

Appendix E

Field Notes

Water Bodies Assessment Field Collection Form

AECOM

General Information 1204/421/1077

Study Area: Jericho Goshen Bluewater Land Parcel# Bgr Site ID: R1.8#2

Date: June 12/12 Start time: 15:10 End Time: 15:45

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

Site Location

Elgin field Rd, west of Roddick st.

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

Easting: 440	Northing:	Description:
Easting: <u>440 685</u>	Northing: <u>4776734</u>	Description: <u>R1.82wg</u>
Easting: <u>440 497</u>	Northing: <u>4776592</u>	Description: <u>R1.82end</u>
Easting:	Northing:	Description:

Surrounding Landuse
 Residential Meadow pasture
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse
 Intermittent Channelized
 Permanent Natural Channel
 Ephemeral
 Description: may have been historically channelized but starting to naturalize

Description: meadow

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

Tile drain - 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)

slightly hilly

In-Situ Water Quality

WT (°C): 26.2 AT (°C): 22
 pH: 8.37 Cond (µs/cm): 599
 D.O. (mg/L) 11.90
 Water Clarity: Clear Turbid
 Water Colour: n/a

Notes: wg taken in small pool, algae blooms present

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

ASA
1077

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <i>200m</i>			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): <i>0.7</i>	Mean Wetted Depth (m): <i>0.14</i>																			
Mean Bankfull Width (m): <i>1.0</i>	Mean Bankfull Depth (m): <i>0.4</i>																			
Mean Top of Bank Width (m): <i>2</i>	Mean Top of Bank Depth (m): <i>1</i>	Description: <i>downs highly eroded areas</i>																		
Flow Description: (high or low flow conditions, stagnant, etc) <i>slow flow</i>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>Si = Cl = Sa > gr</i>			<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><i>5</i></td> <td></td> <td></td> <td><i>95</i></td> </tr> </table>			Pool	Riffle	Run	Flat	<i>5</i>			<i>95</i>							
Pool	Riffle	Run	Flat																	
<i>5</i>			<i>95</i>																	
			Notes: <i>areas narrow and then pools follow but no riffle present</i>																	
Instream Cover (%) <i>80</i>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>78</i>	<i>/</i>	Average Depth: <i>0.15m</i> (% Cover) <i>2</i>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>algae - attached > algae - blooms > common reed > grasses</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	<i>10</i>	Shrubs		Man-made structures												
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>90</i>	Herbaceous		Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <i>grasses.</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:																	
<i>LB - 10m - meadow</i>			<i>RB - 10m - meadow</i>																	
Overhanging Vegetation Present <i>Y/N</i>			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

R1.849

AECOM

Date: June 12/12

Land Parcel/Site ID: BOR ~~1204~~ 1204/1421/1077 Page 3 of 4

Other General Comments Regarding the Study Area:

~~fish observed (10) ...~~
 - fish (~10) observed, yoy (~30) noted on up/s side.

The upstream portion is located in a forest area but immediately adjacent to a section of the stream it is open canopy → almost wetland like area. It is a natural channel on BOR 1421. As it flows downstream it runs past a residential area and there is erosion + slumping throughout. This may be a result of

Additional UTM Coordinates:

R1.84 converging just before the road and causing flashy systems. As it flows by the residential area there are large trees + high canopy cover but post residential area little

no canopy cover

Photo log

Picture #	Description	Picture #	Description
1a	Sheet		
1b-2	Starting at North portion		
3-12	North portion of stream		
13-20	Southern portion		
14-15	Divergence area for R1.84		
16-24	Southern portion of stream		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

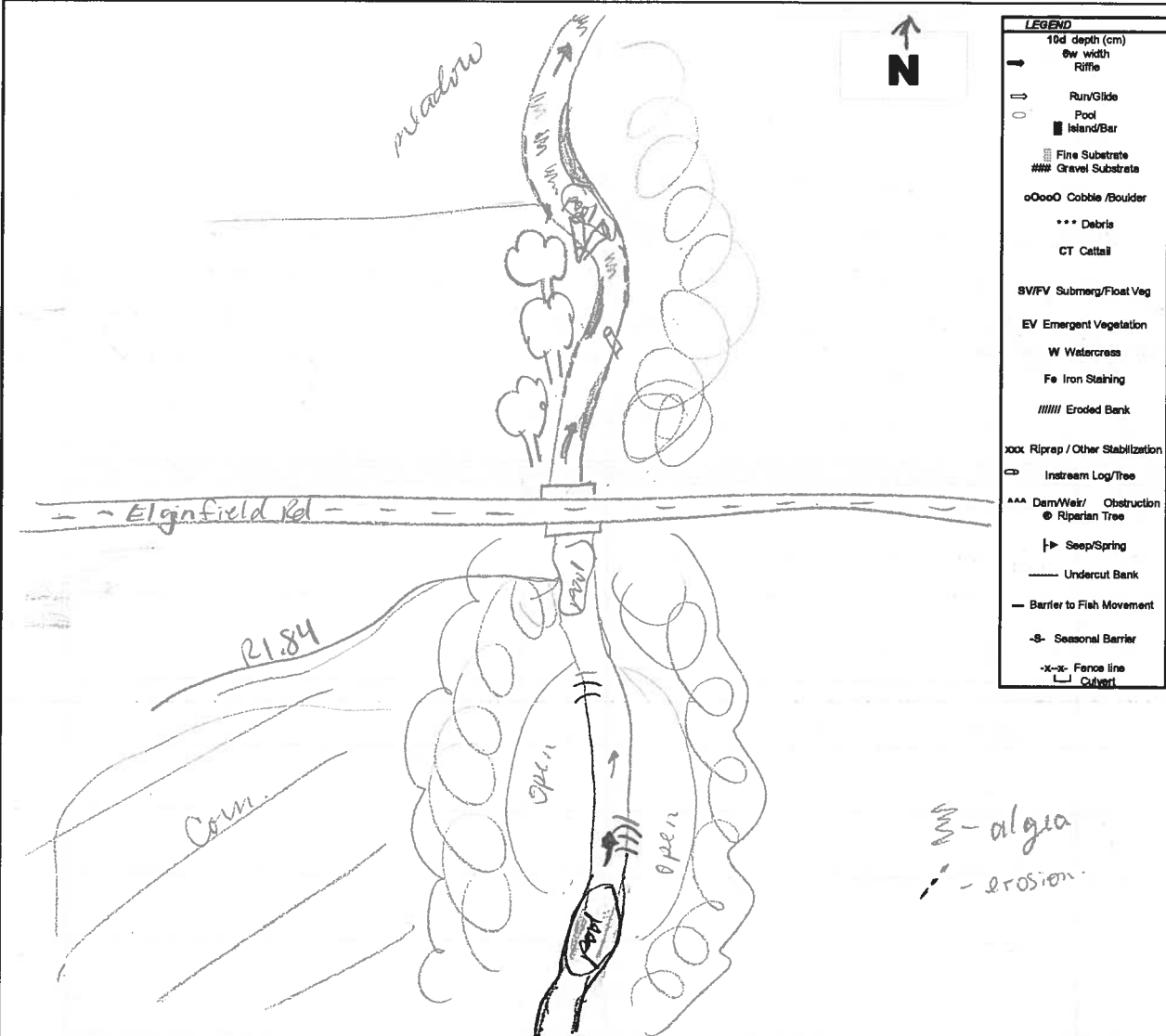
Bluewater

Land Parcel#

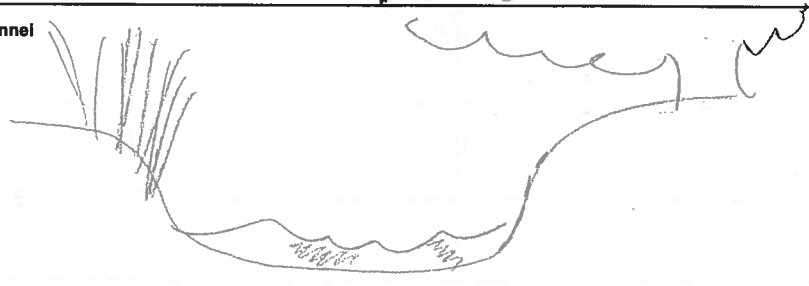
SDR 1421
1077
1204

Site ID

R1.82



Horizontal View of Channel



Initial QA/QC By:

L Bentley

Date: June 26, 2012

Technical QA/QC By:

[Signature]

Date:

July 10/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 50R 1767 1077 Site ID: ~~R1.84~~ R1.84

Date: June 12/12 Start time: 14:50 End Time: 16:10

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

Site Location

Elginfield Rd, west of Roddick St.

ASA
1077

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

Easting: <u>440 718</u>	Northing: <u>477 6954</u>	Description: <u>R1.84 start</u>
Easting: <u>440 681</u>	Northing: <u>477 6492</u>	Description: <u>R1.84 wq. end.</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other _____

Description: North - residential, meadow, forest
South - forest

Type of Watercourse

Intermittent Channelized
Permanent Natural Channel
Ephemeral _____

Description: may have historically been channelized

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

Tile drain - 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 -> but in small valley

In-Situ Water Quality

WT (°C): 23.2 AT (°C): 25°C
pH: 8.39 Cond (µs/cm): 535
D.O. (mg/L) 8.45
Water Clarity: Clear Turbid St.

Water Colour: brown

Notes: wq. taken in pool, some algae present

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): 300m			Bank Stability:						
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable			
Mean Wetted Width (m): 2	Mean Wetted Depth (m): 0.2	Left Bank <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
Mean Bankfull Width (m): 3	Mean Bankfull Depth (m): 0.5	Right Bank <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
Mean Top of Bank Width (m): 5	Mean Top of Bank Depth (m): 0.90	Description: erosion + slumping occurring down/s of road mostly							
Flow Description: (high or low flow conditions, stagnant, etc) moderate to slow									
Habitat									
Substrate (<=>)		Morphological Structure (%)							
Bo - Boulder	Description si = sa = cl = mk > gr, co	Pool	Riffle	Run	Flat				
Co - Cobble		20	2	3	75				
Gr - Gravel		Notes: ripples noted down/s of road							
Sa - Sand		pools found throughout							
Si - Silt									
Cl - Clay									
MK - Muck									
DT - Detritus									
Instream Cover (%) 20									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks			
	20	—	10	45	/	Average Depth: 0.30 (% Cover) 5			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) algae - attached > algae - blooms > pondweed >> grasses									
Canopy Cover (% closed cover):			Types of Cover (% cover)						
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	50	Shrubs	10	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	40	Herbaceous		Other	
60-30%	<input checked="" type="checkbox"/>								
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%									
Notes: (vegetation species, types of structures)									
Riparian Vegetation									
Width and Description of riparian vegetation:			Riparian Vegetation						
LB - N = 1-10m - trees + meadow S = >15m forest + meadow			RB - 11 as CB						
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 2						
Description of Overhanging Vegetation: found only on up/s side - dogwood just overhanging bank edge + sporadic									
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 12/12

Land Parcel/Site ID: Box 1977 1767

Page 3 of 4

R1.04

Other General Comments Regarding the Study Area:

- fish observed (~5), yoy (~50)
(Cyprinids)

Watercourse ~~was~~ historically channelized and now naturalizing. Meanders resulting in erosion + slumping. Attached algae and algae blooms choke watercourse. Substrate mix of Sa, Si + cl.
↳ grasses present in dense clumps at end of site

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	Sheet		
1b2	site overview		
3-14	Channel overview walking South		
15-	culvert		
16	pool at culvert		
17	overview looking at road		
18-19	looking South past study area		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

BOR17671
1077

Site ID

P1.84

Elgin Field Rd



LEGEND	
→	10d depth (cm)
→	0w width
→	Riffle
→	Run/Glide
○	Pool
■	Island/Bar
▨	Fine Substrate
###	Gravel Substrate
oOooO	Cobble/Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercress
Fe	Iron Staining
	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
□	CAVt

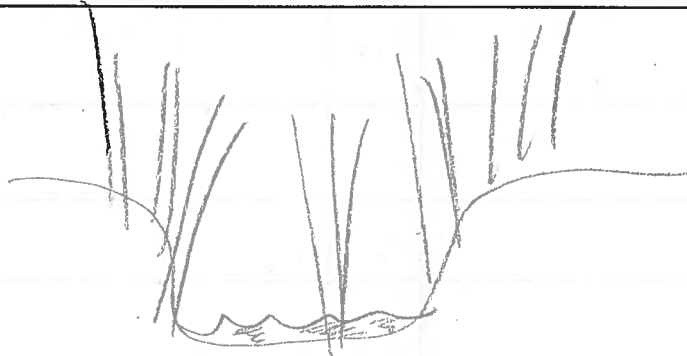
Meadow

Meadow

2m x 5m x 0.6m
pool

≡ - algae
VI - grasses
H - slumping + narrowing

Horizontal View of Channel



Initial QA/QC By:

L. Bentley

Date: June 26, 2012

Technical QA/QC By:

Slutken

Date:

July 10/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 50R 1351 1395 Site ID: R1.60
 Date: June 12/12 Start time: 13:30 End Time: 13:40
 Weather Conditions: Sunny 25°C Field Crew: C. Boros, J. Epp
 Field Notes By: C. Boros

Site Location

Elginfield Rd, east of Pete Sese Rd.

Roadside Survey

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

Easting: <u>0438368</u>	Northing: <u>4777317</u>	Description: <u>R1.60 skt</u>
Easting: <u>0438486</u>	Northing: <u>4777283</u>	Description: <u>R1.60 wg</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: Roadside ditch along south side
Meadow on north

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral _____

Description: Channelized.

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

none observed

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

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

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

slightly rolling hills on north side

In-Situ Water Quality

WT (°C): <u>18.5</u>	AT (°C): <u>25°C</u>
pH: <u>7.38</u>	Cond (µs/cm): <u>681</u>
D.O. (mg/L) <u>3.90</u>	

Water Clarity: Clear Turbid
 Water Colour: brown

Notes: wg taken in stagnant pool by
roadside culvert - 0.6m deep.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling Wells
 Other Speedwell

Details: chumps at wg location.

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>250 m</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 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): <u>0.80</u>	Mean Wetted Depth (m): <u>0.12</u>	Description: <u>well vegetated</u>																		
Mean Bankfull Width (m): <u>2</u>	Mean Bankfull Depth (m): <u>0.45</u>																			
Mean Top of Bank Width (m): <u>4</u>	Mean Top of Bank Depth (m): <u>1.5</u>																			
Flow Description: (high or low flow conditions, stagnant, etc) <u>no flow observed - stagnant water</u>																				
Habitat																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	<u>Si = Cl = Sa</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>/</u></td> <td><u>/</u></td> <td><u>/</u></td> <td><u>100</u></td> </tr> </table>		Pool	Riffle	Run	Flat	<u>/</u>	<u>/</u>	<u>/</u>	<u>100</u>	Notes: <u>Water present through entire reach but stagnant</u>							
Pool	Riffle	Run	Flat																	
<u>/</u>	<u>/</u>	<u>/</u>	<u>100</u>																	
Instream Cover (%) <u>80</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>80</u>	<u>/</u>	Average Depth: (% Cover) <u>/</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>Cattail + common reed choked channel, algae, water speedwell + grasses also present</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees		Shrubs <u>10</u>	Man-made structures															
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses <u>90</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>Cattail, common reed >> willow, grasses.</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			LB - <u>1-15 m meadow + grasses</u>				RB - <u>1-15 m meadow + grasses</u>													
Overhanging Vegetation Present Y/N <u>(N)</u>			% 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: <u>potential low flow barrier</u>																				
Height of Barrier (m) <u>/</u>			GPS Coordinates: <u>/</u>																	

Water Bodies Assessment Field Collection Form

AECOM

Date: *June 12/12*

Land Parcel/Site ID: *B91K 1351*
1395 R1.60 Page 3 of 4

Other General Comments Regarding the Study Area:

- fish observed

*Watercourse is very channelized along roadside and is
Cattail + common reed choked. Water was not flowing -
stagnant. Large pools around culverts*

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
<i>1a</i>	<i>Sheet</i>		
<i>1b-2</i>	<i>start of channel</i>		
<i>3-8</i>	<i>channel overview</i>		
<i>9</i>	<i>pool by culvert</i>		
<i>10</i>	<i>speedwell</i>		
<i>11</i>	<i>overview</i>		
<i>12-18</i>	<i>last culvert crossing Elginfield</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

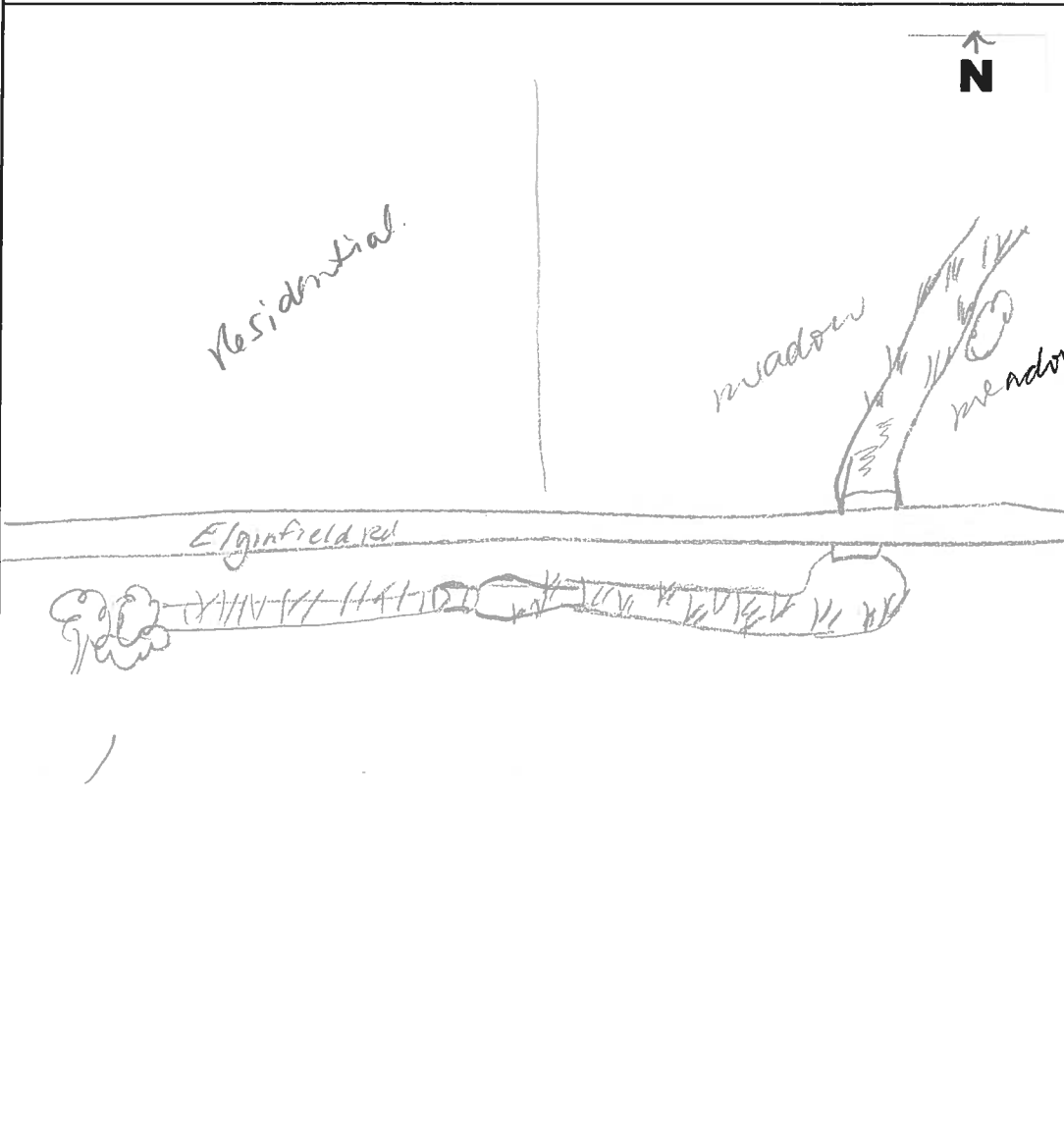
Bluewater

Land Parcel#

BOR 1351
1395

Site ID

R1.60



LEGEND	
10d depth (cm)	→
6w width	⇨
Riffle	○
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 26, 2012

Technical QA/QC By: [Signature]

Date: July 18/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 15824 ^{15824 1395} Site ID: R1.49
 Date: June 12/12 Start time: 13:50 End Time: 14:00
 Weather Conditions: Sunny, 25°C Field Crew: C. Boros, J. Epp
 Field Notes By: C. Boros

Site Location

Elginfield Rd., east of Pete Sebe Rd.

Roadside
Surrey

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

Easting: <u>438815</u>	Northing: <u>4777221</u>	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:

Surrounding Landuse

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

Type of Watercourse

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

Description:

South side - corn field + forest
N - meadow / pasture

Description:

→ could be natural channel that has been slightly altered

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)

slightly hilly

In-Situ Water Quality

WT (°C):	AT (°C):
pH:	Cond (s/cm):
D.O. (mg/L)	
Water Clarity: <u>Clear</u> <input type="checkbox"/>	<u>Turbid</u> <input type="checkbox"/>

Water Colour:

Notes: Could not assess

Ground Water and Seepage Indicators

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

Details:

Could not assess

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): <i>45m</i>				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m):	<i>~0.5m</i>	Mean Wetted Depth (m):	<i>1</i>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<i>~0.6</i>	Mean Bankfull Depth (m):	<i>~0.5</i>	Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>~0.7</i>	Mean Top of Bank Depth (m):	<i>~0.5</i>	Description: <i>will vegetated</i>			
Flow Description: (high or low flow conditions, stagnant, etc)							
<i>none observed</i>							
Habitat							
Substrate (<=>)				Morphological Structure (%)			
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt <i>Si</i> Cl - Clay MK - Muck DT - Detritus				Pool	Riffle	Run	Flat
				<i>5</i>	<i>1</i>	<i>1</i>	<i>195</i>
				Notes: <i>meandering but pools only at culvert</i>			
Instream Cover (%)							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
						Average Depth: (% Cover)	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)							
<i>*hard to assess but algae present in pools by culvert + stream highly vegetated in grasses</i>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs <i>10</i>	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>80</i>	Herbaceous <i>10</i>	Other	
60-30%	<input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%							
Notes: (vegetation species, types of structures)							
<i>grasses, dogwood</i>							
Riparian Vegetation							
Width and Description of riparian vegetation:				Width and Description of riparian vegetation:			
LB - <i>75m - meadow + forest</i>				RB - <i>5-15m - meadow + forest</i>			
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N				% Overhanging Vegetation: <i>1</i>			
Description of Overhanging Vegetation:							
<i>dogwood growing up fence line + overhanging stream</i>							
Obstructions to Fish Passage							
None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>				
Description of Barrier:							
Height of Barrier (m)							
GPS Coordinates:							

Water Bodies Assessment Field Collection Form

R1.49

AECOM

Date: June 12/12

Land Parcel/Site ID: BPR 1395
1524

Page 3 of 4

Other General Comments Regarding the Study Area:

Watercourse appears to naturally meandering. One grasses on bank + riparian area. Watercourse looked similar on both sides of the road.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b-2	looking North		
3-4	looking South		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

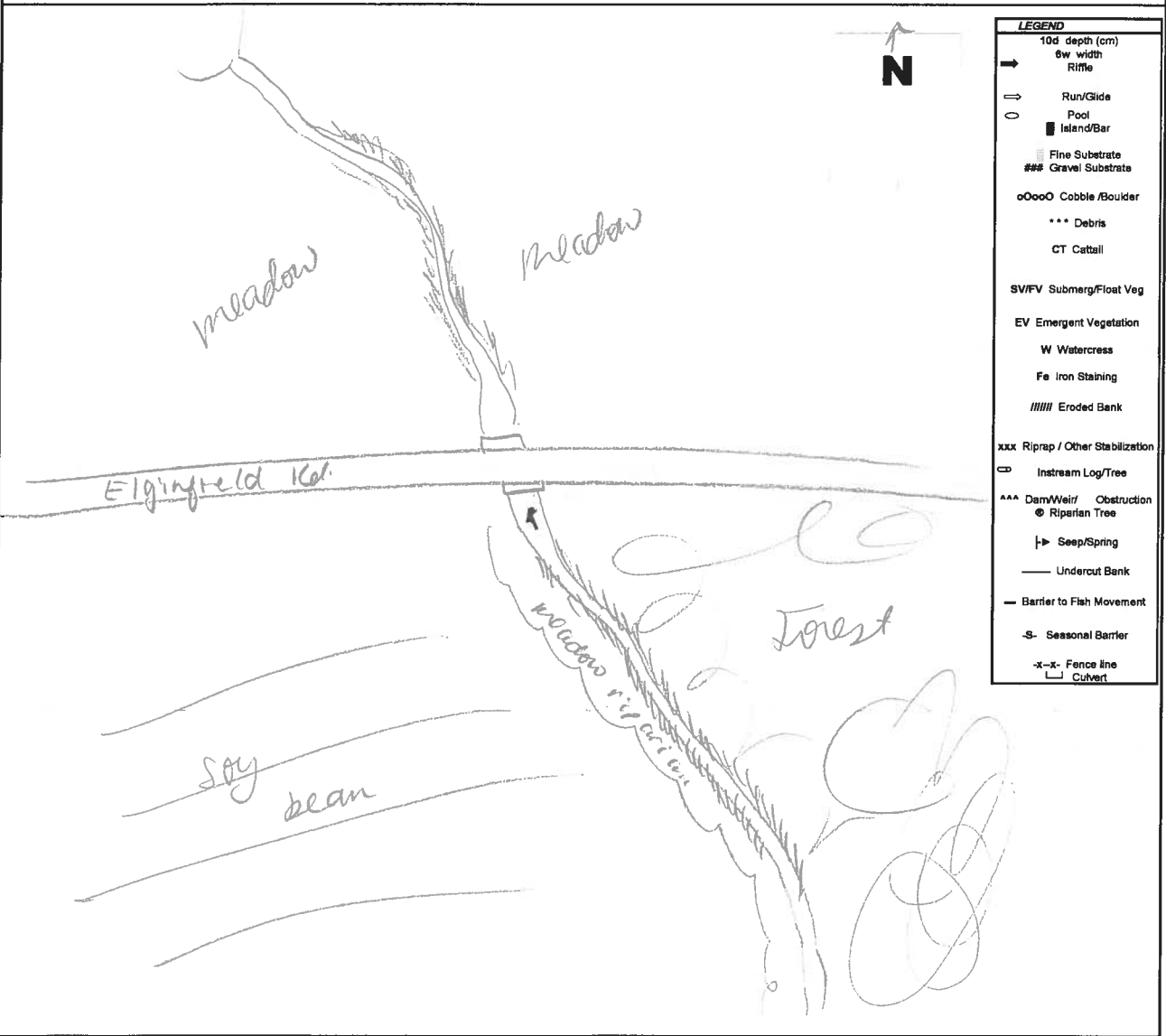
Bluewater

Land Parcel#

Box 1351
1395

Site ID

Rt. 60 R1.49



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 26, 2012

Technical QA/QC By: [Signature]

Date: July 10/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BoR 2020 Site ID: R1.2

Date: June 18 / 12 Start time: 15:00 ¹⁶³¹ ₁₅₃₅ End Time: 15:25

Weather Conditions:

Rein, 18°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

Site Location

Elgin field, west of Roddick

Roadside Survey

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

Easting: 439 255 Northing: 477 714 Description: R1.2

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock pasture
 Other

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral _____

Description:

livestock pasture on North
marsh south

Description:

starting to naturalize

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

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

If Yes describe:

channel straightened → not as meandering as mapped
on BoR 2020 + 1631

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

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

rolling hill, in small valley.

In-Situ Water Quality

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

Water Colour: _____

Notes: ASA

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): <i>~40m</i>			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"/> S</td> <td><input checked="" type="checkbox"/> N →</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input checked="" type="checkbox"/> S</td> <td><input checked="" type="checkbox"/> N →</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/> S	<input checked="" type="checkbox"/> N →	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/> S	<input checked="" type="checkbox"/> N →	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/> S	<input checked="" type="checkbox"/> N →	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/> S	<input checked="" type="checkbox"/> N →	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <i>0.5</i>	Mean Wetted Depth (m): <i>1</i>	Description: <i>scour well veg; south erosion + dumping occurring</i>																		
Mean Bankfull Width (m): <i>1.5</i>	Mean Bankfull Depth (m): <i>1</i>																			
Mean Top of Bank Width (m): <i>4</i>	Mean Top of Bank Depth (m): <i>1</i>																			
Flow Description: (high or low flow conditions, stagnant, etc) <i>visible upflow, water level low</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%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td><i>1</i></td> <td><i>1</i></td> <td><i>10</i></td> <td><i>90</i></td> </tr> </table>				Pool	Riffle	Run	Flat	<i>1</i>	<i>1</i>	<i>10</i>	<i>90</i>							
Pool	Riffle	Run	Flat																	
<i>1</i>	<i>1</i>	<i>10</i>	<i>90</i>																	
Description <i>Si = cl</i>		Notes: <i>_____</i>																		
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
						Average Depth: (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i> too hard to assess</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs <i>5</i>	Man-made structures														
90-80%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>95</i>	Herbaceous	Other														
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <i>_____</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:																	
LB - <i>N → 0m</i> <i>S → 15m meadow + tree</i>			RB - <i>N → 0m</i> <i>S → 0m - meadow</i>																	
Overhanging Vegetation Present <i>Y/N</i>			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: June 18 / 12

Land Parcel/Site ID: BOR 2020 1631

R1.2
Page 3 of 4

Other General Comments Regarding the Study Area:

1535

Roadside survey completed in N + S portion of stream. Watercourse running through small valley North side runs through upasture where it appears livestock have access to stream - no buffer area. Meandering starting. South side runs through meadow area in fairly straight fashion. It has a buffer area of 8-15m.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b-2	South side.		
3-5	North side.		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

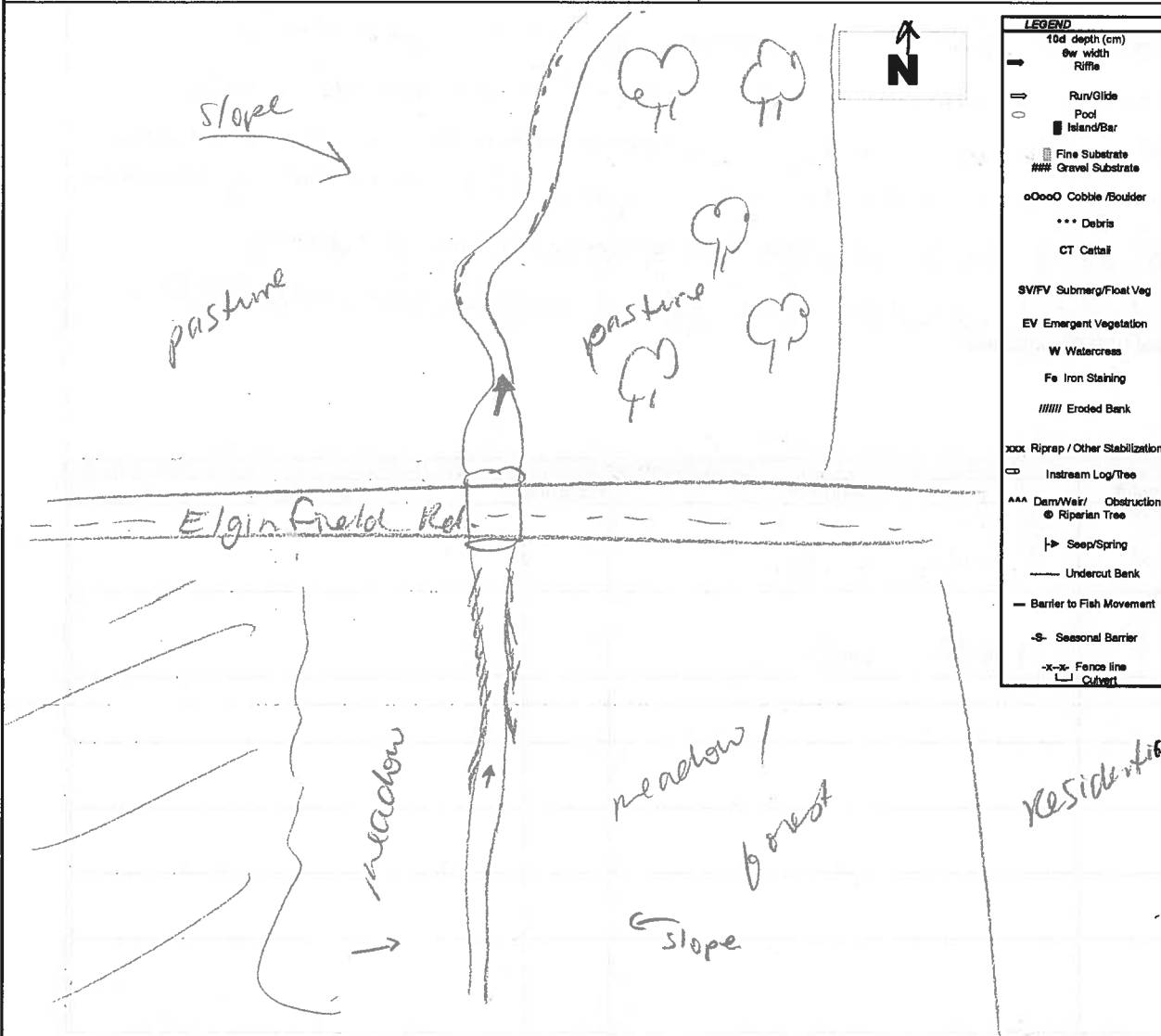
Bluewater

Land Parcel#

Box 2020
1631
1535

Site ID

R1.2



LEGEND	
10d depth (cm)	→
0w width	⇌
Riffle	⇌
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 26, 2012

Technical QA/QC By:

Slutka

Date:

July 10/12

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	Goshen	Bluewater	Land Parcel# <u>1637/17</u> Site ID: <u>R1.37</u>
Date: <u>May 24/12</u>	Start time: <u>15:00</u>	End Time: <u>15:20</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>Elginfield Rd, east of Sylvan Rd</u>			
<u>Roadside Survey</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>437307</u>	Northing: <u>4777592</u>	Description: <u>R1.37 BOR 1637</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 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"/>	_____ <input type="checkbox"/>
Other <input type="checkbox"/>		Description: _____	
Description: <u>corn field</u>		Description: <u>at the road.</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>Could not assess but may become grassed waterway</u>			
GPS Coordinate: Easting -		Northing -	
Description -			
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 type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: _____	Cond (s/cm): _____	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) _____		Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input type="checkbox"/>	Turbid <input type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: _____		Details: _____	
Notes: <u>could not assess</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology													
Site Length (m):			Bank Stability:										
Channel Dimensions Mean Wetted Width (m): Mean Bankfull Width (m): Mean Top of Bank Width (m):			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 Depth (m): Mean Bankfull Depth (m): Mean Top of Bank Depth (m):			Description: <i>well vegetated</i>							
			Flow Description: (high or low flow conditions, stagnant, etc) <i>could not see flow</i>										
Habitat													
Substrate (<=>) Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			Morphological Structure (%) <table border="1" style="width:100%; text-align: center;"> <thead> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> Notes:			Pool	Riffle	Run	Flat				
Pool	Riffle	Run	Flat										
Instream Cover (%)													
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks							
Average Depth: (% Cover)													
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100% *Aquatic Vegetation Species Present (algae, submergent, emergent etc.)													
Canopy Cover (% closed cover): 100-90% <input type="checkbox"/> 30-1% <input checked="" type="checkbox"/> 90-60% <input type="checkbox"/> 0% <input type="checkbox"/> 60-30% <input type="checkbox"/>			Types of Cover (% cover) Trees Shrubs <i>80%</i> Man-made structures Grasses <i>80%</i> Herbaceous Other										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100% Notes: (vegetation species, types of structures) <i>sumac, grass</i>													
Width and Description of riparian vegetation: LB - <i>~ 2m grass</i>			Riparian Vegetation RE <i>types of cover</i>										
Overhanging Vegetation Present Y/N <input checked="" type="checkbox"/>			% Overhanging V										
Description of Overhanging Vegetation:													
Obstructions to Fish Passage													
None Observed <input checked="" type="checkbox"/> Man-Made <input type="checkbox"/> Natural <input type="checkbox"/> Low Flow Barrier <input type="checkbox"/>													
Description of Barrier:													
Height of Barrier (m)			GPS Coordinates:										

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

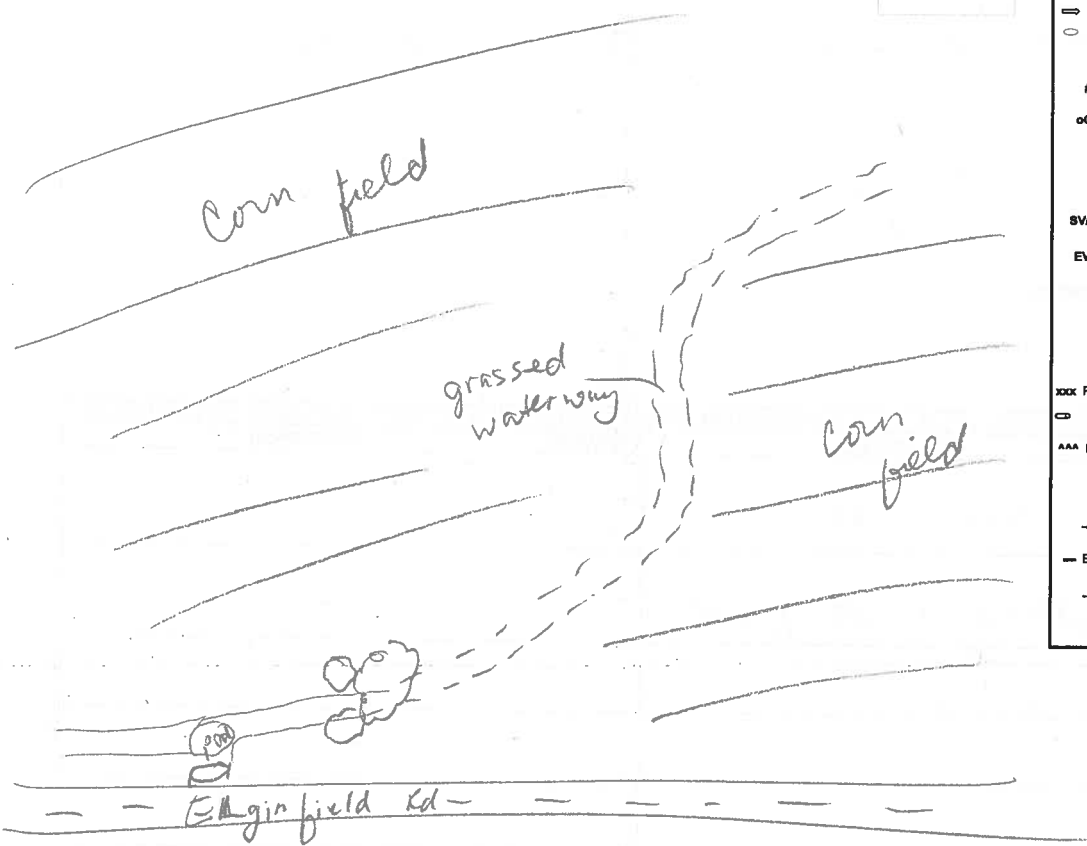
Land Parcel# 1304-1637

Site ID

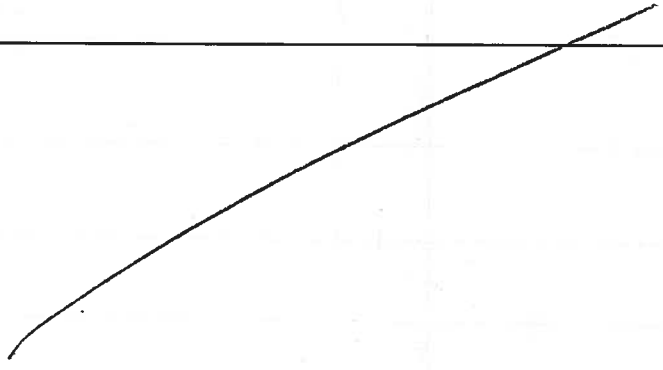
K1.37



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
Watercross	W
Iron Staking	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-
Conduit	□



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: [Signature] Date: 07/2/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOR1705 Site ID: R1.37
 Date: May 24/12 Start time: 13:10 End Time: 15:20
 Weather Conditions: Sunny 26° Field Crew: C. Boros, J. Epp
 Field Notes By: J. Epp.

Site Location

East of Sylvan, south on Thomson Line Elginfield Road

UTM Co-ordinates

Easting: 437303 Northing: 4777572 Description: R1.37 BOR1705
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____

Description: Row crops - corn 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: Buried

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

Appears to be buried, tile drain near roadside that is flowing and connected to North side of Thomson Line water course with a culvert.

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>overview looking South</u>		
<u>2</u>	<u>Roadside looking South</u>		
<u>3</u>	<u>close up of tile drain</u>		

at Roadside looking South.

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

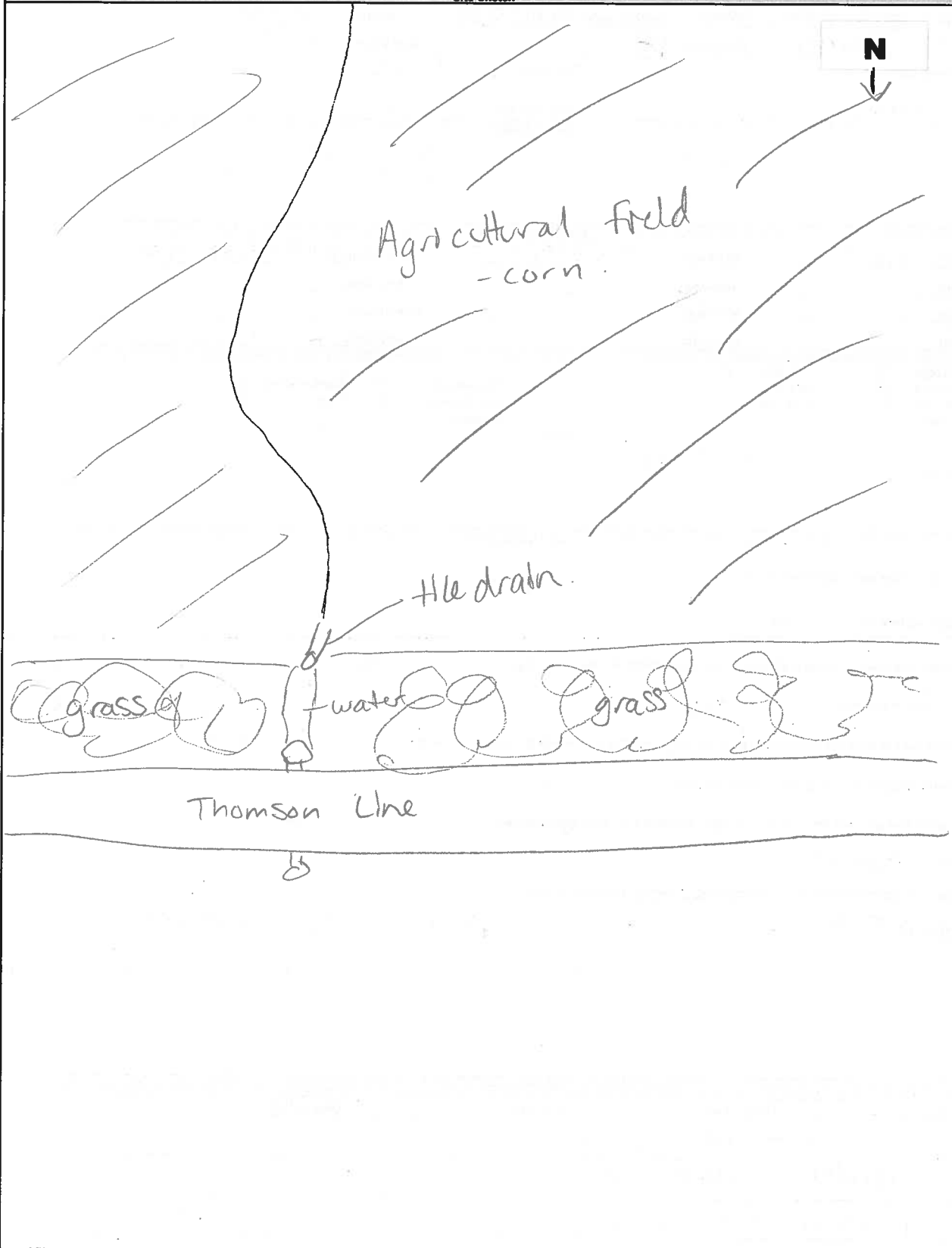
AECOM

Date: May 24/12

Land Parcel/Site ID: BOR 1705 RI.37

Page 2 of 2

Site Sketch



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

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BAR 1354 Site ID: R2.32
 Date: July 31/12 Start time: 13:20 1842 End Time: 13:35
 Weather Conditions: Sunny 31°C Field Crew: C. Barros, T. Sharney
 Field Notes By: C. Barros

Site Location

Thomson Line, west of Scout

UTM Co-ordinates

Easting: <u>435087</u>	Northing: <u>4777999</u>	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:

Surrounding Landuse

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

Ground Water and Seepage Indicators

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

Description:

north - corn
South - barn area in meadow

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: Small depression area

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

small area where phragmites present - but no channel observed

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>overview</u>		
<u>2-3</u>	<u>perchance (185-187)</u>		

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

AECOM

Date: July 31/12

Land Parcel/Site ID: B01354, 1842 R2.32 Page 2 of 2

Sketch



- no channel ~~observed~~ observed going from 1354 to 1842
↳ only one pocket of phragmites on 1354

Initial QA/QC: L. Bentley August 14, 2012

faulstich 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>JER 198, 3737, 3738, 3736</u>		Site ID: <u>R2.28</u>
Date: <u>July 25 / 12</u>	Start time: <u>14:00</u>	End Time: <u>15:00</u>
Weather Conditions: <u>Sunny 27°C</u>	Field Crew: <u>C. Boros, J. Epp</u>	
		Field Notes By: <u>C. Boros</u>
Site Location		
<u>Arkona Rd, south of Ravenwood.</u>		
UTM Co-ordinates (continue on page 3 if necessary)		
Easting: <u>432364</u>	Northing: <u>4779373</u>	Description: <u>R2, 28g</u>
Easting: <u>432459</u>	Northing: <u>4779552</u>	Description: <u>R2, 28 end</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Surrounding Landuse Residential <input type="checkbox"/> Meadow <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Livestock <input checked="" type="checkbox"/> Other _____		Type of Watercourse Intermittent <input checked="" type="checkbox"/> Channelized <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Natural Channel <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> _____ <input type="checkbox"/>
Description: <u>corn field to forest to livestock area</u>		Description: <u>dry, channelized in some portions</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? <input checked="" type="radio"/> Y <input type="radio"/> N If Yes describe: <u>Watercourse does not exist</u>		
GPS Coordinate: Easting -	Northing -	Description -
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body) <u>small valley</u>		
In-Situ Water Quality		Ground Water and Seepage Indicators
WT (°C): _____	AT (°C): _____	Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/>
pH: _____	Cond (s/cm): _____	Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/>
D.O. (mg/L) _____		Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>		Other <input type="checkbox"/> _____
Water Colour: _____		Details: _____
Notes: <u>no water</u>		

ASA
107B, 3736,
3737

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 70m			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): 0.8	Mean Wetted Depth (m): /	Description: erosion observed.																		
Mean Bankfull Width (m): 1	Mean Bankfull Depth (m): 0.4																			
Mean Top of Bank Width (m): 1.05	Mean Top of Bank Depth (m): 0.8																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
no flow - channel dry except 1 pool (~4m long)																				
Habitat																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	clay > sa = si = gr > co		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Morphological Structure (%)</th> </tr> <tr> <th style="width: 25%;">Pool</th> <th style="width: 25%;">Riffle</th> <th style="width: 25%;">Run</th> <th style="width: 25%;">Flat</th> </tr> </thead> <tbody> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Morphological Structure (%)				Pool	Riffle	Run	Flat					Notes: slight meanders in forest			
Morphological Structure (%)																				
Pool	Riffle	Run	Flat																	
Instream Cover (%)																				
Other debris	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
10	5		10			Average Depth: 0.3 (% Cover) 4														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
Canopy Cover (% closed cover):																				
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Types of Cover (% cover)																
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Trees 50	Shrubs 30	Man-made structures														
60-30%	<input type="checkbox"/>			Grasses 10	Herbaceous 10	Other														
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
ash, dogwood, hawthorn																				
Riparian Vegetation																				
Width and Description of riparian vegetation:		LB - 10m - shrub + trees		RB - 10m - shrub + trees																
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 75																	
Description of Overhanging Vegetation:																				
dense thicket - dogwood, raspberry, grapevine,																				
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:																				
almost entire channel dry																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: July 25/12

Land Parcel/Site ID: JER 1978, 3737
3738, 3736 Page 3 of 4

R2.20

Other General Comments Regarding the Study Area:

Watercourse ploughed through on JER 1078
 Watercourse appeared dry on 3737. Watercourse was dry on JER 3738
 Walked entire reach. Very dense thicket covering stream channel.
 Substrate a mix of clay, sand, silt, gravel.
 Watercourse appears similar 10m on JER 3736 - ASA

except one ponded area (~4m)

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1-2	West side of Arroyo		
3-7	JER 3737		
8-9	ASA JER 3736		
10-15	Channel overview - moving south		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

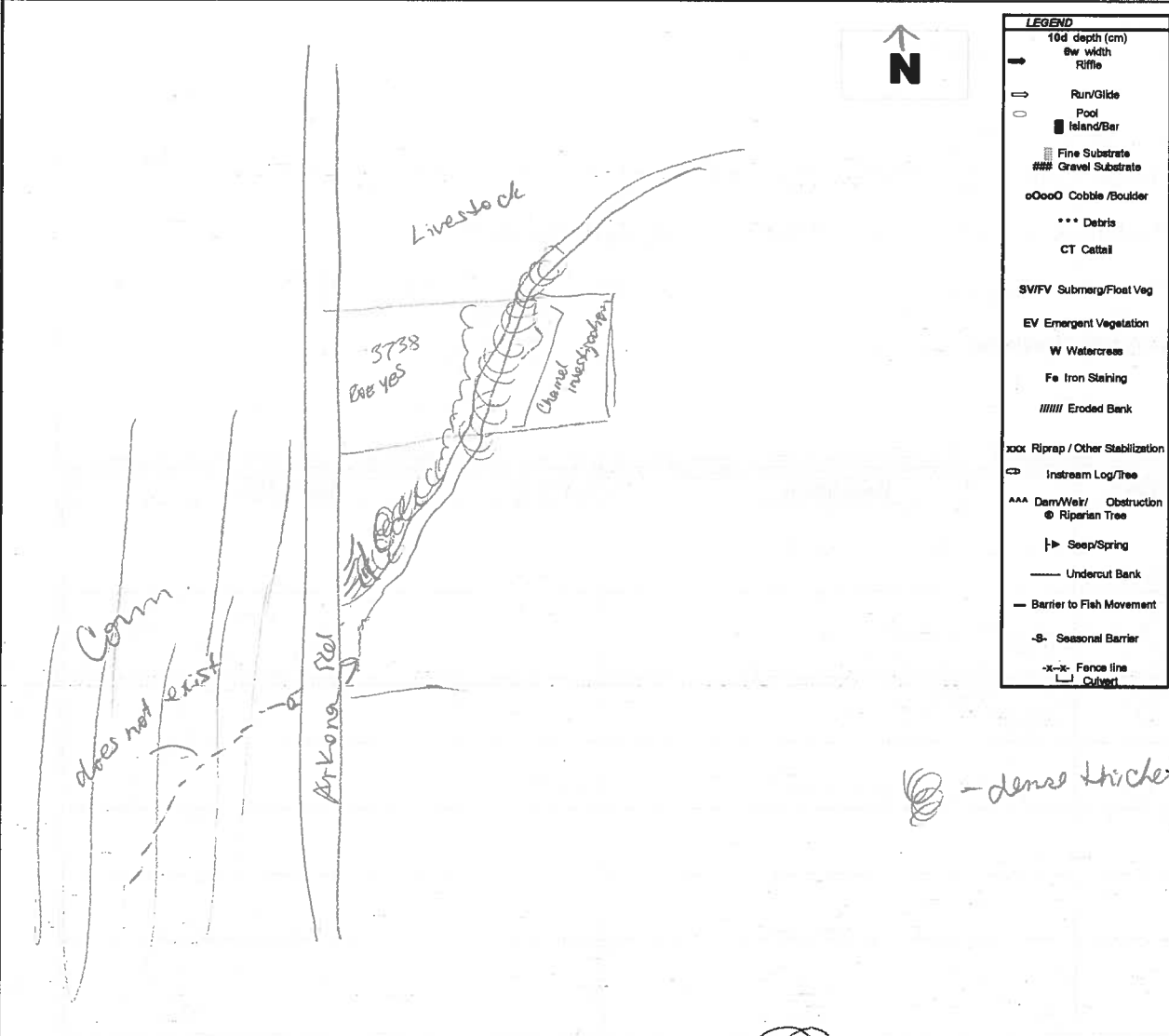
Blewater

Land Parcel#

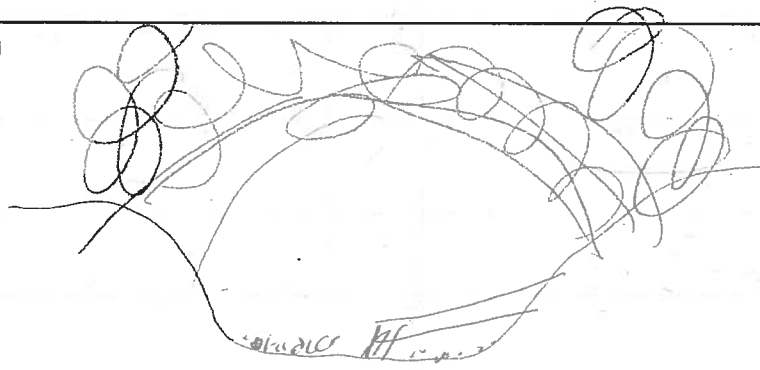
5812 1078,
3737, Site ID
3738, 3736

Site ID

R. 2. 28



Horizontal View of Channel



Initial QA/QC By:

L Bentley

Date:

August 19, 2012

Technical QA/QC By:

Stittman

Date:

Oct 2/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER1078 Site ID: R2.28
 Date: July 25/12 Start time: 14:00 End Time: 14:10
 Weather Conditions: Sunny 27°C Field Crew: C Boros J. Epp
 Field Notes By: J. Epp

Site Location

Arkona Rd, south of Ravenwood.

Utlal Co-ordinates

Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

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

Ground Water and Seepage Indicators

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

Description:

Corn 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 area 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)

ploughed through cornfield.

Photo log

Picture #	Description	Picture #	Description
<u>1-2</u>	<u>Site Overview.</u>		

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

AECOM

Date: July 25/12

Land Parcel/Site ID: JER1078 R2.28

Page 2 of 2

Site Sketch



corn field

Arkona Rd



Initial QA/QC: L. Bentley Oct. 25/12
slutia Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# SR 3736/1078 Site ID: R2.34
 Date: July 25/12 Start time: 14:30 End Time: 15:00
 Weather Conditions: 28°C, Cloudy Field Crew: C. Barros, J. Epp
 Field Notes By: J. Epp.

Site Location

Arkona, South of Ravenswood

Roadside ASA

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

Easting: 432375 Northing: 4779871 Description: R2.34
 Easting: _____ Northing: _____ Description: _____
 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: deciduous forest on West, soybean after forest
Residential on East.

Description: Channel dry.

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

None seen

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

If Yes describe:

Watercourse does not exist in soybean field

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

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

Valley sloped towards watercourse.

In-Situ Water Quality

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

Water Colour: N/A

ASA

Notes:

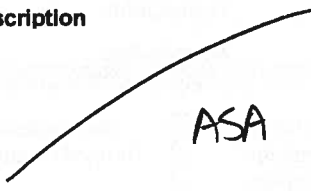
Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

ASA, none seen.

Water Bodies Assessment Field Collection Form

Stream Morphology																									
Site Length (m): <u>20m</u>			Bank Stability:																						
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center">Stable</td> <td align="center">Slightly unstable</td> <td align="center">Moderately unstable</td> <td align="center">Unstable</td> </tr> <tr> <td>Mean Wetted Width (m): <u>n/a.</u></td> <td>Mean Wetted Depth (m): <u>n/a</u></td> <td colspan="3"> <table style="width:100%; border-collapse: collapse;"> <tr> <td>Left Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> </table> </td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Mean Wetted Width (m): <u>n/a.</u>	Mean Wetted Depth (m): <u>n/a</u>	<table style="width:100%; border-collapse: collapse;"> <tr> <td>Left Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> </table>			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																					
Mean Wetted Width (m): <u>n/a.</u>	Mean Wetted Depth (m): <u>n/a</u>	<table style="width:100%; border-collapse: collapse;"> <tr> <td>Left Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> </table>			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"/>											
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 Bankfull Width (m): <u>n/a</u>	Mean Bankfull Depth (m): <u>n/a.</u>	Description: <u>well vegetated.</u>																							
Mean Top of Bank Width (m): <u>n/a</u>	Mean Top of Bank Depth (m): <u>n/a.</u>																								
Flow Description: (high or low flow conditions, stagnant, etc)																									
<u>N/a could not see ASA</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></td> <td></td> <td></td> </tr> </table>			Pool	Riffle	Run	Flat																
Pool	Riffle	Run	Flat																						
ASA 			Notes: ASA																						
Instream Cover (%)																									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks																			
				ASA.		Average Depth: (% Cover)																			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																									
<u>Cattails, jewelweed (1 plant)</u>																									
Canopy Cover (% closed cover):																									
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Types of Cover (% cover)																					
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Trees <u>90</u>	Shrubs <u>10</u>	Man-made structures _____																			
60-30%	<input checked="" type="checkbox"/>			Grasses _____	Herbaceous _____	Other _____																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																									
Notes: (vegetation species, types of structures)																									
Riparian Vegetation																									
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:																						
LB - <u>> 5m on west of forest</u>			RB - <u>> 5m on west of forest.</u>																						
<u>on East could not see</u>			<u>on east could not see.</u>																						
Overhanging Vegetation Present <u>Y/N</u> % Overhanging Vegetation:																									
Description of Overhanging Vegetation:																									
Obstructions to Fish Passage																									
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>																		
Description of Barrier:																									
Height of Barrier (m)			GPS Coordinates:																						

Water Bodies Assessment Field Collection Form

AECOM

Date: July 25/12

Land Parcel/Site ID: R2-34
JER 3736/1078 Page 3 of 4

Other General Comments Regarding the Study Area:

Watercourse exists at roadside. To the west it appears to flow through a small deciduous forest area. Beyond the forest the watercourse does not exist, it is a soybean field that is ploughed through. Could not see water but saw cattails.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1	Culvert looking east.		
2	Culvert on west		
3	Forest overview on west.		
4	Agricultural field behind forest on west		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

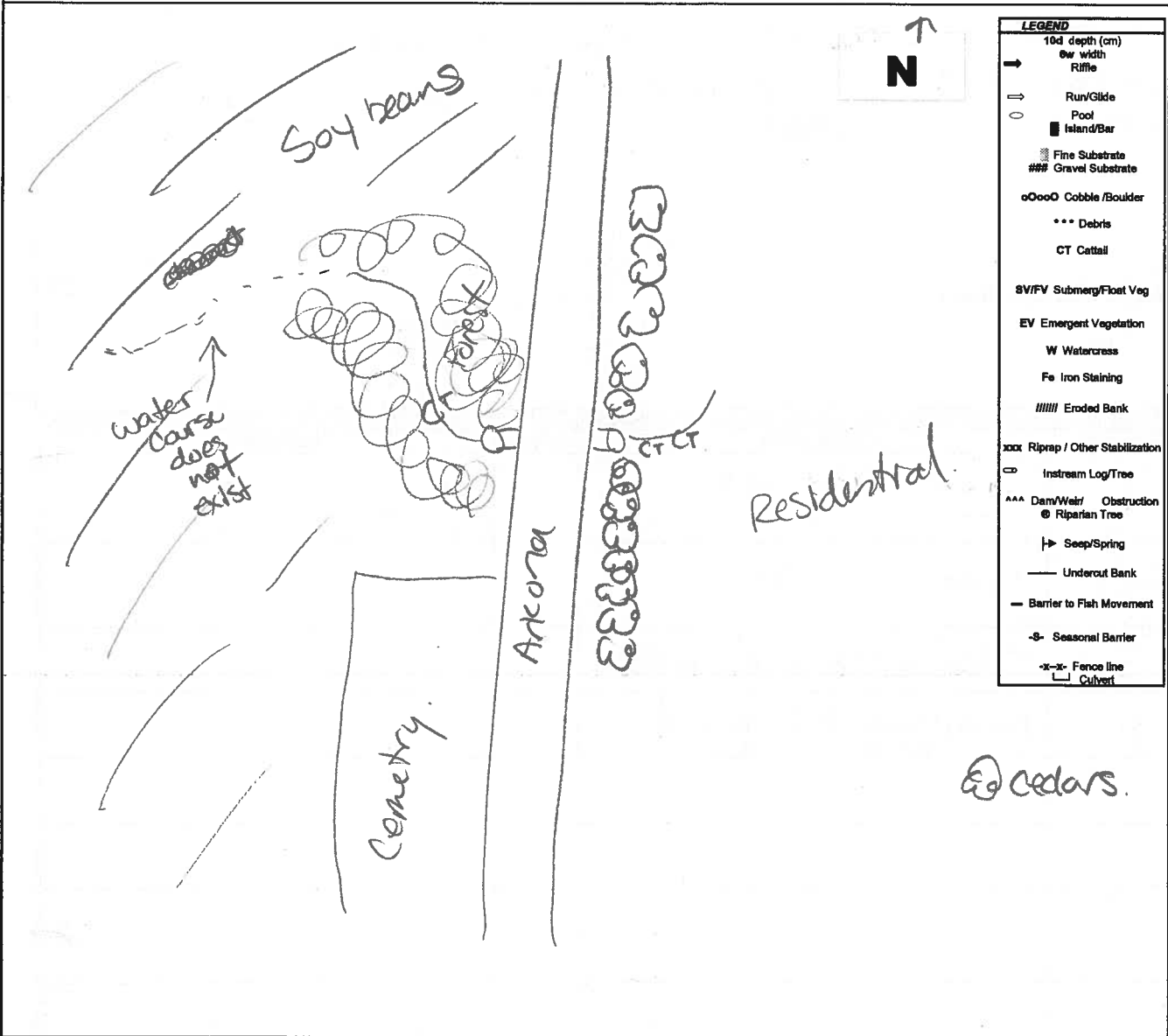
Jericho

Goshen

Bluewater

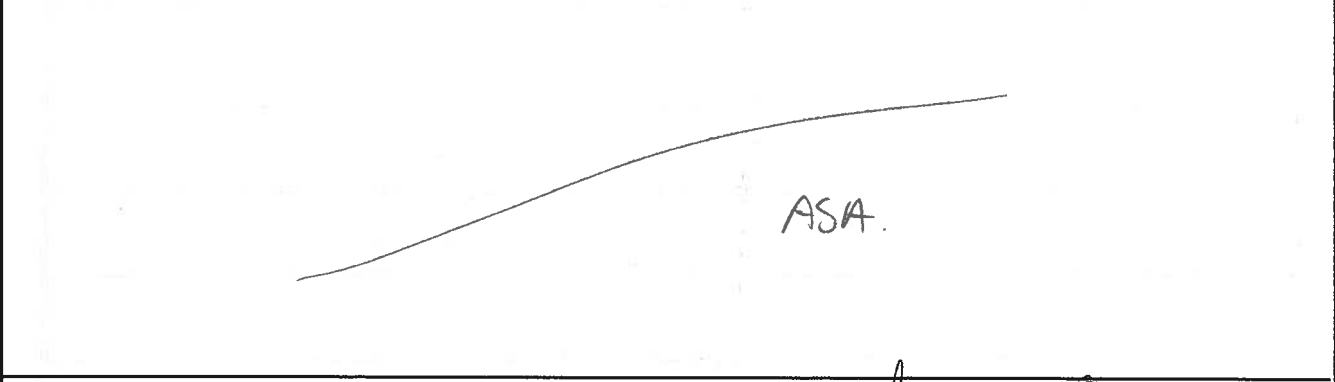
Land Parcel# JER 373611078 Site ID

R2.34



LEGEND	
10d	depth (cm)
0w	width
→	Rifle
⇨	Run/Glide
○	Pool
■	Island/Bar
■	Fine Substrate
##	Gravel Substrate
oOooO	Cobble/Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercress
Fe	Iron Staining
	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: August 14, 2012

Technical QA/QC By: J. Sullivan

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>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JER1078</u> Site ID: <u>R2.34</u>
Date: <u>July 25/17</u>	Start time: <u>14:50</u>	End Time: <u>15:00</u>	
Weather Conditions: <u>Sunny 27°C</u>		Field Crew: <u>C. Barros, J. Epp</u>	
		Field Notes By: <u>J. Epp</u>	
Site Location			
<u>Arkona Rd, south of Ravenswood</u> <u>Roadside ASA</u>			
UTM Co-ordinates			
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Other <input type="checkbox"/>		Details: _____	
Description: <u>Soybeans</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	<u>Y</u> / <u>(N)</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?	<u>(Y)</u> / <u>N</u>		
3) Rock chutes or spillways?	<u>Y</u> / <u>(N)</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?	<u>Y</u> / <u>(N)</u>		
5) Temporarily ponded area that are normally farmed?	<u>Y</u> / <u>(N)</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?	<u>Y</u> / <u>(N)</u>		
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>ploughed through soybean field.</u>			
Photo Log			
Picture #	Description	Picture #	Description
<u>4</u>	<u>site overview</u>		

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

AECOM

Date: July 25/12

Land Parcel/Site ID: JER 1078 R2.34

Page 2 of 2

Site Sketch



Ravenswood

R2.34



Arkona Rd

Initial QA/QC: L. Bentley Oct. 25/12

flexton Oct 2/12

Water Bodies Assessment Field Collection Form

R2.140 B

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JKR 5283 3652</u> Site ID: <u>R2.140</u>
Date: <u>July 30/12</u>	Start time: <u>13:10</u>	End Time: <u>13:50</u>	
Weather Conditions: <u>Sunny, 27°C</u>		Field Crew: <u>C. Barros, T. Schwagney</u>	ASA
		Field Notes By: <u>C. Barros</u>	
Site Location			
<u>Arkona Rd., south of Jura Ln</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>0432164</u>	Northing: <u>4772138</u>	Description: <u>R2.140</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input checked="" type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/>
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other _____		Description: <u>Channelized to go under road but natural 7m on</u>	
Description: <u>small meadow area roadside before forest</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>small valley</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): _____	AT (°C): _____	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: _____	Cond (s/cm): _____	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) _____		Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input type="checkbox"/>	<u>Turbid</u> <input checked="" type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: <u>green</u>		Details: _____	
Notes: <u>no access</u>			

Water Bodies Assessment Field Collection Form

Site Length (m): 20m				Bank Stability:																								
Channel Dimensions				<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">Stable</td> <td style="width: 15%; text-align: center;">Slightly unstable</td> <td style="width: 15%; text-align: center;">Moderately unstable</td> <td style="width: 15%; text-align: center;">Unstable</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">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> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">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> <td colspan="2"></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): 0.7	Mean Wetted Depth (m): /	Mean Bankfull Width (m): 1.2	Mean Bankfull Depth (m): /	Description: erosion observed																								
Mean Top of Bank Width (m): 3	Mean Top of Bank Depth (m): /	Flow Description: (high or low flow conditions, stagnant, etc) no flow observed																										
Substrate (<=>)				<table style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="3" style="width: 50%; padding: 5px;"> Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus </td> <td colspan="4" style="text-align: center; padding: 5px;"> Morphological Structure (%) </td> </tr> <tr> <td style="width: 15%; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 25%;">Pool</th> <th style="width: 25%;">Riffle</th> <th style="width: 25%;">Run</th> <th style="width: 25%;">Flat</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="text-align: center;">100</td> </tr> </table> </td> <td colspan="3"></td> </tr> <tr> <td colspan="4" style="padding: 5px;"> Notes: could not assess / </td> </tr> </table>				Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Morphological Structure (%)				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 25%;">Pool</th> <th style="width: 25%;">Riffle</th> <th style="width: 25%;">Run</th> <th style="width: 25%;">Flat</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="text-align: center;">100</td> </tr> </table>	Pool	Riffle	Run	Flat				100				Notes: could not assess /			
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Morphological Structure (%)																											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 25%;">Pool</th> <th style="width: 25%;">Riffle</th> <th style="width: 25%;">Run</th> <th style="width: 25%;">Flat</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="text-align: center;">100</td> </tr> </table>	Pool	Riffle	Run	Flat					100																		
	Pool	Riffle	Run	Flat																								
			100																									
Notes: could not assess /																												
Instream Cover (%)																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Other</th> <th style="width: 15%;">Woody Debris</th> <th style="width: 15%;">Boulders</th> <th style="width: 15%;">Cobble</th> <th style="width: 15%;">Aquatic Vegetation*</th> <th style="width: 15%;">None</th> <th style="width: 15%;">Undercut Banks</th> </tr> <tr> <td style="height: 40px;"></td> <td style="height: 40px;"></td> <td style="height: 40px;"></td> <td style="height: 40px;"></td> <td style="text-align: center;">2</td> <td style="height: 40px;"></td> <td style="padding: 5px;"> Average Depth: (% Cover) </td> </tr> </table>	Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					2		Average Depth: (% Cover)														
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks																						
				2		Average Depth: (% Cover)																						
<i>Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%</i> <i>*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)</i> algae																												
Canopy Cover (% closed cover):				Types of Cover (% cover)																								
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	90-60% <input checked="" type="checkbox"/>	0% <input type="checkbox"/>	Trees <u>50</u>	Shrubs _____	Man-made structures _____																						
60-30% <input type="checkbox"/>				Grasses <u>50</u>	Herbaceous _____	Other _____																						
<i>Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%</i> Notes: (vegetation species, types of structures) manitoba maple, grasses																												
Riparian Vegetation																												
Width and Description of riparian vegetation: LB - 25m - meadow/forest				RB - 25m - meadow/forest																								
Overhanging Vegetation Present Y / N <input checked="" type="checkbox"/>				% Overhanging Vegetation:																								
Description of Overhanging Vegetation:																												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px;"> None Observed <input checked="" type="checkbox"/> </td> <td style="width: 20%; padding: 5px;"> Man-Made <input type="checkbox"/> </td> <td style="width: 20%; padding: 5px;"> Natural <input type="checkbox"/> </td> <td style="width: 20%; padding: 5px;"> Low Flow Barrier <input type="checkbox"/> </td> <td colspan="3"></td> </tr> </table>							None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>																		
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

Page 4 of 4

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

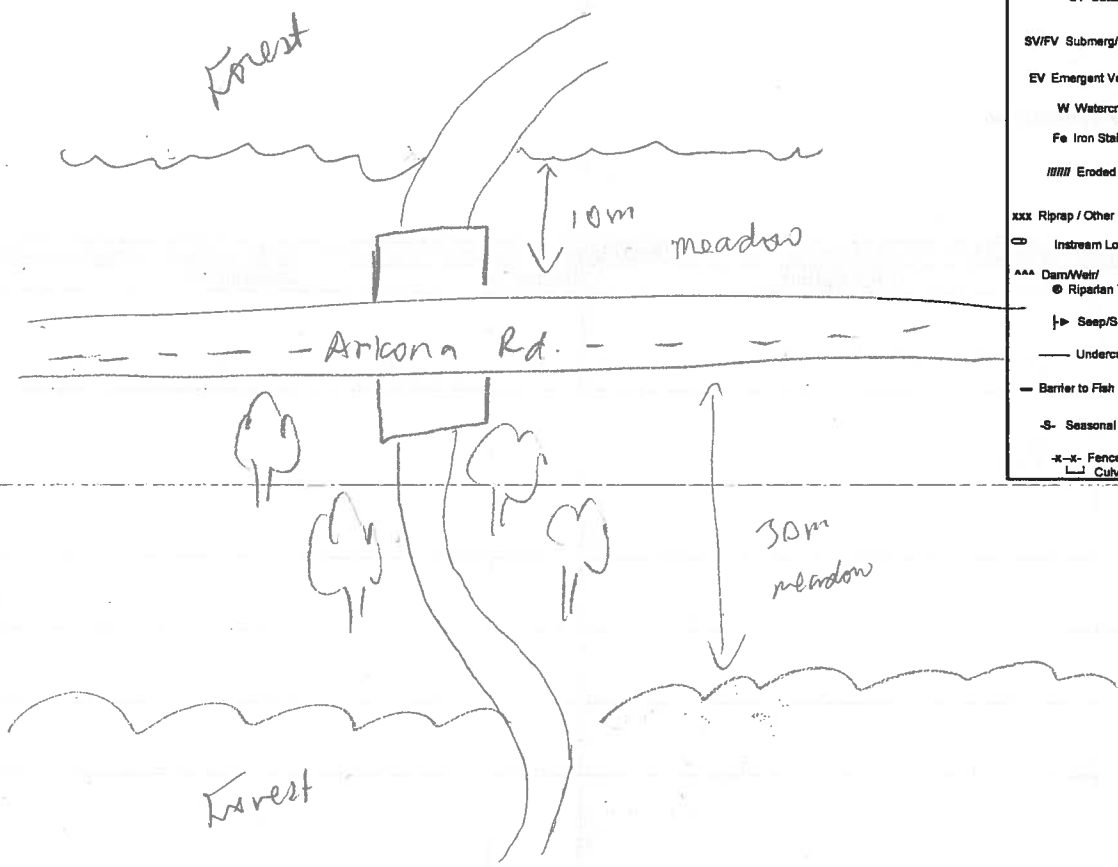
Jer 3285,
3652

Site ID

R2.140B

LEGEND

- 10d depth (cm)
- 9w 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 Watercress
- Fe Iron Staining
- ||||| 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: August 14, 2012

Technical QA/QC By:

[Signature]

Date: Oct 2/12

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

R2.10 A

AECOM		Page 1 of 2	
General Information			
Study Area: Jericho	Goshen	Bluewater:	Land Parcel# JER 1150/3741 Site ID: R2.10 JER 1150/JER 3741
Date: MAY 16/18	Start time: 9:55 AM	End Time: 10:05 AM	
Weather Conditions: overcast, 11°C		Field Crew: SLOWES JEPP	
		Field Notes By: SLOWES	
Site Location			
West of Arkona			
UTM Co-ordinates			
Easting: 433084	Northing: 4778733	Description: @ access laneway	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse Residential <input type="checkbox"/> Meadow <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Forest <input type="checkbox"/> Livestock <input type="checkbox"/> Other <input type="checkbox"/>		Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/> Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/> Bubbling <input type="checkbox"/>	
Description: no crops		Details: no water course.	
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway? Y <input checked="" type="radio"/> N			
2) Temporary channel for surface drainage, that can be tilled or driven through? <input checked="" type="radio"/> Y N			
3) Rock chutes or spillways? Y <input checked="" type="radio"/> N			
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y <input checked="" type="radio"/> N			
5) Temporarily ponded areas that are normally farmed? Y <input checked="" type="radio"/> N			
6) Artificial bodies of water intended for storage, treatment for farming purposes? Y <input checked="" type="radio"/> N			
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
grassy swale goes into trench (dry). then underground. - no water course as mapped - no defined channel.			
Photo log			
Picture #	Description	Picture #	Description
1	sheet	3	view of USO
2	trenched channel		
3	grate		

ASA for
3741

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

02.10 A

Site Sketch 3741



row
crop

No channel

JER 1150

laneway

recently
trenched

gully

grassy
area

no channel
(has been ploughed).

row crop

JER 3741

Initial QA/QC L Bentley May 22, 2012
Sketch Oct 2/12

Property ID: JER 3741 Date: MAY 15/12
Property Access: Lane way Start Time: 10:05 AM
End Time: 10:10 AM

Field Investigators: S. Lohnes, J. Epp Weather: 11° overcast

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)

Grass swale dry and ditched out along lane way and goes underground to adjacent property (JER 1150).
Two other old channels not present, agricultural fields.

Photograph Numbers: _____

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 101313649 Site ID: R2.239.

Date: May 23/2012 Start time: 15:54 End Time: 16:16.

Weather Conditions: Sunny 24°C Field Crew: S. Aitken, S. Daraiche
Field Notes By: S. Aitken

Site Location

North of Townsend Line, conducted ASA from JER1013

UTM Co-ordinates see map

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other

Description: last year's corn crop

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling

Details: none observed

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)

may be tile drained through field - no surface feature

Photo log

Picture #	Description	Picture #	Description
<u>91</u>	<u>view of R2.239 facing east</u>		
<u>92</u>	<u>overview of adjacent property</u>		

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

AECOM

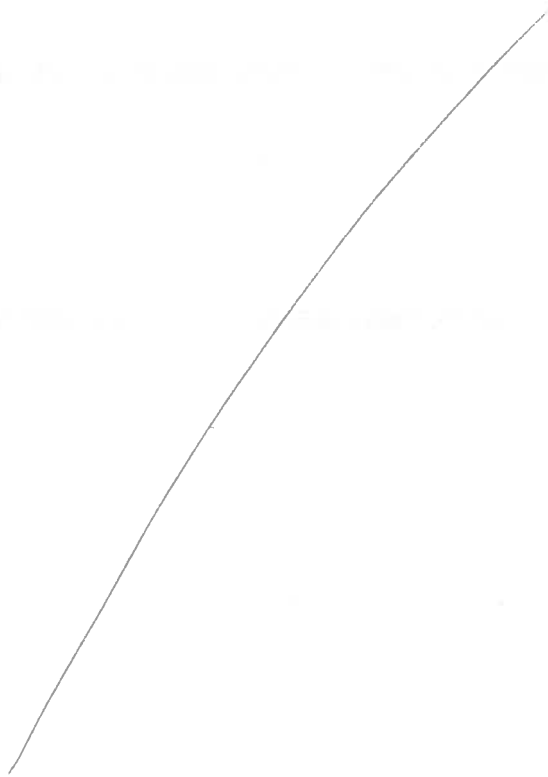
Date: May 28/12

Land Parcel/Site ID: 1013 / R2.239

Page 2 of 2

Site Sketch

N



Initial QA/QC: L. Bentley June 13, 2012
Sketcher Oct 2/12

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

AECOM		Page 1 of 2	
General Information			
Study Area: <u>Jericho</u> Goshen Bluewater	Land Parcel# <u>1013/3649</u>	Site ID: <u>R2.239/P2.114/P2.115</u>	
Date: <u>May 23/12</u>	Start time: <u>15:54</u>	End Time: <u>16:16</u>	
Weather Conditions: <u>Sunny 24°C</u>		Field Crew: <u>S. Aitken, S. Daraiche</u>	
		Field Notes By: <u>S. Aitken</u>	
Site Location			
<u>North of Townsend line, conducted ASA from JER1013</u>			
UTM Co-ordinates <u>none</u>			
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	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"/>		Details: _____	
Description: <u>corn crop</u>			
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) N R2.239</u>			
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? <u>(Y) N - P2.114-</u>			
6) Artificial bodies of water intended for storage, treatment for farming purposes? <u>(Y) N P.2115</u>			
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>R2.239 may be tile drain - no surface feature, may still provide surface water drainage</u>			
<u>P2.115 - is fenced and located adjacent to barns</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>91</u>	<u>view of R2.239</u>		
<u>92</u>	<u>view of R2.239</u>		
<u>95</u>	<u>-view of P2.114</u>		

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

P2.114, P2.115

AECOM

Date: May 23/12

Land Parcel/Site ID: 1013-R2239

Page 2 of 2

Site Sketch



N

Winter wheat
low lying area → planted

1013

Winter wheat

hedgerow

Corn

planted +
driven through

3649

no surface feature -
slight depression
in field

Townsend line

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

Shaw

Property ID: JER1013 Date: May 23/12
Property Access: ROE-yes Start Time: 15:54
End Time: 16:16

Field Investigators: S. Atken, S. Daraiche Weather: sunny

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)

-recon of feature on JER1013 appears
to be grassed mound, also evidence
of recently tled field

Photograph Numbers: 93 + 94

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3021 Site ID: KR.310

Date: June 4/12 Start time: 12:50 End Time: 13:00

Weather Conditions: Cloudy 21°C Field Crew: C. Boros, S. Parache
Field Notes By: C. Boros

Site Location

Birnam Rd, east of Arkona Rd.

ASA

UTM Co-ordinates

Easting: 548886 Northing: 4806488 Description: KR.310

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other _____

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling _____

Description:

dry beam

Details:

Feature Description

Is the mapped water body any of the below:

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

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

Photo log

Picture #	Description	Picture #	Description
<u>1329</u>	<u>overview</u>		

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

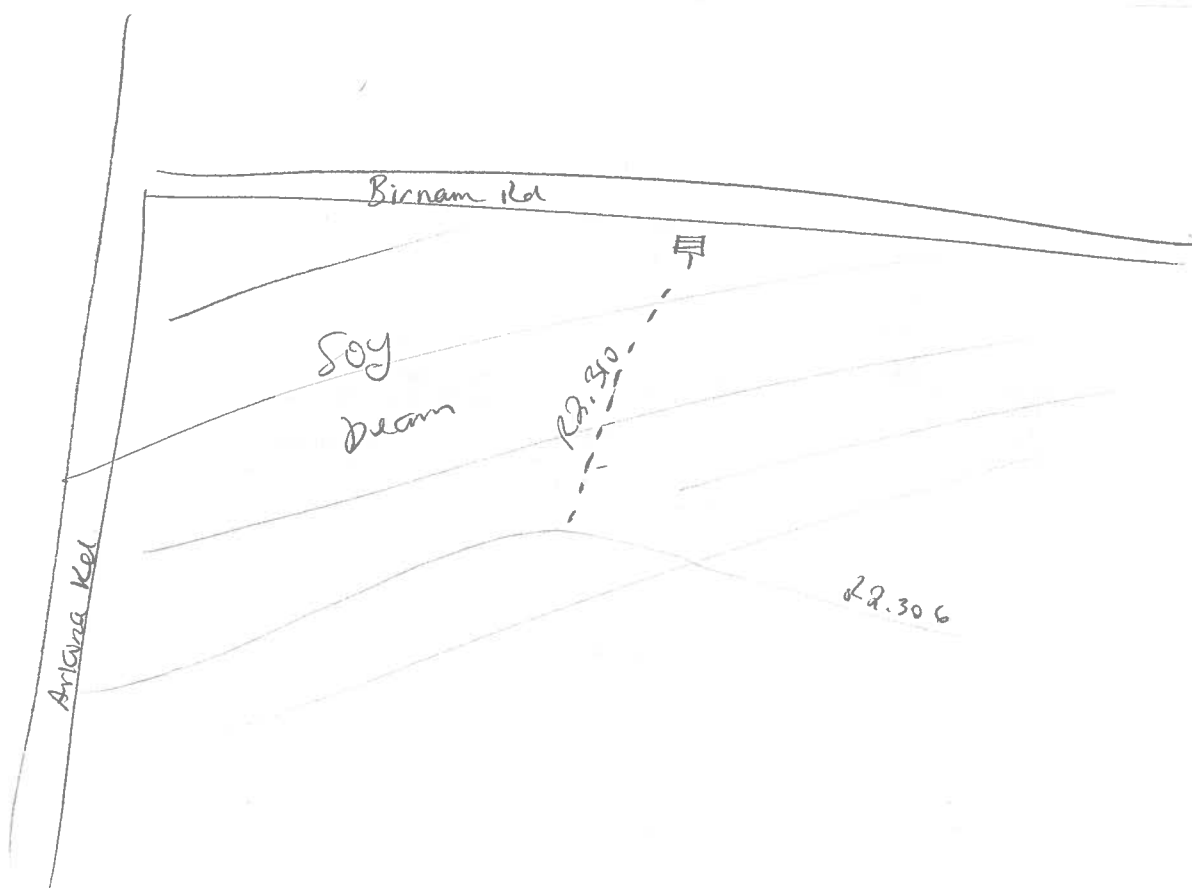
AECOM

Date: June 4/12

Land Parcel/Site ID: R2.310-JER3021

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley June 13/12
Hawken Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3114/3115/310 ^{JER} Site ID: R2.179

Date: June 5 / 12 Start time: 8:10 End Time: 10:15

Weather Conditions: Sunny, 10°C Field Crew: C. Boros, S. Paroiche
Field Notes By: C. Boros

Site Location

Birnam Rd., east of Quaker Rd. *ASA for JER3101

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

Easting: <u>43 1095</u>	Northing: <u>476 7248</u>	Description: <u>R2.179s</u>
Easting: <u>43 1127</u>	Northing: <u>476 7199</u>	Description: <u>R2.179w</u>
Easting: <u>43 1144</u>	Northing: <u>476 6945</u>	Description: <u>R2.179e</u>
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other _____

Description: corn fields except SW corner

Type of Watercourse

Intermittent Channelized
Permanent Natural Channel
Ephemeral _____

Description: early stages of naturalizing

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

tile drains noted - 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)

sl. hilly

In-Situ Water Quality

WT (°C): 13.85 AT (°C): 15°C
pH: ~~6.84~~ 6.49 Cond (µs/cm): 646
D.O. (mg/L) 8.38
Water Clarity: Clear Turbid

Water Colour: n/a

Notes: area clear of emergent + overhanging veg but algae present

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling _____
Other water speedwell

Details: potentially water speedwell to confirm ✓ confirmed,

Water Bodies Assessment Field Collection Form

Stream Morphology				
Site Length (m): 140 m			Bank Stability:	
Channel Dimensions			Stable	Slightly unstable
Mean Wetted Width (m): 1.2	Mean Wetted Depth (m): 0.15		Left Bank <input type="checkbox"/>	<input checked="" type="checkbox"/>
Mean Bankfull Width (m): 2.3	Mean Bankfull Depth (m): 0.6		Right Bank <input type="checkbox"/>	<input checked="" type="checkbox"/>
Mean Top of Bank Width (m): 3.5	Mean Top of Bank Depth (m): 2		Description: minor erosion + no area of slumping	
Flow Description: (high or low flow conditions, stagnant, etc)				
slow flow in narrow chutes - no flow observed in pools				
Habitat				
Substrate (<=>)		Morphological Structure (%)		
Bo - Boulder	Description si = sa > gf = co = mk > bo	Pool	Riffle	Run
Co - Cobble		7		93
Gr - Gravel				
Sa - Sand				
Si - Silt				
Cl - Clay				
MK - Muck				
DT - Detritus				
Notes: small pools noted on N side 2 large pools noted on S side				
Instream Cover (%) 80				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*
		5	7	65 65
				Undercut Banks
				Average Depth: 0.15 (% Cover) 2
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)				
algae - attached > algae - blooms, filamentosus > common reed grasses, water plantain				
Canopy Cover (% closed cover):		Types of Cover (% cover)		
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees	Shrubs 50	Man-made structures
90-60% <input checked="" type="checkbox"/>	0% <input type="checkbox"/>	Grasses 50	Herbaceous	Other
60-30% <input checked="" type="checkbox"/>				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%				
Notes: (vegetation species, types of structures)				
dogwood, willow, emergent grasses -> common reed				
Riparian Vegetation				
Width and Description of riparian vegetation:	LB - 1 - 8 m - meadow	RB - 1 - 8 m - meadow		
Overhanging Vegetation Present <input checked="" type="checkbox"/> N	% Overhanging Vegetation: 5			
Description of Overhanging Vegetation: sporadic dense clumps - cover stream				
Obstructions to Fish Passage				
None Observed <input type="checkbox"/>	Man-Made <input checked="" type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>	
Description of Barrier: raised / perched culvert on N side				
Height of Barrier (m) 0.25 m	GPS Coordinates: road side			

Water Bodies Assessment Field Collection Form

AECOM

Date: June 5 / 12

Land Parcel/Site ID: JER 3114 / 3115 / 3101 Page 3 of 4
R2.179

Other General Comments Regarding the Study Area:

- Yoy school noted on N side
- school of Cyprinids noted on S side
- Green frog heard.

The watercourse is a channelized stream that is in the early stages of naturalizing - minor meander around slumped clumps and pools forming. Instream cover high due to algae, canopy cover ~~mod~~ but due to grasses + shrubs.

Additional UTM Coordinates:

Water course appears similar 30m north of study area. It was hard to determine if the stream was similar on JER 3101 due to shrubs but

most likely as it continues in same fashion through the field - could only see riparian coverage

Photo log			
Picture #	Description	Picture #	Description
1a	Sheet		
1b	looking N past study area		
2-23	JER 3114 - channel overview starting at north walking towards road		
24-26	culvert on 3114		
27	review on JER 3115 at culvert		
28-41	JER 3115		
42	large pool		
43	second large pool		
44-45	JER 3101		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

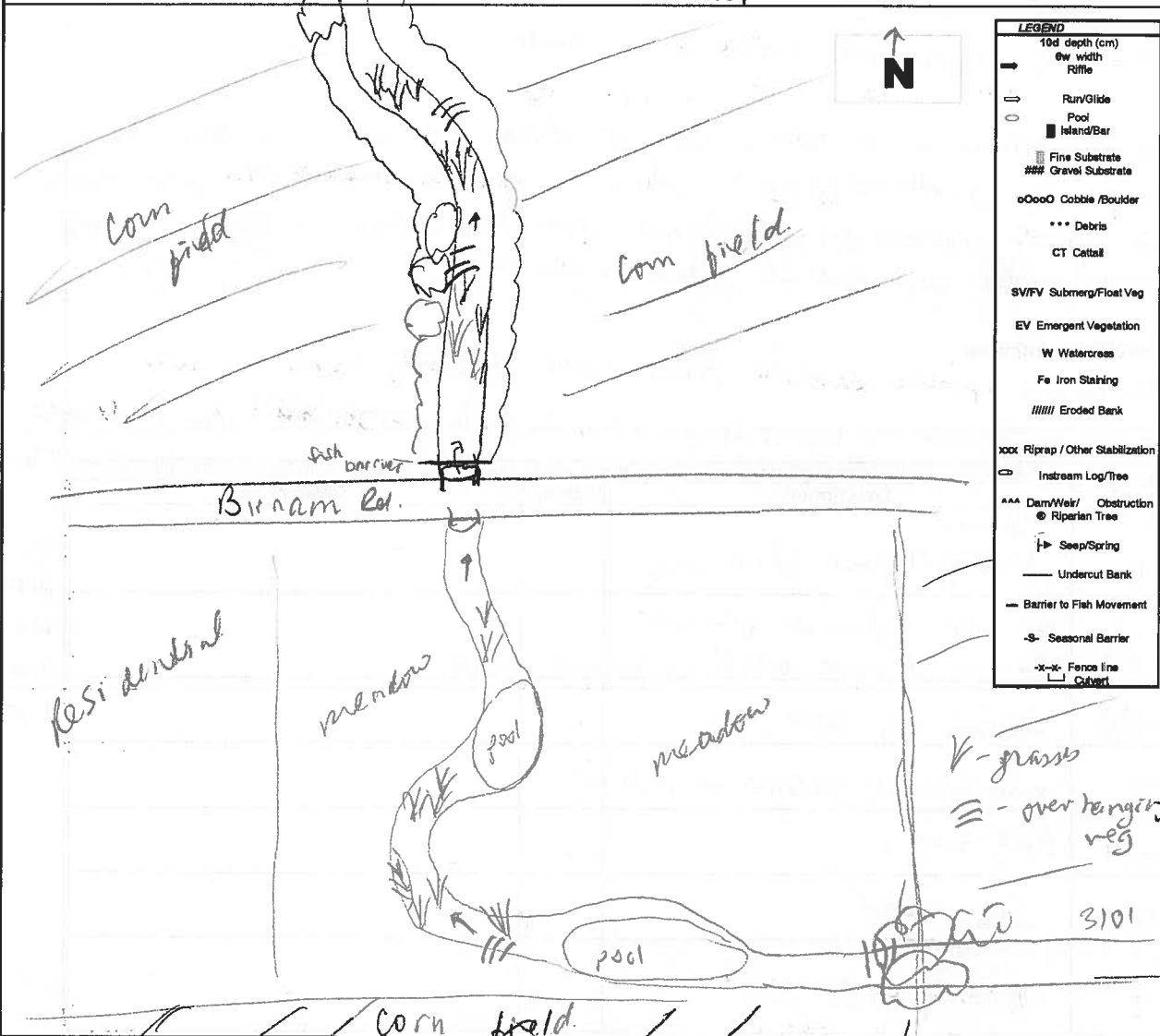
Bluewater

Land Parcel#

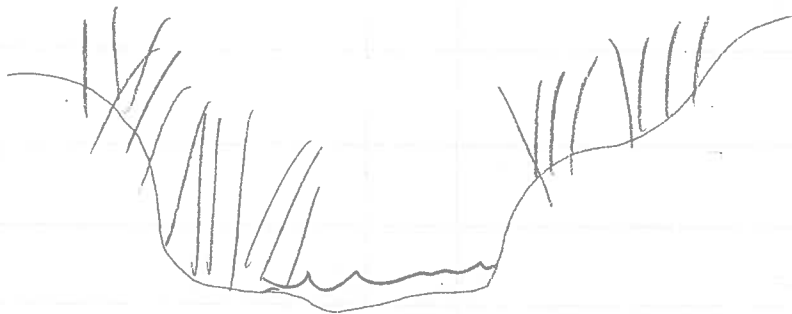
JER 3114
3115
3101

Site ID

RR 179



Horizontal View of Channel



Initial QA/QC By:

L. Bentley

Date:

June 13/12

Technical QA/QC By:

Stutler

Date:

Oct 4/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3101 Site ID: R2.302
 Date: June 5/12 Start time: 10:20 End Time: 10:30
 Weather Conditions: Sunny, 15°C Field Crew: C. Boros, S. Parache
 Field Notes By: C. Boros
 Site Location: Barnham Rd, east Quaker Rd. Roadside Survey

UTM Co-ordinates

Easting: <u>431349</u>	Northing: <u>4767095</u>	Description: <u>R2.302</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse	Ground Water and Seepage Indicators
Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/>	Watercress <input type="checkbox"/> Iron Staining <input type="checkbox"/> Bubbling <input type="checkbox"/>
Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input type="checkbox"/>	Bank Seepage <input type="checkbox"/> None <input checked="" type="checkbox"/>
Description: <u>soy bean</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? (Y)/N
- 3) Rock chutes or spillways? Y/N
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y/N
- 5) Temporarily ponded areas that are normally farmed? Y/N
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y/N
- 8) Any other: _____

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

Photo log

Picture #	Description	Picture #	Description
<u>1b</u>	<u>sheet overview</u>		
<u>2</u>	<u>drainage grate</u>		

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

AECOM

Date: Jun 5/12

Land Parcel/Site ID: JOR 3101 R2.302

Page 2 of 2

Site Sketch



— Binnam Rd. —

- R2.302
ploughed through

R2.306

soy bean
field.

Initial SA/OC: *Wentley* June 13/12
Sturkin Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3283 Site ID: R2.131

Date: MAY 29 / 12 Start time: 11:40 End Time: 11:50

Weather Conditions:

Cloudy, 20°C

Field Crew: C. Boros, A. Arsenault

Field Notes By: C. Boros

Site Location

Arkona Rd, just north of Juraln

Roadside Survey

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

Easting: 432190 Northing: 4772671 Description:

Easting: Northing: Description:

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:

grass meadow forest

Description:

meandering slightly

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)

hill on north side

In-Situ Water Quality

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

Water Colour:

Notes: no access

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

none observed but hard to tell

Water Bodies Assessment Field Collection Form

Stream Morphology											
Site Length (m): 30m			Bank Stability:								
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable					
Mean Wetted Width (m): 0.75	Mean Wetted Depth (m): n/a	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mean Bankfull Width (m): 1	Mean Bankfull Depth (m): n/a	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mean Top of Bank Width (m): 1.5	Mean Top of Bank Depth (m): n/a	Description: well veg.									
Flow Description: (high or low flow conditions, stagnant, etc)											
Habitat											
Substrate (<=>)		Description		Morphological Structure (%)							
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay	MK - Muck	DT - Detritus	Pool	Riffle	Run	Flat
		Co=60% Si=5% Gr=1%		/		5		/		95	
Notes: could not properly assess bank could see cobbles + gravel; assumed some riffles present											
Instream Cover (%) 50											
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
/	/	/	40	10		Average Depth: (% Cover)					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
grasses											
Canopy Cover (% closed cover):			Types of Cover (% cover)								
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	10	Shrubs	10	Man-made structures			
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	80	Herbaceous		Other			
60-30%	<input checked="" type="checkbox"/>										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
✓											
Riparian Vegetation											
Width and Description of riparian vegetation:					Width and Description of riparian vegetation:						
LB - 10m+ grass					RB - 10m+ - grasses + trees						
Overhanging Vegetation Present Y/N					% Overhanging Vegetation:						
Description of Overhanging Vegetation: (N)					/						
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

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

3283

Site ID

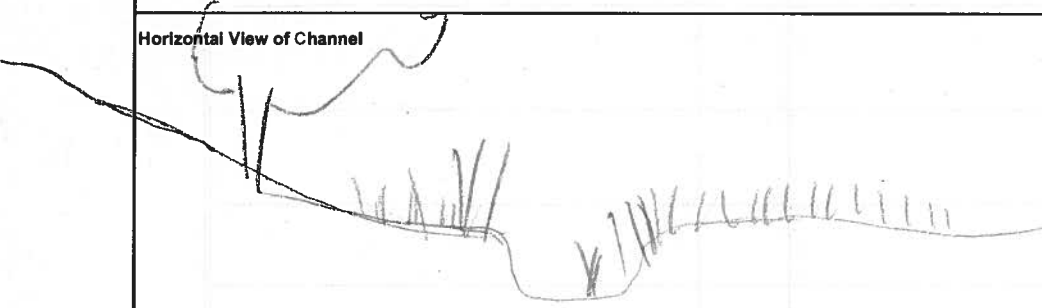
R2.131



LEGEND	
10d depth (cm)	→
5w width	→
Riffle	→
Run/Glide	→
Pool	○
Island/Bar	■
Fine Substrate	□
Gravel Substrate	###
Cobble/Boulder	oOooO
Debris	***
Cattail	CT
Submerg/Floet.Veg	SW/FV
Emergent Vegetation	EV
Watercross	W
Iron Staking	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. Berney

Date:

June 9, 2012

Technical QA/QC By:

Mitkin

Date:

Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# SEK3626 Site ID: R2.131
 Date: May 29/12 Start time: 9:00 End Time: 9:50
 Weather Conditions: Sunny, 18°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

Site Location

Jura Line, West of Arkona Kd.

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

Easting: 0431409 Northing: 4772616 Description: R2.131 to start
 Easting: 0431771 Northing: 04772742 Description: R2.131 to wg
 Easting: 0432181 Northing: 4772672 Description: R2.131 to end
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input type="checkbox"/>
Agriculture <input type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/>
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other _____			

Description: forest for ~ 30m on each side of stream Description: meanders

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)
none observed - however likely considering surrounding landuse via crop fields

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 rolling hills

In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>20.87</u>	AT (°C): <u>18°C</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>6.55</u>	Cond (µs/cm): <u>544</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) <u>0.03</u>		Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Clarity: <u>Clear</u> <input type="checkbox"/> Turbid <u>Sl.</u> <input checked="" type="checkbox"/>		Other <input type="checkbox"/>	
Water Colour: <u>brown</u>		Details: <u>none observed</u>	

Notes: taken in pool - 0.30m deep at wg location.

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): <u>700m</u>				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m):		Mean Wetted Depth (m):		Left Bank <input type="checkbox"/>	<input checked="" type="checkbox"/> → <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):		Mean Bankfull Depth (m):		Right Bank <input type="checkbox"/>	<input checked="" type="checkbox"/> → <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):		Mean Top of Bank Depth (m):		Description: <u>on meander bends large amounts of siltation</u>			
Flow Description: (high or low flow conditions, stagnant, etc) <u>slow flow → not visible in wider sections of stream</u>							
Habitat							
Substrate (<=>)				Morphological Structure (%)			
Bo - Boulder	Description <u>sa, si, el, gr, mk > co > bo</u>			Pool	Riffle	Run	Flat
Co - Cobble				25	20	10	45
Gr - Gravel				Notes: <u>riffle, run, pool sequences present</u>			
Sa - Sand							
Si - Silt							
Cl - Clay							
MK-Muck							
DT-Debris							
Instream Cover (%) <u>85</u>							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
/	15	5	20	25 25	/	Average Depth: (% Cover) 10	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>algae - attached > algae - filamentous > grasses >> algae - blooms</u>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>70</u>	Shrubs	<u>20</u>
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses		Herbaceous	<u>10</u>
60-30%	<input type="checkbox"/>					Man-made structures	
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%				Notes: (vegetation species, types of structures) <u>deciduous forest</u>			
Riparian Vegetation							
Width and Description of riparian vegetation:				Riparian Vegetation			
LB - <u>20m - forest</u>				RB - <u>20m - forest</u>			
Overhanging Vegetation Present <input checked="" type="checkbox"/> Y / N				% Overhanging Vegetation: <u>5</u>			
Description of Overhanging Vegetation: <u>at west roadside - willow overhanging - do not cover entire wetted width</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 29/12

Land Parcel/Site ID:

R2.131
JER 3626

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frog heard, turtle observed (sp?)
 - schools of yoy (sp?) fish
 -> at west end of stream (along Arsona Rd/Jura Ln) there is a marshy area. It then flows into a wetland area which ultimately turns into a forest area. The watercourse meanders through and has riffle run pool sequences. Canopy cover is high.
 Roadside at Arsona for JER 3626 is in keeping w/ rest of reach

Additional UTM Coordinates:

-> watercourse in valley -> climbed down approx 15m

Photo log			
Picture #	Description	Picture #	Description
1a	sheet		
1b	looking at JER 3632		
2	Roadside for JER 3626		
3-12	west side branch		
13-17	east		
18	map		
19	from Arsona rd.		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

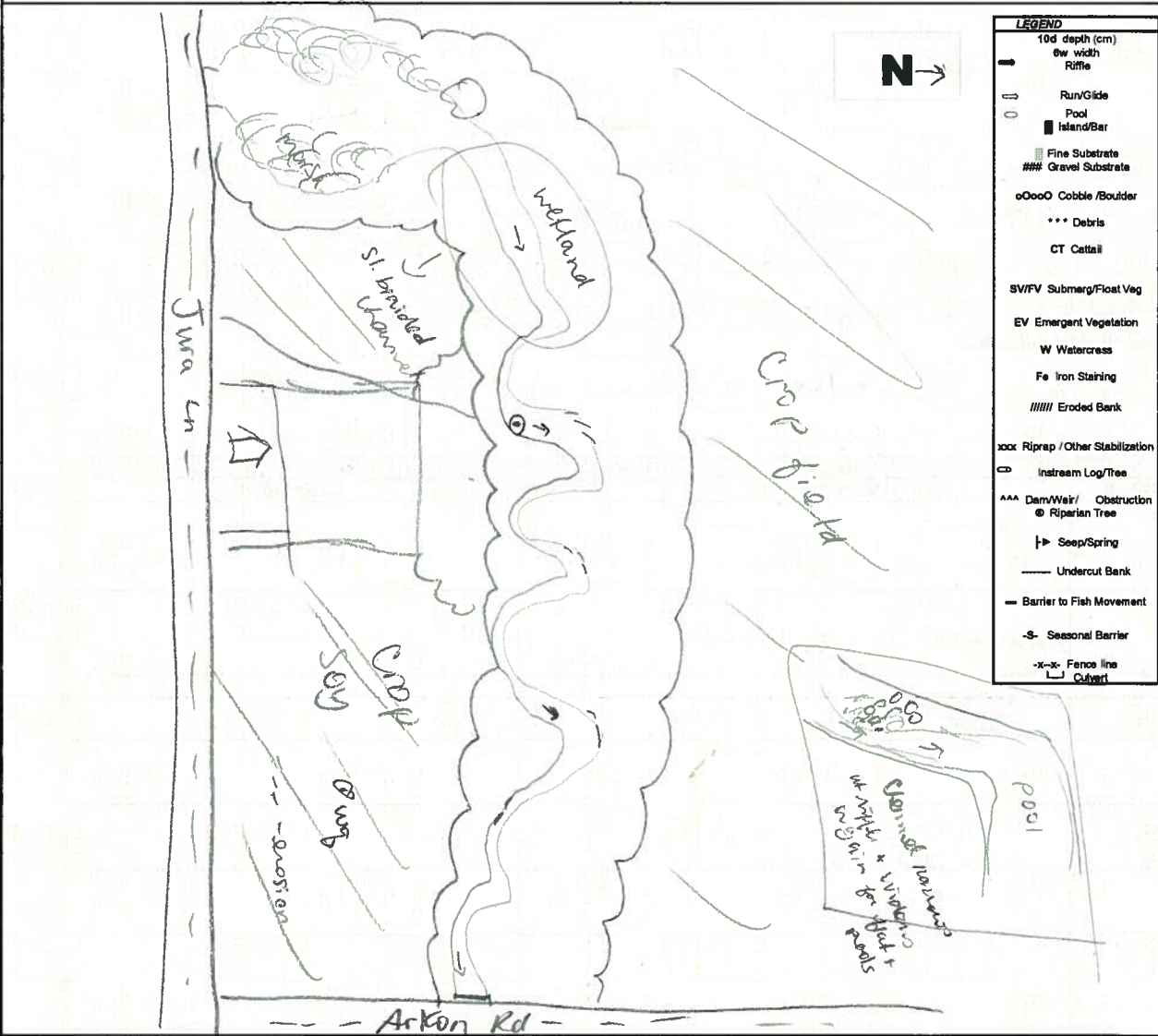
Bluewater

Land Parcel#

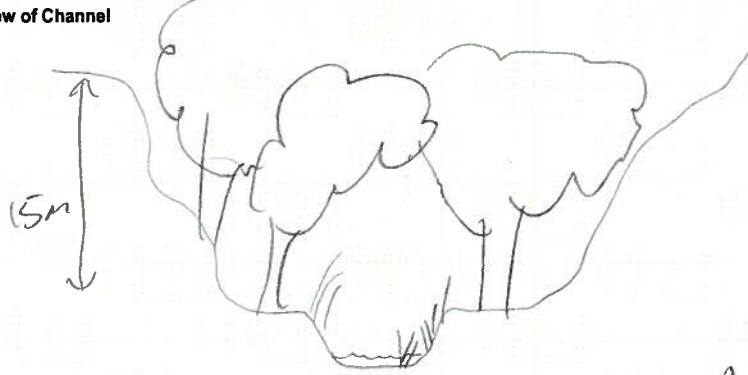
3626

Site ID

R2.131



Horizontal View of Channel



Initial QA/QC By: L. Berkley

Date: June 9, 2012

Technical QA/QC By: [Signature]

Date: Oct 21, 12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER3632 Site ID: R2.192
 Date: May 29/12 Start time: 10:00 End Time: 10:30
 Weather Conditions: Cloudy 20°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

ASA
3632

Site Location

Jura Line, west of Ardena

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

Easting: <u>0431669</u>	Northing: <u>4772600</u>	Description: <u>R2.192 Start</u>
Easting: <u>0431750</u>	Northing: <u>4772693</u>	Description: <u>R2.192 end</u>
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: Res - on north east side
Agri - road west + south side

Description: no flow, dry in some locations
on north side

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

tile drains - not flowing

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

If Yes describe:

Watercourse buried on south side

GPS Coordinate: Easting - 0431669 Northing - 4772600 Description - road side

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

flat

In-Situ Water Quality

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

Water Colour: _____

no access

Notes:

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology																							
Site Length (m): ~ 30m				Bank Stability:																			
Channel Dimensions				<table style="width:100%; border: none;"> <tr> <td style="border: none;"></td> <td style="border: none; text-align: center;">Stable</td> <td style="border: none; text-align: center;">Slightly unstable</td> <td style="border: none; text-align: center;">Moderately unstable</td> <td style="border: none; text-align: center;">Unstable</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Left Bank</td> <td style="border: none; text-align: center;"><input checked="" type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Right Bank</td> <td style="border: none; text-align: center;"><input checked="" type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none;"></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):	—	Description: will veg, no evidence of erosion																			
Mean Bankfull Width (m):	0.5	Mean Bankfull Depth (m):	0.5																				
Mean Top of Bank Width (m):	1	Mean Top of Bank Depth (m):	1																				
Flow Description: (high or low flow conditions, stagnant, etc)																							
no flow observed → dry channel ~ 50m from road																							
Habitat																							
Substrate (<=>)			Morphological Structure (%)																				
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Si, cl, sa			<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;">/</td> <td style="text-align: center;">/</td> <td style="text-align: center;">/</td> <td style="text-align: center;">100</td> </tr> </tbody> </table>			Pool	Riffle	Run	Flat	/	/	/	100										
Pool	Riffle	Run	Flat																				
/	/	/	100																				
			Notes: straightened																				
Instream Cover (%) 70																							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks																	
/	30	/	10	30	/	Average Depth: (% Cover) /																	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																							
grasses																							
Canopy Cover (% closed cover):			Types of Cover (% cover)																				
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	50	Shrubs	50	Man-made structures															
90-60%	<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)																							
willow, ash, dogwood																							
Riparian Vegetation																							
Width and Description of riparian vegetation:			LB - 1-15 forest			RB - 1-20 forest																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N																							
% Overhanging Vegetation: 45																							
Description of Overhanging Vegetation:																							
dogwood + willow																							
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: dry stretches, does not flow into R2.131																							
Height of Barrier (m) /																							
GPS Coordinates: /																							

Water Bodies Assessment Field Collection Form

R2.192

AECOM

Date: May 29/12

Land Parcel/Site ID: ^{JER} 3632/3626/3628 Page 3 of 4

Other General Comments Regarding the Study Area:

- watercourse buried on JER 3632 - outlet pipe observed
- water pooled at roadside on JER 3626 + 3628, could not follow entire way due to access however behind house channel was dry. Nearing the convergence area ~~water~~ water was present in channel but was not flowing into R2.131

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 1b	sheet Looking (N) towards creek		
2	Looking (S) from same spot, buried creek		
3-14	Looking north		
15-17	behind house before convergence area		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

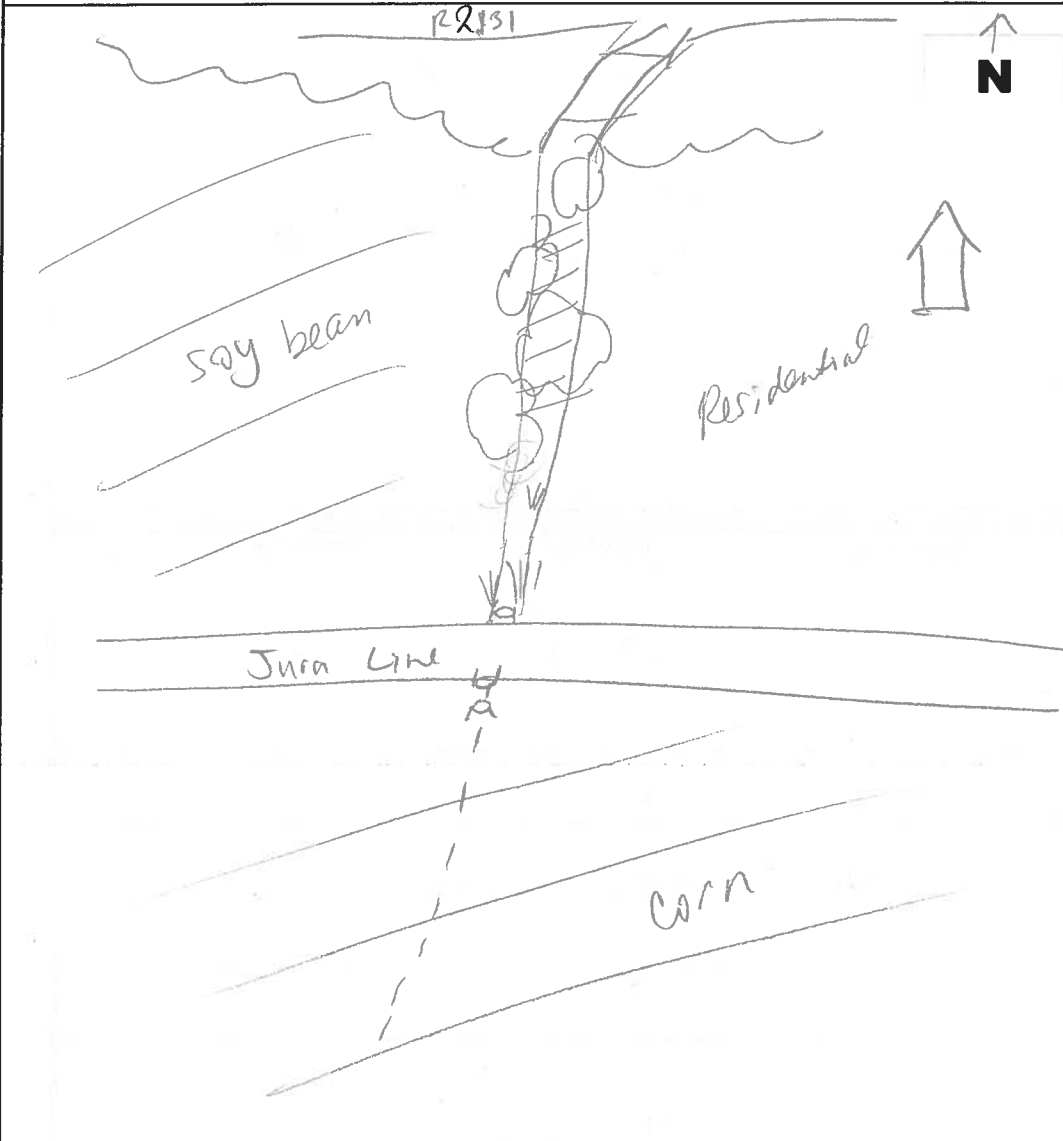
Bluewater

Land Parcel#

552 36321
30210/3102

Site ID

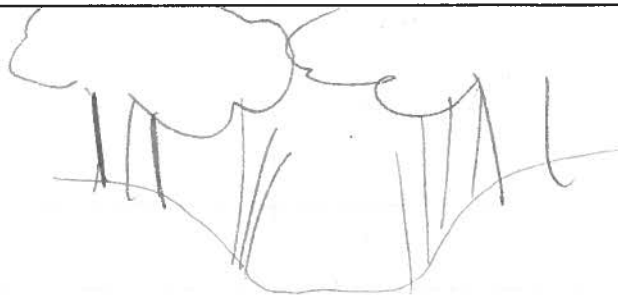
R2.192



LEGEND

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

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 9, 2012

Technical QA/QC By:

Stutke

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>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JER 3632/3626/5042</u> Site ID: <u>R2.192</u>
Date: <u>May 29/12</u>	Start time: <u>10:00</u>	End Time: <u>10:10</u>	
Weather Conditions: <u>Cloudy 20°C</u>		Field Crew: <u>C. Boros, A. Aisenault</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Jura Line, West of Arkona.</u>			
UTM Co-ordinates			
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Other <input type="checkbox"/>		Details: _____	
Description: <u>Corn</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	<u>Y</u> / (N)		
2) Temporary channel for surface drainage, that can be tilled or driven through?	Y / (N)		
3) Rock chutes or spillways?	<u>Y</u> / (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?	<u>Y</u> / (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>Watercourse is buried south of Jura Line → outlet pipe observed.</u>			
Photo log			
Picture #	Description	Picture #	Description

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

R2.192

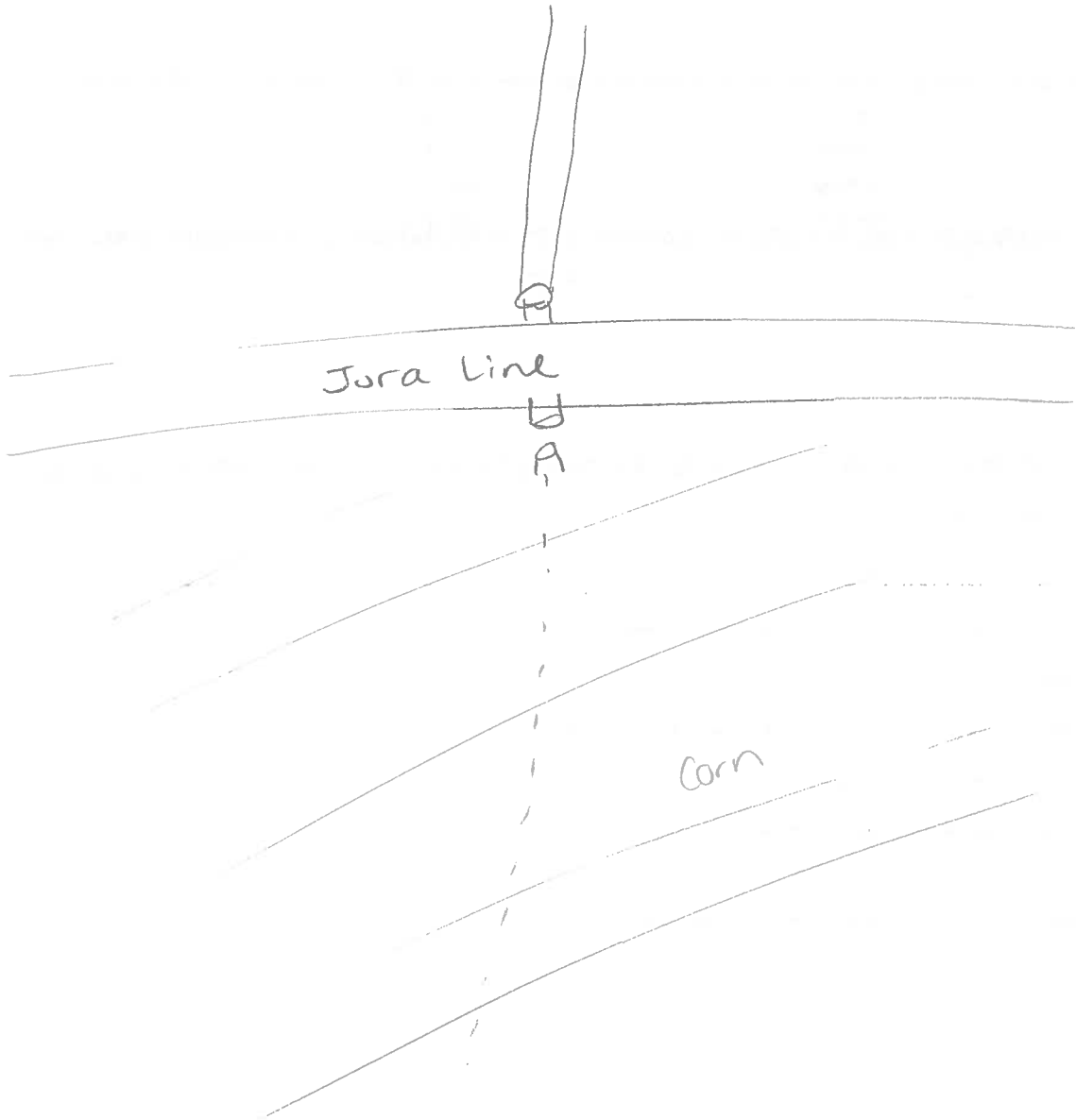
AECOM

Date: May 29/12

Land Parcel/Site ID: JER 3632/3626/3628

Page 2 of 2

Site Sketch



Initial DA/OC: L Bentley Oct. 25/12

Autkin Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3626/3632 Site ID: R2.186

Date: May 29/12 Start time: 11:00 End Time: 11:30

Weather Conditions: Cloudy, 20°C Field Crew: C. Boros, A. Antsman
Field Notes By: C. Boros

Site Location

Jura Line, west of Arkona

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

Easting: 0432107 Northing: 4772599 Description: R2.186 START

Easting: 0432133 Northing: 4772681 Description: R2.186 END

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse
Residential
Agriculture
Forest
Other _____
Meadow
Wetland
Livestock

Type of Watercourse
Intermittent
Permanent
Ephemeral
Channelized
Natural Channel

Description: forest - deciduous

Description: flow dependent / result of surrounding landuse

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

Yes, tile drains - not flowing

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

Watercourse on JER3632 either buried or ploughed through - could not determine due to access

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

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

slightly rolling

In-Situ Water Quality

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

Water Colour: _____

Notes: not enough water to complete WQ

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): <i>50m</i>			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): <i>1</i>		Mean Wetted Depth (m): <i>1</i>	Description: <i>erosion evidence</i>																	
Mean Bankfull Width (m): <i>1.5m</i>		Mean Bankfull Depth (m): <i>0.5</i>																		
Mean Top of Bank Width (m): <i>5</i>		Mean Top of Bank Depth (m): <i>3</i>																		
Flow Description: (high or low flow conditions, stagnant, etc)																				
<i>no flow - only pooled water</i>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>Si = Cl = Sa > Co</i>			<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><i>8</i></td> <td><i>2</i></td> <td><i>1</i></td> <td><i>90</i></td> </tr> </table>			Pool	Riffle	Run	Flat	<i>8</i>	<i>2</i>	<i>1</i>	<i>90</i>							
Pool	Riffle	Run	Flat																	
<i>8</i>	<i>2</i>	<i>1</i>	<i>90</i>																	
			Notes: <i>some cobbles created small riffle</i>																	
Instream Cover (%) <i>20</i>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
<i>/</i>	<i>20</i>	<i>/</i>	<i>40</i>	<i>10</i>	<i>/</i>	Average Depth: <i>/</i> (% Cover) <i>/</i>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<i>grasses</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>80</i>	Shrubs	<i>10</i>	Man-made structures												
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses		Herbaceous	<i>10</i>	Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<i>elms, haw thorn, willow</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Riparian Vegetation																	
LB - <i>20m forest</i>			RB - <i>15m forest</i>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <i>10</i>																	
Description of Overhanging Vegetation: <i>overhanging channels</i>																				
Obstructions to Fish Passage																				
None Observed	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input checked="" type="checkbox"/>													
Description of Barrier: <i>dry stretches</i>																				
Height of Barrier (m): <i>/</i>			GPS Coordinates: <i>/</i>																	

Water Bodies Assessment Field Collection Form

AECOM

Date: MAY 29/12

Land Parcel/Site ID:

R2186
JER31026/31032

Page 3 of 4

Other General Comments Regarding the Study Area:

- (N) part of channel R.2-186 littered with garbage.
- very little water w/in channel - mostly standing stagnant pools (very small).
- channel headed (N) then (E) and connected with R.2.131.
- (S) part of channel (looking from Jura) is buried by agri. field.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	Sheet Looking (N) into channel		
1b	R.2.186 → lots of garbage		
2	(S) in channel towards Jura Line		
3-6	(N) into channel - high eroded banks.		
7	(S) into channel		
8	(N) into channel		
9	(N) where R.2.186 meets R.2.131		
10	(S) on Jura, water-course R.2.186 buried		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

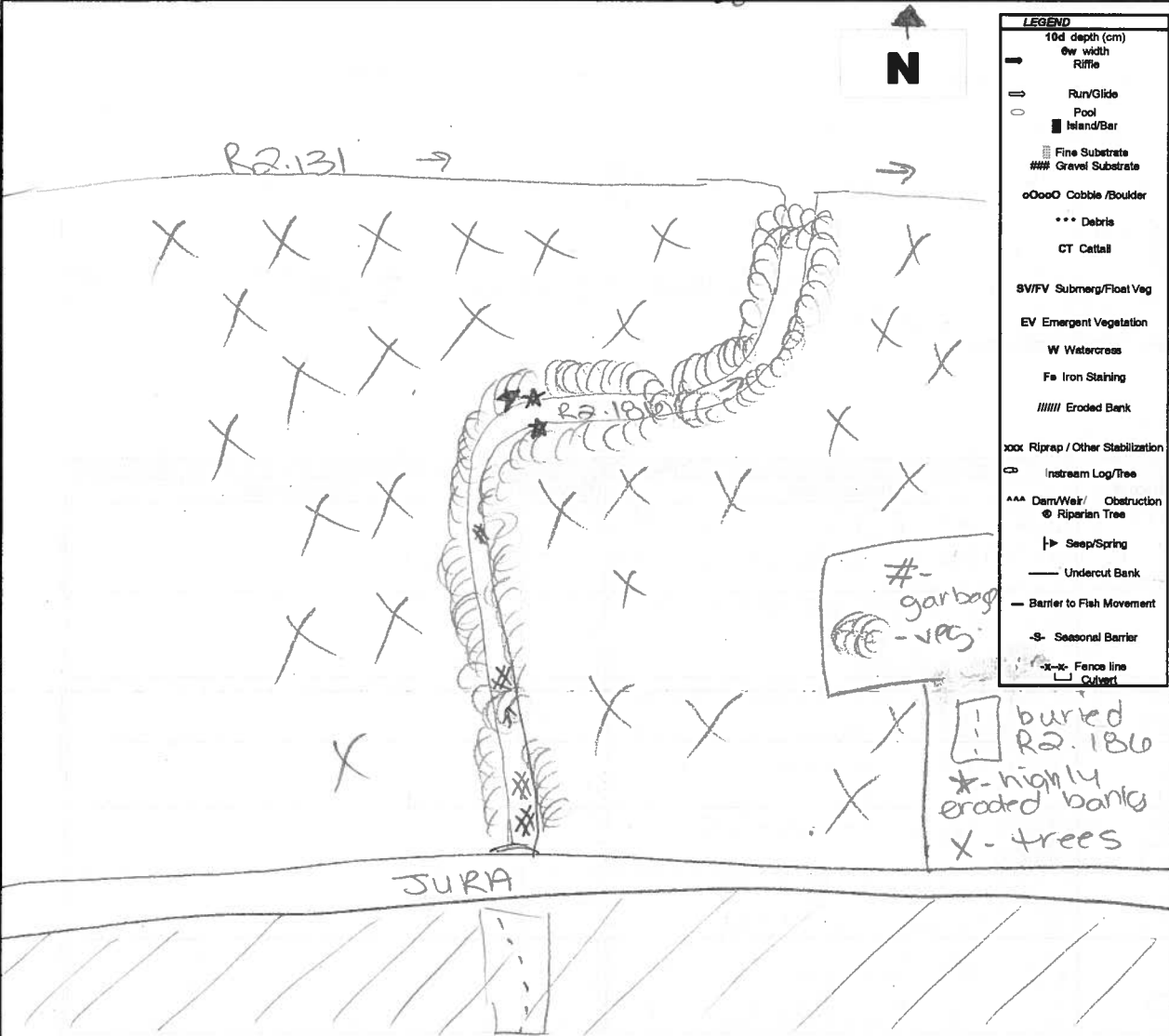
Study Area:

Jericho Goshen Bluewater Land Parcel#

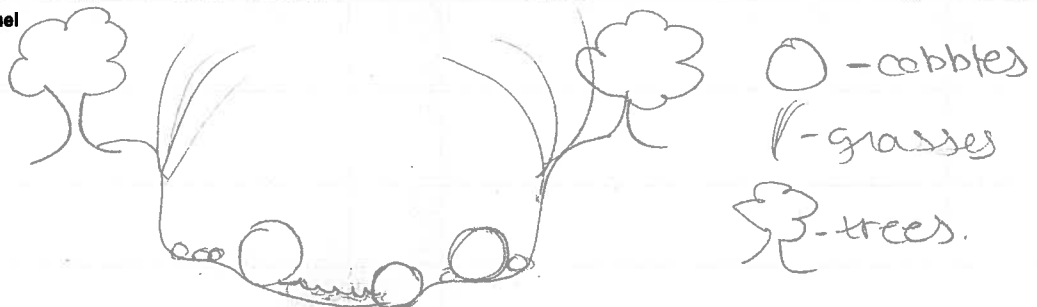
162 3026/3032

Site ID

R2.184



Horizontal View of Channel



Initial QA/QC By: L Bentley

Date: June 9, 2012

Technical QA/QC By: M. Hutton

Date: Oct 2/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JEP 3626/3632 Site ID: R.R. 186
 Date: May 29/12 Start time: 11:00 End Time: 11:10
 Weather Conditions: Cloudy, 20°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

Site Location

Jura Line, West of Arcona.

UTM Co-ordinates

Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

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

Ground Water and Seepage Indicators

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

Description:

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 area 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)

South of Jura Line the watercourse is barred

Photo Log

Picture #	Description	Picture #	Description
<u>10</u>	<u>③ on Jura, watercourse barred</u>		

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

RR. 186

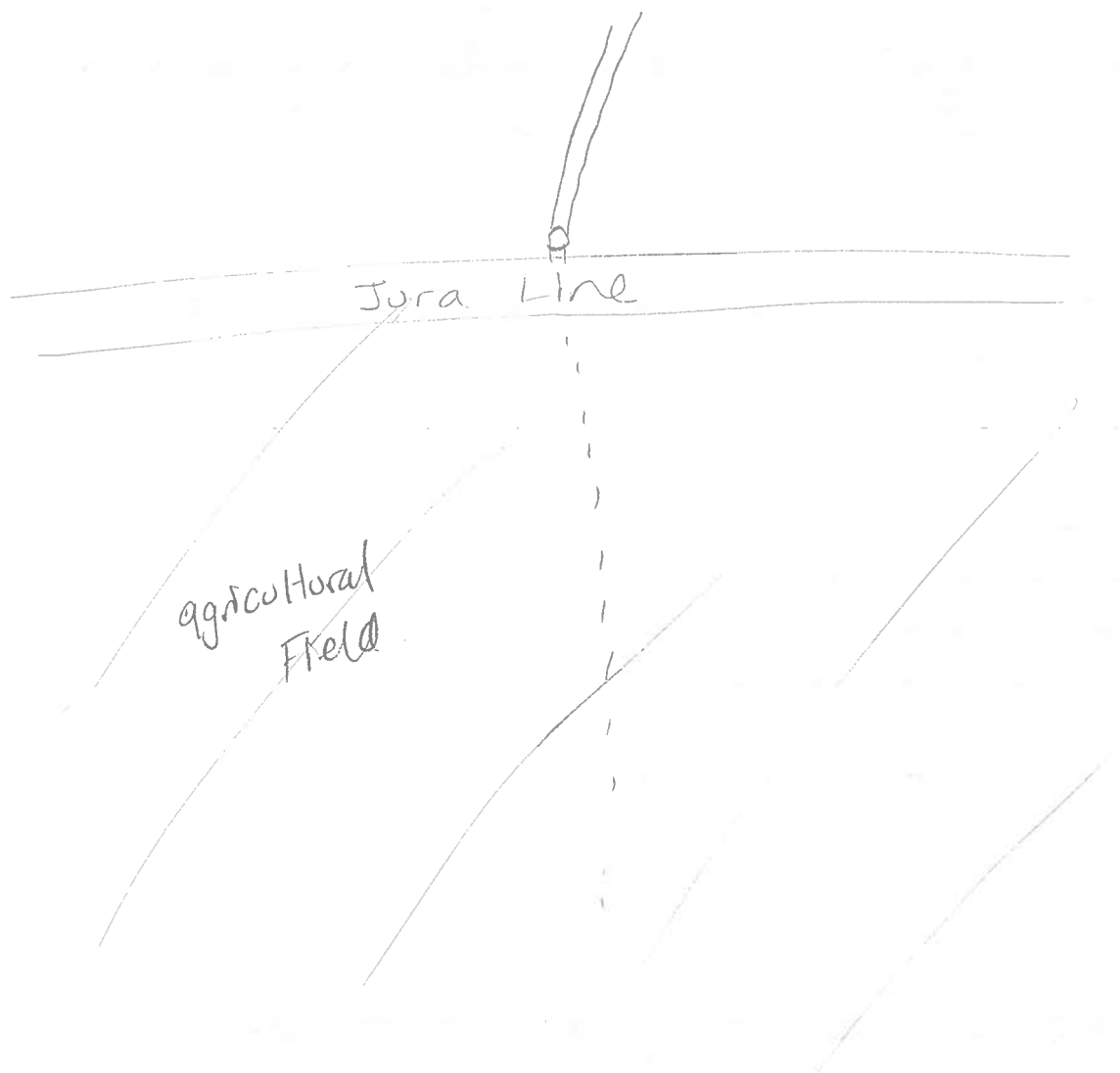
AECOM

Date: May 29/12

Land Parcel/Site ID: JER 3626/3632

Page 2 of 2

Site Sketch



initial DA/OC: L. Bentley Oct. 25/12
J. Bentley Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# BOR2103 Site ID: R2.70

Date: June 12/12 Start time: 18:15 End Time: 18:45

Weather Conditions:

Sunny 20°C

Field Crew: C. Boros, J. Epp

Field Notes By: J. Epp

Site Location

Elgin field Rd, east of Arkonard.

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

Easting: 434963 Northing: 4777695 Description: R2.70 seep/start

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description:

Mature deciduous forest

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

channels are seep fed

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

Seep noted, headwater streams fed by seeps.

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 a valley

In-Situ Water Quality

WT (°C): 16.2 AT (°C): 20°C
 pH: 8.03 Cond (s/cm): 723
 D.O. (mg/L) 6.25
 Water Clarity: Clear Turbid

Water Colour: colourless

Notes: taken in small pool.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

groundwater seeps creating headwaters for water course.