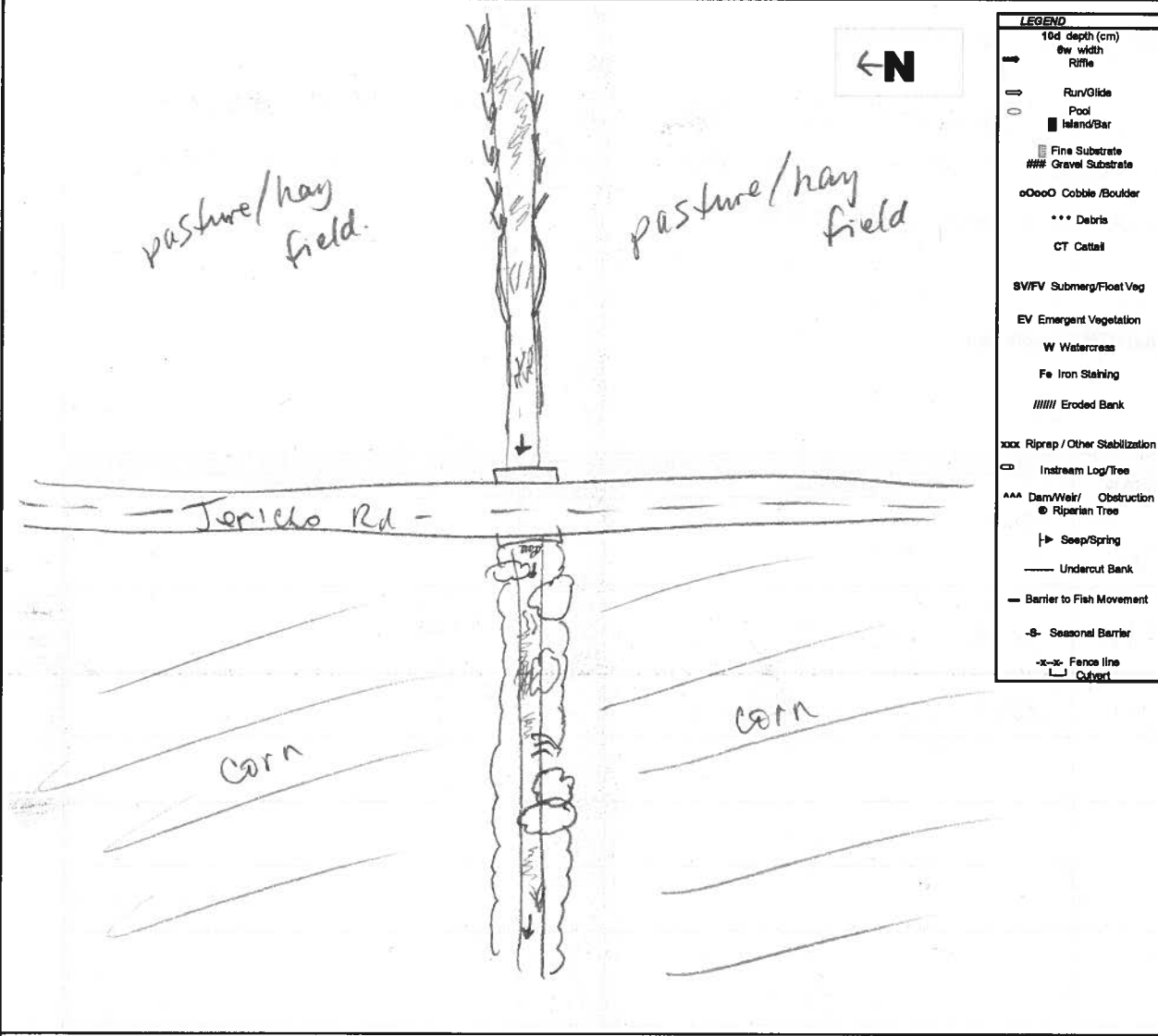
Study Area:

Jericho Goshen Bluewater Land Parcel#

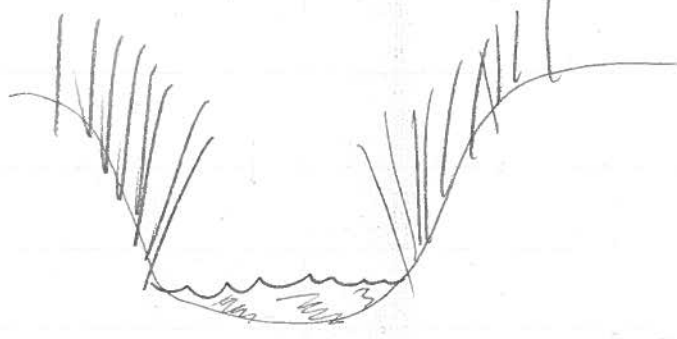
JER 3388
1139

Site ID

R4F



Horizontal View of Channel



Initial QA/QC By: L Bentley

Date: June 13, 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 3346 3370 3358 Site ID: R4 G
 Date: June 6 / 12 Start time: 17:55 End Time: 18:15

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

Site Location

Thomson Ln, last of Army Camp Rd. Roadside survey on JER 3346 + JER 3358

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

Easting: 425290 Northing: 4778161 Description: R4 JER 3346
 Easting: 425284 Northing: 4777962 Description: R4 JER 3346
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description: Corn + wheat fields surrounding

Description: Mud Creek

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

Till drains on east+west - east 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): 23.1 AT (°C): 24.1
 pH: 8.71 Cond (µs/cm): 508
 D.O. (mg/L): 11.60
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: taken just south of culvert

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): 60m				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m):	4	Mean Wetted Depth (m):	0.2	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	6	Mean Bankfull Depth (m):	0.8	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	10	Mean Top of Bank Depth (m):	2	Description: well vegetated			
Flow Description: (high or low flow conditions, stagnant, etc) slow flow							
Habitat							
Substrate (<=>)				Morphological Structure (%)			
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Sa = Si = Cl = Gr > Co				Pool	Riffle	Run	Flat
					2		98
				Notes: riffle by concrete bridge.			
Instream Cover (%)							
Other	Small Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
/	5	/	5	40	/	Average Depth: / (% Cover) /	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) algae-attached > emergent grasses							
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	Herbaceous	Other	
60-30%	<input type="checkbox"/>			20	50		
/				30			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%							
Notes: (vegetation species, types of structures) shrubs line edge of water - on N side (down) emergent grasses in stream							
Riparian Vegetation							
Width and Description of riparian vegetation:							
LB - 1m - meadow				RB - 1m - meadow			
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N				% Overhanging Vegetation: 5			
Description of Overhanging Vegetation: overhanging dogwoods at edge of stream but only overhangs 2m							
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 6/12

Land Parcel/Site ID:

JER 3346 R46
3870
3358 Page 3 of 4

Other General Comments Regarding the Study Area:

- Cypriines observed.

Watercourse is flowing fairly straight. It is a natural watercourse. On the south side it is in a wide wetted width with no in-stream veg. After it flows under the culvert/bridge the stream is narrow & there is a lot of emergent veg. The substrate is soft & covered in algae. Low canopy cover → small riparian.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 1-3	Sheet South side - from road		
4-7	South North side - ^{from} road		
8-11	South side ASA		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

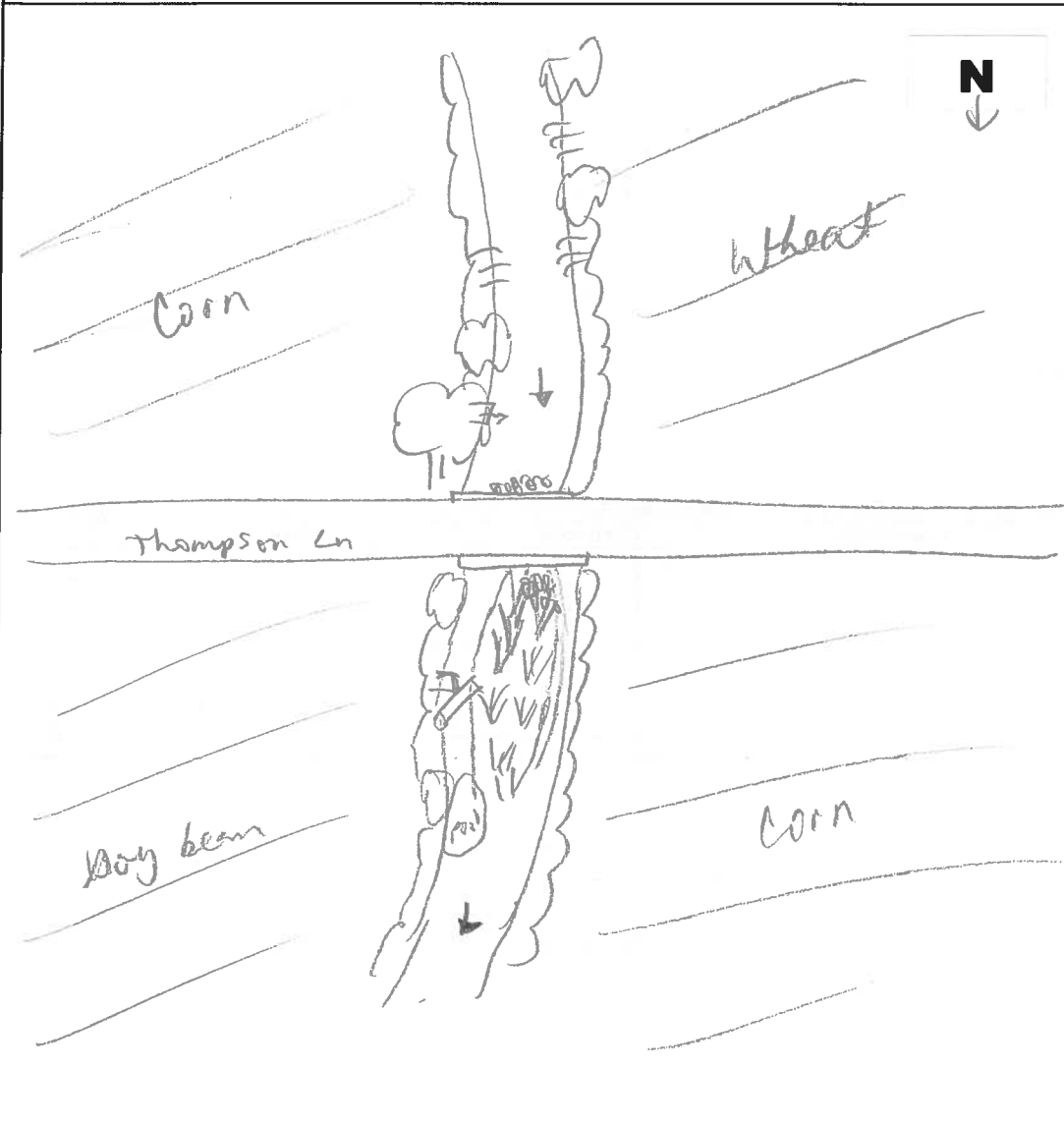
Bluewater

Land Parcel#

JER 3346
3370
3358

Site ID

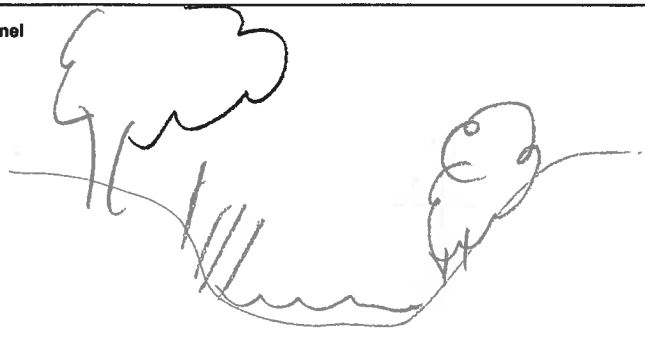
R4G



LEGEND

- 10d depth (cm)
- 8w width
- Riffle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- Gravel Substrate
- Cobble/Boulder
- Debris
- CT Cattail
- SV/FV Submerg/Float 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

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 13, 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# 5003281 Site ID: R4.58
 Date: July 30/12 Start time: 13:40 End Time: 14:00
 Weather Conditions: Sunny 27°C Field Crew: C. Baros T. Shansey
 Field Notes By: C. Baros

Site Location

Arkona, north of Jma Ln.

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

Easting: 0432220 Northing: 4773621 Description: R4.58 st
 Easting: 0432205 Northing: 4773070 Description: R4.58 end
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Description: Roadside + corn field

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description: ditch dry

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

Notes: no water

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Water Bodies Assessment Field Collection Form

Site Length (m): 400m		Bank Stability:																		
Channel Dimensions		<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): dry 0.5	Mean Wetted Depth (m): /	Description: well veg																		
Mean Bankfull Width (m): 0.75	Mean Bankfull Depth (m): /																			
Mean Top of Bank Width (m): 6	Mean Top of Bank Depth (m): /																			
Flow Description: (high or low flow conditions, stagnant, etc) dry																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		U = Sa = Si		<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Pool	Riffle	Run	Flat											
Pool	Riffle	Run	Flat																	
				Notes: /																
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None															
				15																
Undercut Banks Average Depth: (% Cover)																				
<i>Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%</i>																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) grasses > phragmites																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs															
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses 100	Herbaceous															
60-30%	<input type="checkbox"/>				Man-made structures															
			Other																	
<i>Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%</i>																				
Notes: (vegetation species, types of structures) grasses + phragmites																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:																	
LB - 5m grassy			RB - 2m - grassy																	
Overhanging Vegetation Present Y/N			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Barrier																				
None Observed <input type="checkbox"/> Man-Made <input type="checkbox"/> Natural <input type="checkbox"/> Low Flow Barrier <input checked="" type="checkbox"/>																				
Description of Barrier: dry channel																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: *July 30 /12*

Land Parcel/Site ID: *JER 3281*

Page 3 of 4

R4.5B

Other General Comments Regarding the Study Area:

Watercourse in roadside ditch. Dry during time of investigation. Riparian dominated by grasses w pockets of phragmites.

Culvert observed on east side connecting to R4.

Starts at JER 9190 and appears to end at JER 3282

Additional UTM Coordinates:

Photo log

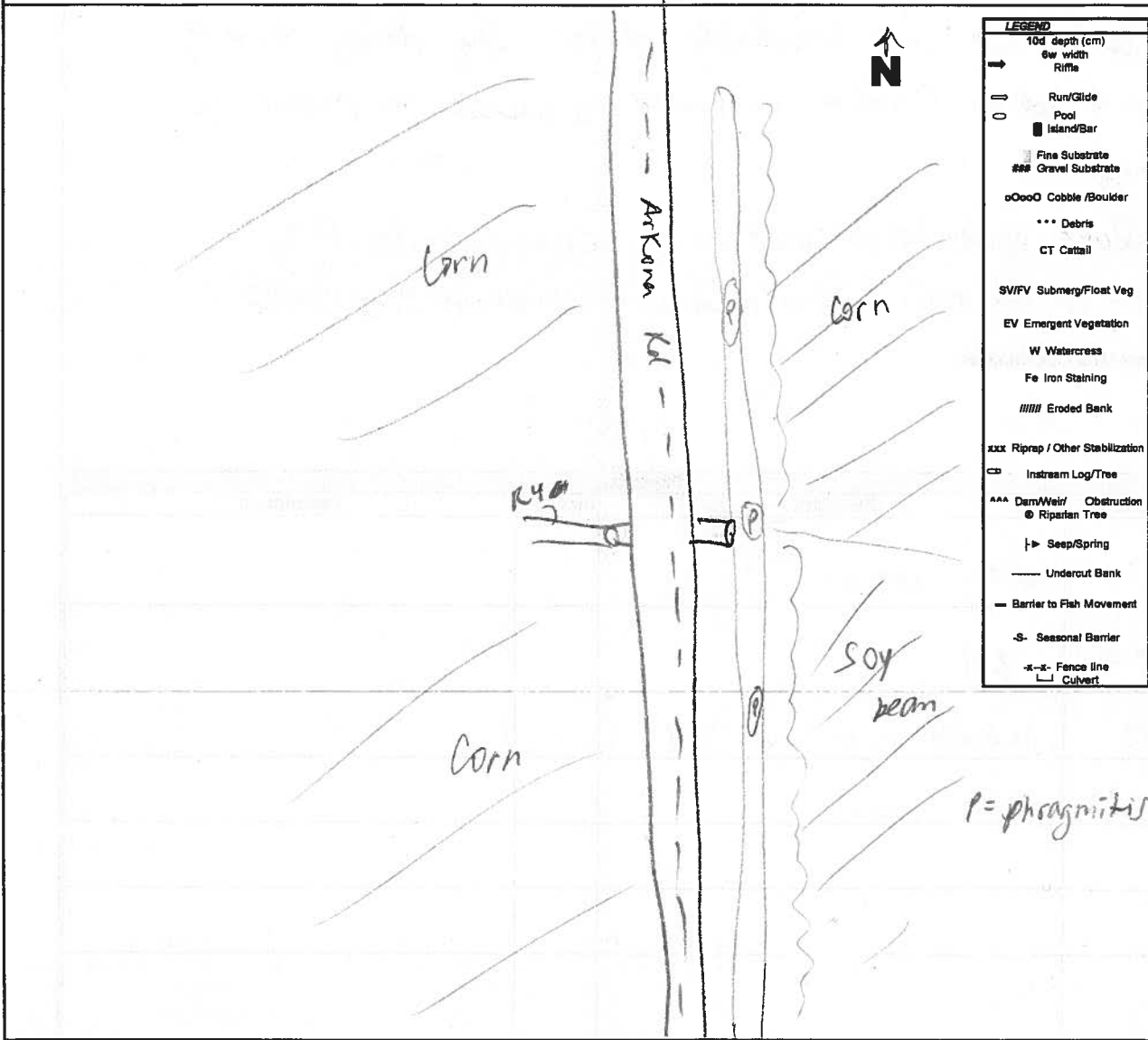
Picture #	Description	Picture #	Description
<i>1-7</i>	<i>north branch</i>		
<i>8-9</i>	<i>R4</i>		
<i>10</i>	<i>Culvert on east from R4</i>		
<i>11-17</i>	<i>South branch</i>		

Water Bodies Assessment Field Collection Form

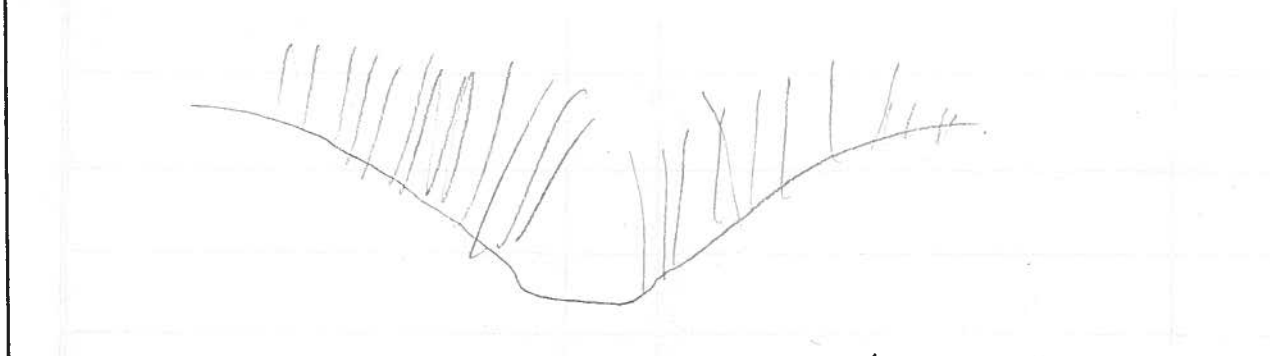
AECOM

Page 4 of 4

Study Area: Jericho Goshen Bluewater Land Parcel# JBL 3091 Site ID K4.58



Horizontal View of Channel



Initial QA/QC By: Libentey

Date: August 14, 2012

Technical QA/QC By: fluther

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4
General Information		
Study Area: <u>Jericho</u>	Goshen	Bluewater
Land Parcel#: <u>2331-33307</u> <u>1063-11183</u>	Site ID: <u>R4.8D</u>	
Date: <u>MAY 30/12</u>	Start time: <u>8:00</u>	End Time: <u>11:30</u>
Weather Conditions: <u>SUNNY</u> <u>20c</u>	Field Crew: <u>C Hardin</u> <u>S Paraiiche</u>	Field Notes By: <u>S Paraiiche</u>
Site Location		
<u>ON west of Northville Rd,</u> ASA		
UTM Co-ordinates (continue on page 3 if necessary)		
Easting: <u>427768</u>	Northing: <u>4781606</u>	Description: <u>R4.8A</u>
Easting: <u>427889</u>	Northing: <u>478172</u>	Description: <u>R4.8B (culvert)</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Surrounding Landuse		Type of Watercourse
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/> <u>50%</u>	Wetland <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/> <u>1063</u>
Forest <input type="checkbox"/> <u>(1063)</u>	livestock <input type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/> <u>(3331)</u>
Other <input type="checkbox"/>		
Description: <u>50% Agriculture with</u> <u>Barred Forest (3331)</u>		Description: <u>50% channelized on 1063</u> <u>50% look like natural on 3331</u>
Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)		
<u>None observed</u>		
Is any portion of the water body underground or not as mapped? <u>Y/N</u>		
If Yes describe:		
GPS Coordinate: Easting - _____ Northing - _____ Description - _____		
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)		
<u>Sloping towards water body</u>		
In-Situ Water Quality		Ground Water and Seepage Indicators
WT (°C): <u>13.2</u>	AT (°C): <u>20.2</u>	Watercress <input type="checkbox"/>
pH: <u>7.72</u>	Cond (s/cm): <u>892</u>	Bank Seepage <input type="checkbox"/>
D.O. (mg/L) <u>6.61</u>		Iron Staining <input type="checkbox"/>
Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>		Bubbling <input type="checkbox"/>
Water Colour: <u>light Brown</u>		Other <input checked="" type="checkbox"/>
Notes: <u>forest section</u> <u>D/S of culvert</u>		Details: <u>pansyl nomen</u> <u>Bitterness.</u>
<u>Pict # 1088</u>		

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>500m</u>			Bank Stability:																	
Channel Dimensions			<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 type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>1.25</u>	Mean Wetted Depth (m): <u>0.10</u>	Description: <u>undercut - light erosion</u>																		
Mean Bankfull Width (m): <u>3.00</u>	Mean Bankfull Depth (m): <u>1.00</u>																			
Mean Top of Bank Width (m): <u>7.00</u>	Mean Top of Bank Depth (m): <u>2.20</u>	Flow Description: (high or low flow conditions, stagnant, etc)																		
<u>low flow</u>																				
Substrate (<=>)			Habitat																	
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		Description: <u>Si = clay > Gr = Co</u>	<table border="1" style="width:100%; text-align: center;"> <thead> <tr> <th colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> </thead> <tbody> <tr> <td><u>10</u></td> <td><u>20</u></td> <td><u>50</u></td> <td><u>20</u></td> </tr> </tbody> </table> Notes:			Morphological Structure (%)				Pool	Riffle	Run	Flat	<u>10</u>	<u>20</u>	<u>50</u>	<u>20</u>			
Morphological Structure (%)																				
Pool	Riffle	Run	Flat																	
<u>10</u>	<u>20</u>	<u>50</u>	<u>20</u>																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
<u>5</u>	<u>10</u>		<u>5</u>	<u>10</u>		Average Depth: <u>None</u> (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<u>algae, pond weed, Pennsylvania Bittersweet</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>40</u>	Shrubs	<u>10</u>	Man-made structures												
90-80%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses		Herbaceous		Other												
60-30%	<input checked="" type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<u>ASH and Salix shrubs and (ORME (frends))</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:	LB - <u>25m</u> <u>Wild Roses, Salix shrubs, Bidens cernua</u>	RB - <u>40m</u> <u>Wild raspberry, Grasses</u>																		
Overhanging Vegetation Present (Y/N)	% Overhanging Vegetation: <u>10%</u>																			
Description of Overhanging Vegetation: <u>Salix shrubs</u>																				
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: May 20/12

Land Parcel/Site ID: 331-3330
1063-118 R4.BD Page 3 of 4

Other General Comments Regarding the Study Area:

- look like a good Fish Habitat on #3331
(no fish observed)
- R4.8C Hibernia colate structure
Close to the stream (Pic. 1089)
- Hear Bull Frog

XXX - 1) the section on #1063 ave open wood freight
2 field.

- Riparian Bank: wild roses and grasses

Additional UTM Coordinates:

- no canopy cover, ~~no~~ instream cover: 90% by
- algae in stream
- 50% instream, 100% Run

Plants and Vegetation

Photo log

Picture #	Description	Picture #	Description
1086	Facing north		
1087	Facing south		
1088	culvert #1 in the middle of sect.		
1089	Facing south to U/S Rock pile		
1090	D/S - DASA (R4.8A)		
1091	U/S (R4.8A)		
1103	culvert (R4.8B)		
1104	Facing north (R4.8B)		
1105	ASA Facing south to #1118		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

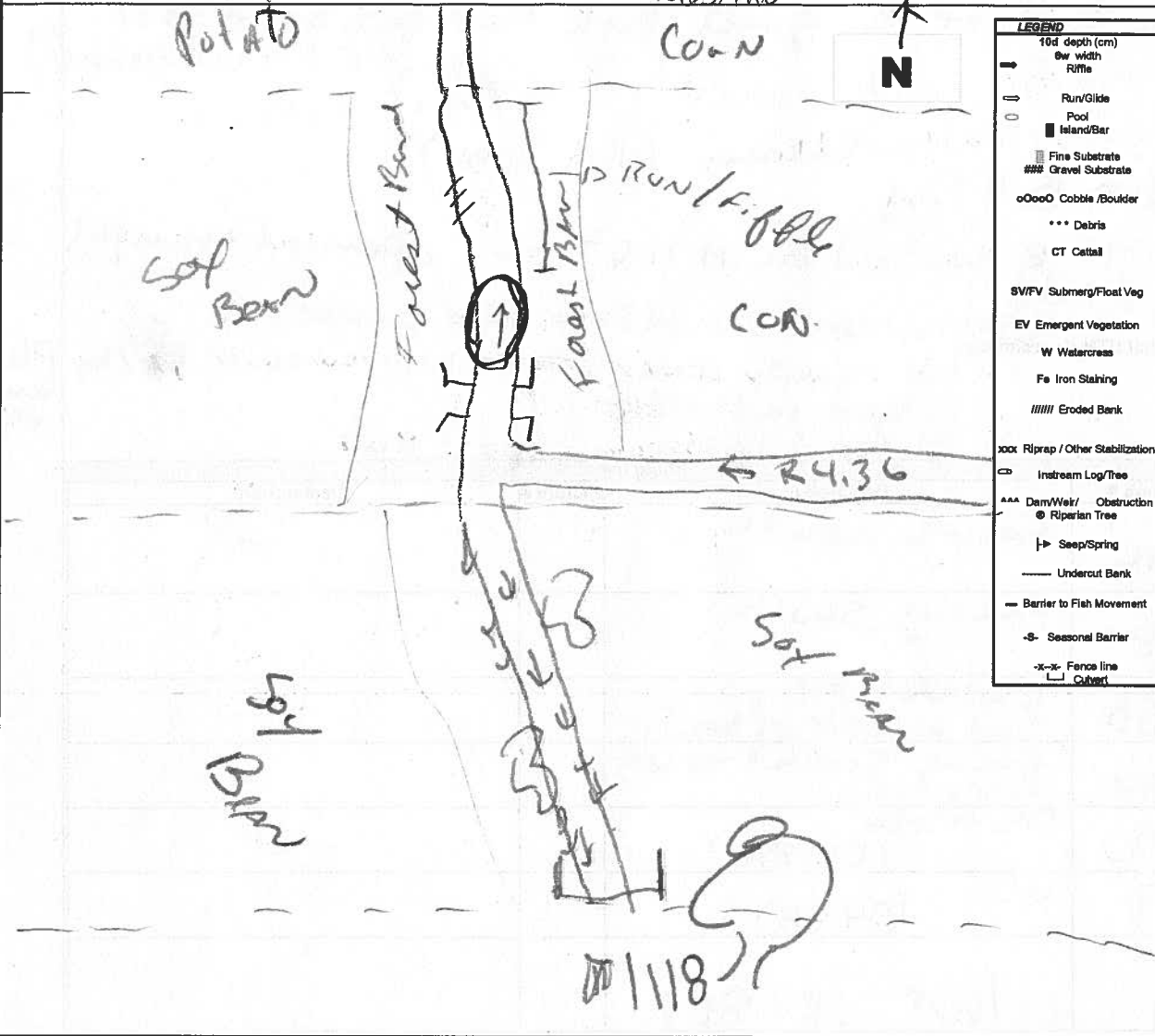
Bluewater

Land Parcel

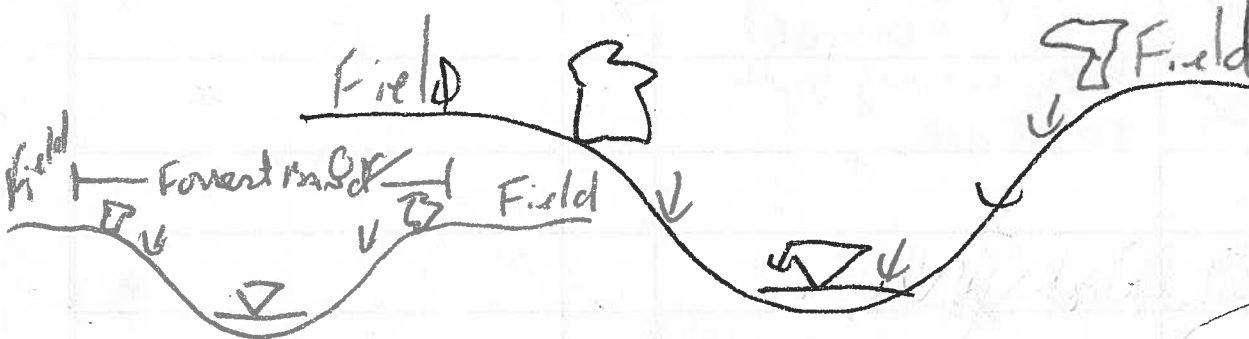
3331/3330/1023/1118

Site ID

R4.8D



Horizontal View of Channel



Initial QA/QC By: L Bentley

Date: June 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# 3331 33307 Site ID: R4.25C

Date: MM-130/12 Start time: 8:00 End Time: 11:30

Weather Conditions: Sunny 20°C Field Crew: Charalthe Sparache
Field Notes By: Sparache

Site Location

ON west of Northville

ASA

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

Easting: 427454 Northing: 4781607 Description: R4.25A

Easting: 427477 Northing: 4781202 Description: R4.25B

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:

Description:

large wood band

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

→ tile (R4.25A) RB

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)

rolling hills

In-Situ Water Quality

WT (°C): 17 AT (°C): 20.2
pH: 8.00 Cond (µs/cm): 603
D.O. (mg/L): 5.12
Water Clarity: Clear Turbid

Ground Water and Seepage Indicators

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

Water Colour:

light Brown

Notes:

Forest middle line parcelle # 3331-1063

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <u>500m</u>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m): <u>1.50</u>	Mean Wetted Depth (m): <u>0.15</u>	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Mean Bankfull Width (m): <u>2.50</u>	Mean Bankfull Depth (m): <u>0.45</u>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Mean Top of Bank Width (m): <u>4.50</u>	Mean Top of Bank Depth (m): <u>1.40</u>	Description: <u>Undercut and light erosion</u>						
Flow Description: (high or low flow conditions, stagnant, etc) <u>moderate flow condition</u>								
Habitat								
Substrate (<=>)		Description		Morphological Structure (%)				
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay			
MK - Muck	DT - Detritus	<u>Si > Co = Gr > Bo</u>		Pool	Riffle	Run	Flat	
				<u>10</u>	<u>30</u>	<u>30</u>	<u>30</u>	
				Notes: <u>30</u>				
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
	<u>15</u>	<u>5</u>	<u>5</u>			Average Depth: <u>0.30m - 5%</u> (% Cover)		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>None</u>								
Canopy Cover (% closed cover):			Types of Cover (% cover)					
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>40</u>	Shrubs	<u>10</u>	Man-made structures
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses		Herbaceous		Other
60-30%	<input checked="" type="checkbox"/>							
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%								
Notes: (vegetation species, types of structures) <u>MApple (sugar), Elm, Brnch (Franch), ASH</u>								
Width and Description of riparian vegetation: <u>50m</u>		Riparian Vegetation <u>50m</u>						
LB - <u>Grasses, wild Roses, Common Raspberry, Deciduous plant</u>		RB -						
Overhanging Vegetation Present <u>Y</u> /N		% Overhanging Vegetation: <u>5</u>						
Description of Overhanging Vegetation: <u>SHRUBS</u>								
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: May 30/12

Land Parcel/Site ID: ³³³¹
~~3330/1118~~ / 1063/R4.25C

Page 3 of 4

Other General Comments Regarding the Study Area:

- > meander natural stream
- > in a large mature forest band
- > Fish Habitat (looks like)
(no fish observed)
- > Green Frog Observed (1095)
photo

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1092	ASA Pict DIS Facing North to #3330		
1093	U/S - Facing South From R4.25A		
1094	tile R/B (R4.25A)		
1095	Frog		
1096	U/S Facing South		
1097	DIS Facing North		
1098	DIS		
1099	Column U/S		
1100	DIS to From R4.25B		
1101	U/S ASA		
1102	U/S ASA Pict to #1118 with 2 Stream U/S		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

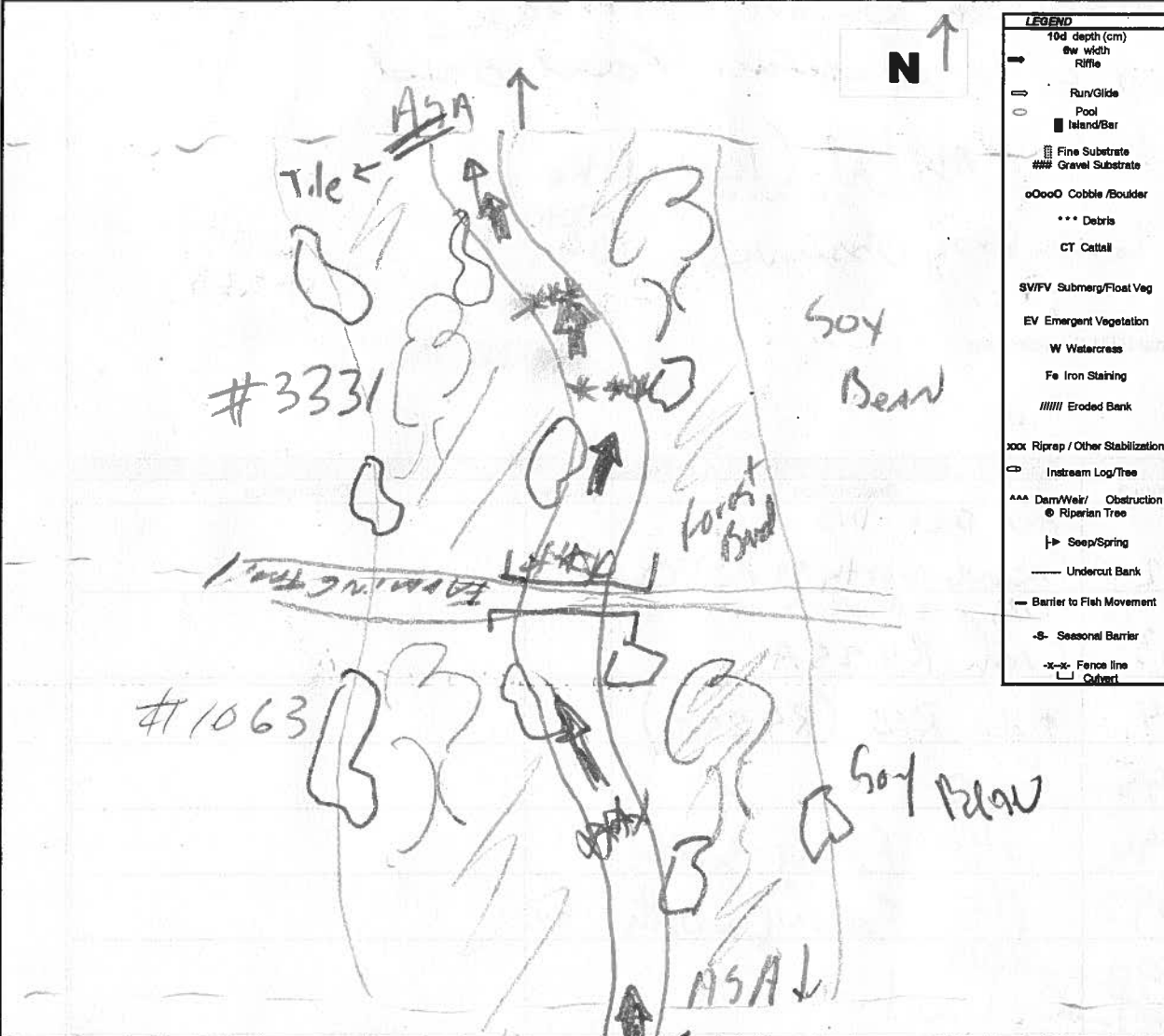
Bluewater

Land Parcel#

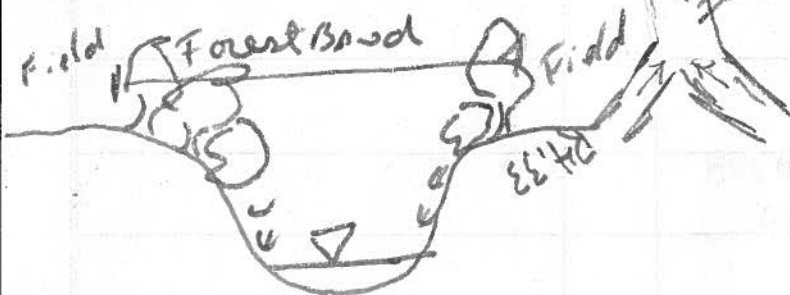
3331 / 1063
3335/1108

Site ID

R4.25C



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 16, 2012

Technical QA/QC By: [Signature]

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM			
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>Jer3331</u> Site ID: <u>R4.36 (West section)</u>
Date: <u>May 30/12</u>	Start time: <u>8:00</u>	End Time: <u>11:30</u>	
Weather Conditions: <u>SUNNY</u> <u>22°C</u>		Field Crew: <u>S DAVAICHE, S HARDING</u> Field Notes By: <u>S DAVAICHE</u>	
Site Location			
<u>ON west of Northville Rd.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>4283311</u>	Northing: <u>4781381</u>	Description: <u>R4.36 B</u>	
Easting: <u>477791</u>	Northing: <u>4781409</u>	Description: <u>R4.36 C</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
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 type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other <input type="checkbox"/>		Description: _____	
Description: <u>CORN + soy bean</u>			
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>NONE</u>			
Is any portion of the water body underground or not as mapped? <u>Y/N</u>			
If Yes describe: <u>FE</u>			
GPS Coordinate: Easting -		Northing -	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>Flat fields</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>15.1</u>	AT (°C): <u>21.6</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>7.33</u>	Cond (s/cm): <u>550</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) <u>1.60</u>		Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input checked="" type="checkbox"/>	<u>Turbid</u> <input type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: <u>Transp.</u>		Details: _____	
Notes: <u>middle section, field</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <u>500m</u>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m): <u>1.00</u>	Mean Wetted Depth (m): <u>0.20</u>	Mean Bankfull Width (m): <u>2.50</u>	Mean Bankfull Depth (m): <u>0.90</u>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Top of Bank Width (m): <u>5.50</u>	Mean Top of Bank Depth (m): <u>2.00</u>	Right Bank <input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flow Description: (high or low flow conditions, stagnant, etc)			Description: <u>Grassed</u>					
<u>low flow</u>								
Habitat								
Substrate (<=>)			Morphological Structure (%)					
Bo - Boulder	Description <u>Si</u>	Notes:						
Co - Cobble		Pool	Riffle	Run	Flat			
Gr - Gravel				<u>100</u>	<u>100</u>			
Sa - Sand								
Si - Silt								
Cl - Clay								
MK-Muck								
DT-Detritus								
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
				<u>50</u>		Average Depth: (% Cover) _____		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)								
<u>to unknown see picture</u>								
Canopy Cover (% closed cover):			Types of Cover (% cover)					
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs <u>5</u>	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)								
<u>Grasses</u>								
Riparian Vegetation								
Width and Description of riparian vegetation: <u>2m</u> <u>Willow</u> <u>Shrubs</u> <u>Grasses</u>			Riparian Vegetation: <u>3m</u> <u>Grasses</u> <u>Shrubs</u> <u>Willow</u>					
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <u>50% (plants) only</u>					
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:		<u>High density of vegetation</u>						
Height of Barrier (m)		GPS Coordinates:						

Water Bodies Assessment Field Collection Form

JER 23.31

AECOM

Date: May 30 12

Land Parcel/Site ID: R4.36

Page 3 of 4

Other General Comments Regarding the Study Area:

- Not enough of water in stream
- low flow
- Straight channel Follow a farming access
- Some sections have a High density of Vegetation in stream

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1080	FACING west From Northville Rd		
1081	FACING west 10D/S		
1082	FACING east 10U/S		
1083	FACING west (R4.36C)		
1084	FACING east (R4.36C)		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

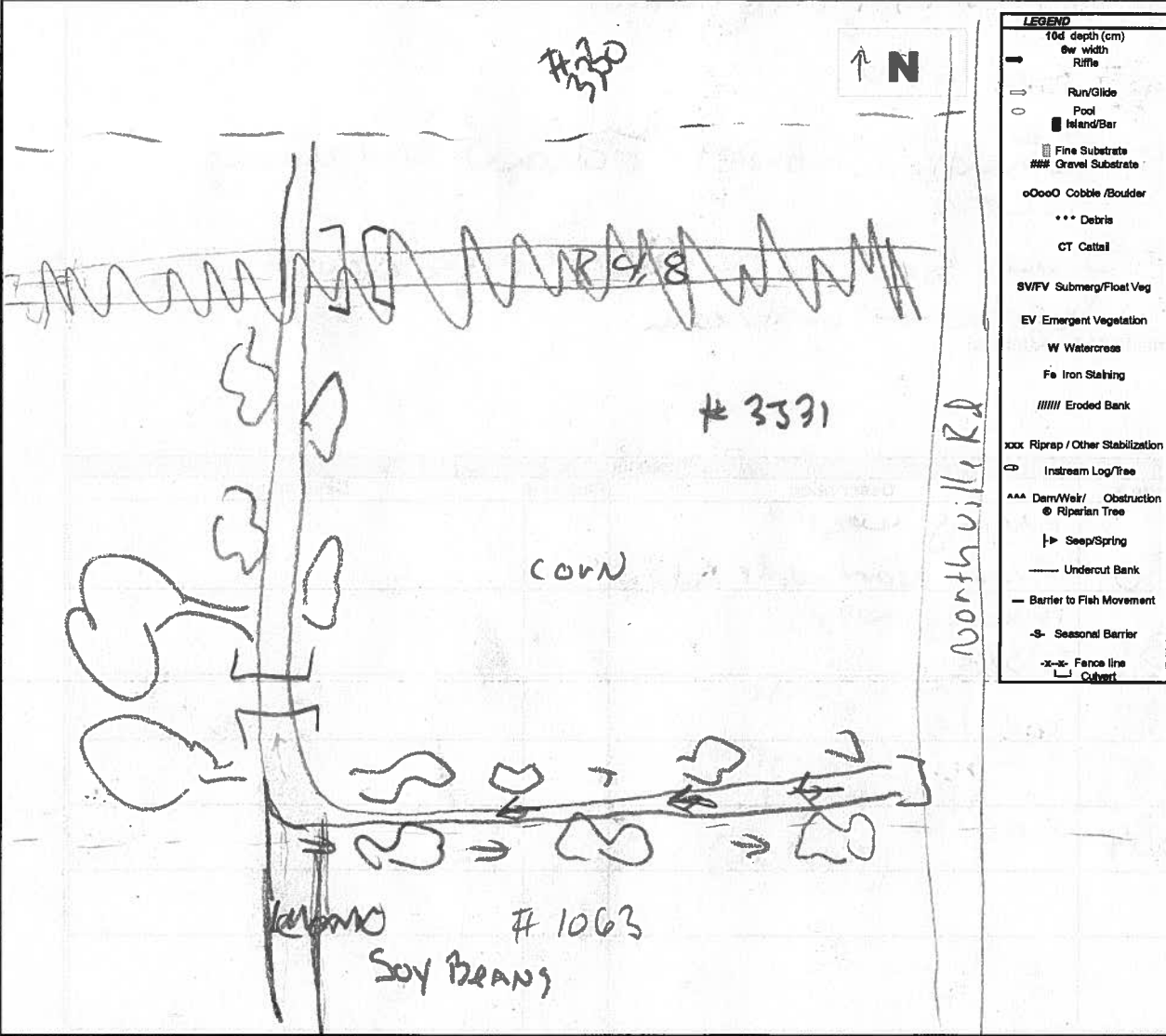
Bluewater

Land Parcel#

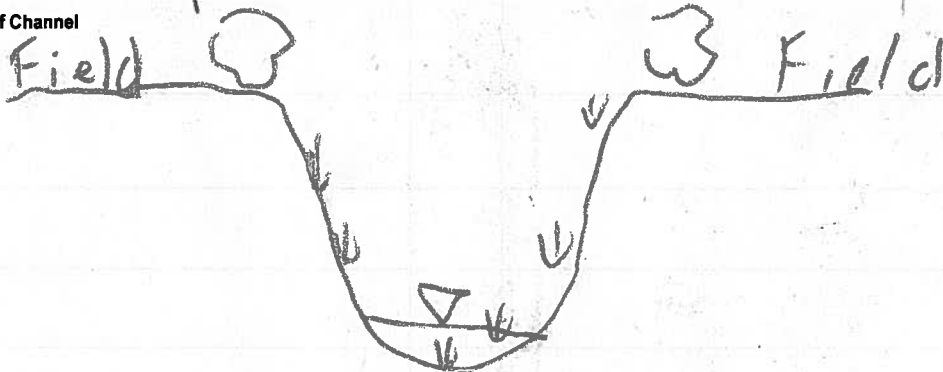
3331

Site ID

R4.36



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 4, 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# 368563687 Site ID: R4.36 (east section)

Date: MAY 30 / 12 Start time: 8:00 End Time: 1:30

Weather Conditions:

Sunny 19°C

Field Crew: S. DARAICHE, S. HARDING

Field Notes By: S. DARAICHE

ASA
3687

Site Location

EAST OF Northville Rd.

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

Easting: 4284109 Northing: 4781169 Description: R4.36A

Easting: 428311 Northing: 4781381 Description: R4.36B

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

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

Description: Follow the back yard.

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description: _____

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

DOWN JER3687 culvert input - Drain tile on back yard.
From JER3685 culvert input Follow Northville Rd.

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)

Sloped to the stream

In-Situ Water Quality

WT (°C): 24.5 AT (°C): 19.4
pH: 7.12 Cond (s/cm): 596
D.O. (mg/L): 1.47
Water Clarity: Clear Turbid

Water Colour:

Transparent

Notes:

middle section
field

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):			Bank Stability:		
550m					
Channel Dimensions					
Mean Wetted Width (m):	1.35	Mean Wetted Depth (m):	0.10	Stable	<input checked="" type="checkbox"/>
Mean Bankfull Width (m):	1.50	Mean Bankfull Depth (m):	0.35	Slightly unstable	<input type="checkbox"/>
Mean Top of Bank Width (m):	4.00	Mean Top of Bank Depth (m):	0.40	Moderately unstable	<input type="checkbox"/>
			Unstable		
			Left Bank		
			Right Bank		
Description: Grassed					
Flow Description: (high or low flow conditions, stagnant, etc)					
Very low Flow, vegetation in stream					
Habitat					
Substrate (<=>)		Description		Morphological Structure (%)	
Bo - Boulder				Pool	
Co - Cobble				Riffle	
Gr - Gravel				Run	10 90
Sa - Sand				Flat	
Si - Silt				Notes: 10	
Cl - Clay					
MK - Muck					
DT - Detritus					
Instream Cover (%)					
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None
				98	Undercut Banks
					Average Depth:
					(% Cover) _____
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%					
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)					
<p>Utricularia Pennsylvanica Asteraceae</p> <p>- Potamo sp.</p>					
Canopy Cover (% closed cover):			Types of Cover (% cover)		
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	Shrubs
90-60%	<input type="checkbox"/>	0%	<input checked="" type="checkbox"/>	Grasses	Man-made structures
60-30%	<input type="checkbox"/>			Herbaceous	Other
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%					
Notes: (vegetation species, types of structures)					
only grasses					
Riparian Vegetation					
Width and Description of riparian vegetation:	LB - 0.30cm	RB - 0.30cm			
Grasses					
Overhanging Vegetation Present <input checked="" type="checkbox"/>			% 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: vegetation					
Height of Barrier (m)			GPS Coordinates:		

Water Bodies Assessment Field Collection Form

AECOM

Date:

MAY 30/12

Land Parcel/Site ID:

3686
3685 to
3687 / RY.36

Page 3 of 4

Other General Comments Regarding the Study Area:

- * 1069 - 70 (unknown sp. plant)? - instream
- ON JER3687 - (culvert in place #1)
- low flow water stuck by vegetation
- affected by the residents' activities.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1066	Tile input (culvert) #1		
1067	FACING north DIS		
1068	TO JER3687 FACING south (culvert)		
1071	FACING south TO JER3687		
1072	Tile Drain		
1073	CULVERT #2 FACING north		
1074	CULVERT #3		
1075	from culvert #3 FACING south		
1076	FACING westward		
1077	TO culvert northville rd FACING west #4		
1078	FACING EAST		
1079	#5 culvert input ditch		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jedicho

Goshen

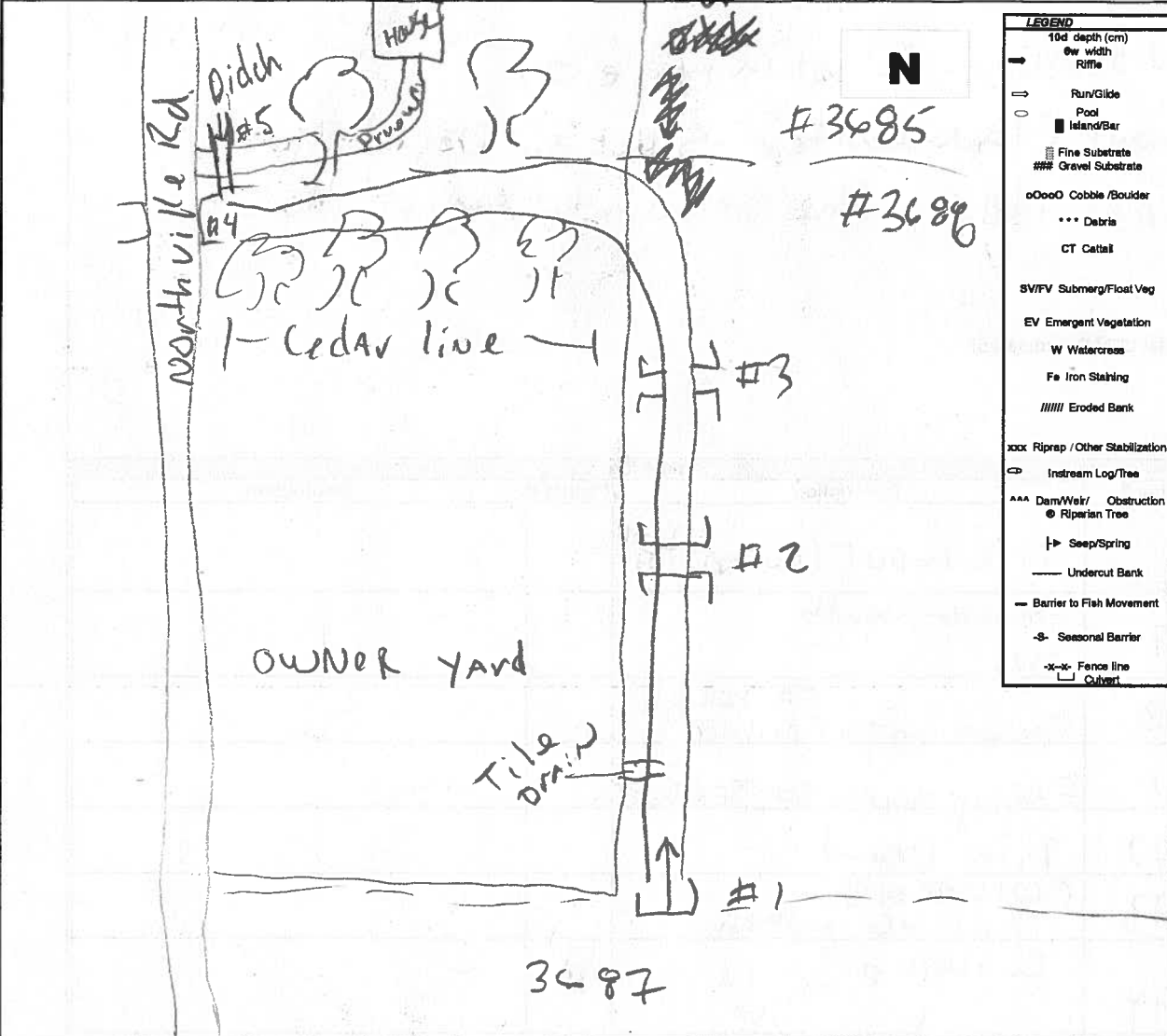
Bluewater

Land Parcel#

3685 + 0

Site ID

R4.36



Horizontal View of Channel



Initial QA/QC By:

Libertley

Date:

June 6, 2012

Technical QA/QC By:

Slatten

Date:

Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>3332-3448</u> Site ID: <u>R4.22</u>
Date: <u>MAY 28/12</u>	Start time: <u>12425</u>	End Time: <u>12435</u>	
Weather Conditions: <u>SUNNY day 35°C</u>		Field Crew: <u>CANDACE HARDING</u> <u>SYLVAIN DAVACHE</u> Field Notes By: <u>S DAVACHE</u>	
Site Location			
<u>Westside of Jericho Rd and North end</u> <u>SOUTH of Bruce SCOTT</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting:	Northing:	Description: <u>none taken</u>	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input checked="" type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>CROP</u>		Description: <u>Ditch</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>only a ditch come from the south by a culvert</u>			
Is any portion of the water body underground or not as mapped? <u>Y/N</u>			
If Yes describe:			
GPS Coordinate: Easting -		Northing -	
Description -			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>Flat field and Road</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 (μ 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 type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour:		Details:	
Notes: <u>NO WATER</u>		<u>Not observed</u>	

ASA

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m):			Bank Stability:																	
Channel Dimensions 200m			<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):	—	Mean Wetted Depth (m):	—																	
Mean Bankfull Width (m):	1.50	Mean Bankfull Depth (m):	0.40																	
Mean Top of Bank Width (m):	4	Mean Top of Bank Depth (m):	1.75																	
			Description: Grassed																	
Flow Description: (high or low flow conditions, stagnant, etc)																				
Dry in May 28 — maybe low																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td style="font-size: 1.2em;">100</td> </tr> </table>			Pool	Riffle	Run	Flat				100							
Pool	Riffle	Run	Flat																	
			100																	
Si > DT			Notes: when is flowing																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
				100	X	Average Depth: (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100% *Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
choked grassed & cattails																				
Canopy Cover (% closed cover):																				
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Types of Cover (% cover)																
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Trees 10	Shrubs	Man-made structures														
60-30%	<input type="checkbox"/>			Grasses 30	Herbaceous	Other														
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100% Notes: (vegetation species, types of structures)																				
Grasses and Phragmites																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			RB -																	
2/m Grasses			12m Grasses																	
Overhanging Vegetation Present			% 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:																				
Dry channel																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: MAY 28 / 12

Land Parcel/Site ID: JER 3332-3448
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Other General Comments Regarding the Study Area:

- > likely wet only following RAIN event.
- > Only straight Stream Follow the Road
- > look like a Ditch
- > without of Shede
- > Colonised by cattails and phragmites.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
0963	FACING south to BRUCE SCOTT.		
964	FACING North From BRUCE SCOTT.		

Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

JER 3332-3448

Study Area:

Jericho

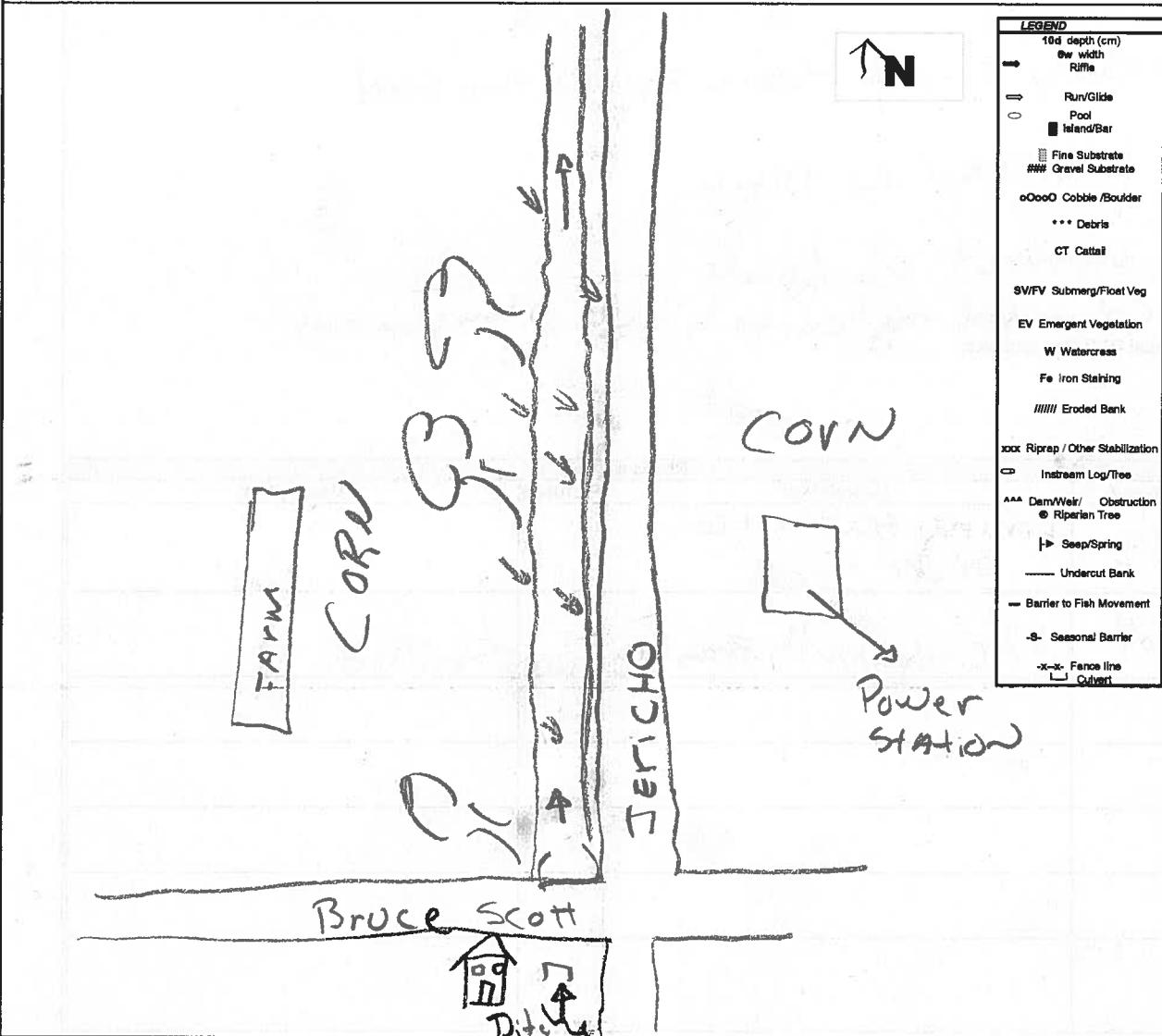
Goshen

Bluewater

Land Parcel#

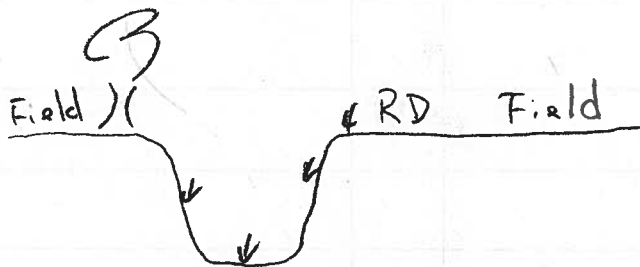
Site ID

R 4.22



LEGEND	
10d depth (cm)	→
0w width	→
Riffle	→
Run/Glide	→
Pool	○
Island/Bar	■
Fine Substrate	
Gravel Substrate	####
Cobble/Boulder	oOooO
Debris	***
Cattail	CT
Submerg/Floet Veg	SV/FV
Emergent Vegetation	EV
Watercress	W
Iron Staking	Fe
Eroded Bank	
Riprap / Other Stabilization	xxx
Instream Log/Tree	⊃
Dem/Weir/ Obstruction	AAA
Riparian Tree	⊙
Seep/Spring	↳
Undercut Bank	—
Barrier to Fish Movement	—
Seasonal Barrier	-B-
Fence line	-x-x-
Outlet	⊥

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 4, 2012 Technical QA/QC By: [Signature] Date: Oct 2/12