

Water Bodies Assessment Field Collection Form

AECOM		R4.11B Page 1 of 4	
General Information			
Study Area: Jericho	Goshen	Bluewater	Land Parcel# JER1098/4378 Site ID: R4.11-JER 1098
Date: MAY 9, 2012	Start time: 11:48 AM	End Time: 12:42 PM.	
Weather Conditions: p/cloudy, 15°C		Field Crew: S. LOHNES CHARDING	
		Field Notes By: S. LOHNES	
Site Location			
Jericho R north of Kennedy, west of Elliott			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: 17T0426217	Northing: 4782477	Description: START	
Easting: 17T0426242	Northing: 4782715	Description: watercress/ripple	
Easting: 17T0426301	Northing: 4782976	Description: END	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>		Description: historically channelized	
Description: planted winter wheat			
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
tile drain inputs.			
Is any portion of the water body underground or not as mapped? Y / <u>N</u>			
If Yes describe:			
/			
GPS Coordinate: Easting -	Northing -	Description -	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
generally flat, low topography			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): 12.8	AT (°C): 15°C	Watercress <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: 8.68	Cond (µs/cm): 606	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
D.O. (mg/L): 9.40		Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Water Clarity: Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: colourless		Details: some isolated patches of watercress.	
Notes: 17T 0426270			
478 924			

roadside survey 4378

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 450m.			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 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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): 1.03m	Mean Wetted Depth (m): 0.8m	Description: banks well vegetated, some western Sca's R.U.S.																		
Mean Bankfull Width (m): 3.00m	Mean Bankfull Depth (m): 0.7m																			
Mean Top of Bank Width (m): 5.5m	Mean Top of Bank Depth (m): 2.0m																			
Flow Description: (high or low flow conditions, stagnant, etc) moderate flow > 0.5m/s																				
Habitat																				
Substrate (<=>) 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 colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td>10</td> <td>90</td> <td></td> </tr> </table>			Morphological Structure (%)				Pool	Riffle	Run	Flat		10	90				
Morphological Structure (%)																				
Pool	Riffle	Run	Flat																	
	10	90																		
Description Sa > Gr >= Bo + Co			Notes: mostly runs w/ some riffles																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
			5	75		Average Depth: (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) attached + filamentous algae, small isolated pockets of watercress.																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees 20	Shrubs 80	Man-made structures																
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses	Herbaceous	Other																
60-30% <input checked="" type="checkbox"/>																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) silver maple, cherry, high bush cranberry, willow, cattails. red-osier dogwood																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - 5m			RB - 1.5m																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation:																	
Description of Overhanging Vegetation: grasses & shrubs			LB - 80% RB - 2%																	
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:																	

R4.11B

AECOM

Date: MAY 9 2012

Land Parcel/Site ID: R4.11 JER4098/4378 Page 3 of 4

Other General Comments Regarding the Study Area:

- @ d/s end, watercourse flows into thicketed forest - gray dogwood + willow, manitoba maple, cherry + red rasp berry.
- in-stream cover consistent throughout reach, substrate consistent as well.
- frogs observed

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	map		
1b	looking downstream	13	looking d/s R bank
2	substrate @ culvert	14	looking d/s L bank
3	riparian	15	JER4378
4	tile drain input	16	water chem location
5	erosion scar R u/s bank	17	crayfish chimney
6	looking d/s	18	" "
7	looking d/s	19	overhanging shrubs
8	looking d/s	20	looking u/s
9	looking u/s	21	looking d/s into forest
10	riffle	22	looking u/s from forest
11	watercress + algae	23	looking u/s in row crop
12	looking upstream	24	brush pile @ end of site

Water Bodies Assessment Field Collection Form

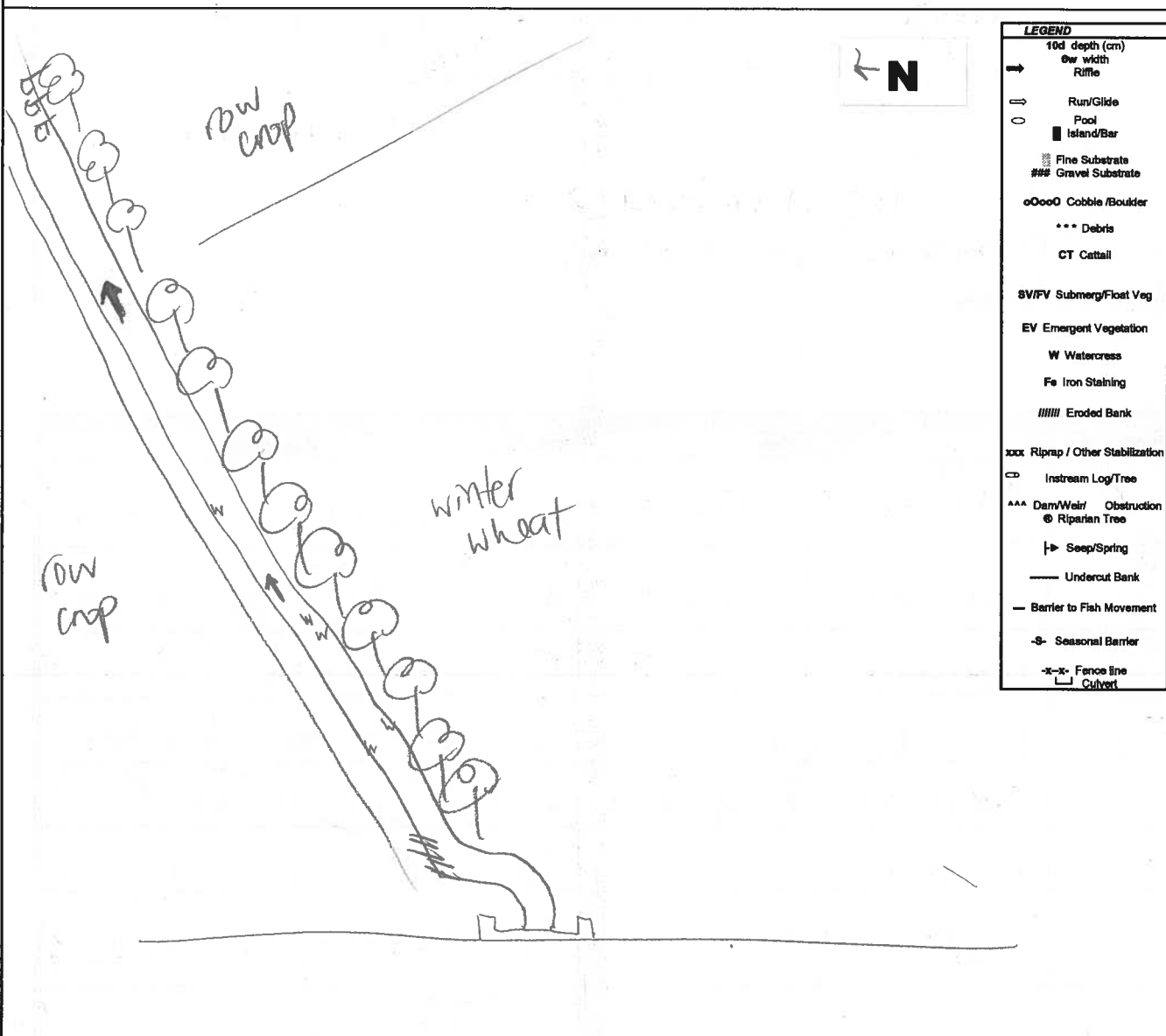
24.11B

AECOM

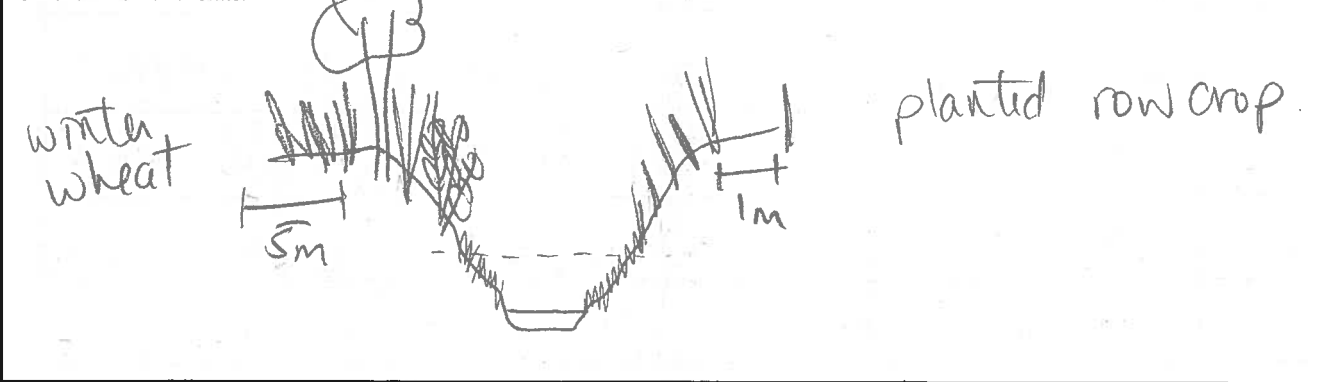
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# 1098/4376 Site ID R4.11-JER1098



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: May 16, 2012 Technical QA/QC By: [Signature] Date: June 11, 12

Water Bodies Assessment Field Collection Form

4.16C

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3454/1098 Site ID: R4.16 JER 3454

Date: MAY 9/2012 Start time: 1:00 PM End Time: 15:35 PM

Weather Conditions: overcast, 15°C
Field Crew: S. LOHNES C. HARRING
Field Notes By: S. LOHNES

Site Location

flows north from Kennedy b/w Jericho + Elliott

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

Easting: 0426751	Northing: 4782264	Description: START
Easting: 0426789	Northing: 4782313	Description: Iron stain/seep
Easting: 0426963	Northing: 4782462	Description: END
Easting: 0426957	Northing: 4782446	Description: H ₂ O CHEM.

Surrounding Landuse

Residential
Agriculture
Forest
Other
Meadow
Wetland
Livestock

Description: planted row crop, winter wheat L u/s pasture R u/s.

Type of Watercourse

Intermittent
Permanent
Ephemeral
Channelized
Natural Channel

Description: recently channelized permanent w/c

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

tile drain 20m d/s of Kennedy

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)

gentle slope towards water body

In-Situ Water Quality

WT (°C): 15.3 AT (°C): 15°C
pH: 8.76 Cond (µs/cm): 593
D.O. (mg/L): 8.75
Water Clarity: Clear Turbid

Water Colour: colourless

Notes: lots of attached algal growth @ location.

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling
Other

Details: L u/s bank had seep locations w/ iron stain.

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 300 m.			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): 1.2m	Mean Wetted Depth (m): 0.25	Description: recently channelized, roots hanging																		
Mean Bankfull Width (m): 2.5m	Mean Bankfull Depth (m): 0.8m																			
Mean Top of Bank Width (m): 4.0m	Mean Top of Bank Depth (m): 1.8m																			
Flow Description: (high or low flow conditions, stagnant, etc) moderate flow, 1m / 3s.																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Cl + Sa > Co Bedrock			<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td>25</td> <td>75</td> <td></td> </tr> </table> Notes: moderate gradient w/s near Kennedy, pred. runs d/s.			Pool	Riffle	Run	Flat		25	75								
Pool	Riffle	Run	Flat																	
	25	75																		
Instream Cover (%)																				
Other bedrock/shale	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
30		5		20		Average Depth: / (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) attached algae, pieces of bedrock deposit																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees 100	Shrubs	Man-made structures																
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses	Herbaceous	Other																
60-30% <input type="checkbox"/>																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) wh spruce, ear. cedar, willows.																				
Riparian Vegetation																				
Width of riparian vegetation: R u/s 8m L u/s < 1m																				
Description of vegetation community surrounding 30 m from watercourse: R u/s grasses + planted trees then winter wheat L u/s cleared area then open meadow pasture																				
Obstructions to Fish Passage																				
No Obstructions <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>																	
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: MAY 9/12

Land Parcel/Site ID: ^{JER} 3454R4.16C Page 3 of 4

Other General Comments Regarding the Study Area:

- left ups bank - riparian has been cleared of woody growth.
- watercourse has been channelized w/ past two years - very little canopy cover on riparian veg
- some bedrock exposed in ups sections then substrate transitions to clay w/ silt.

Additional UTM Coordinates:

- barn swallows 0426959 4782436

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b	looking d/s from road	13	looking d/s @ bend
2	left ups bank	14	looking d/s
3	looking ups from road	15	looking ups
4	bedrock exposed	16	bridge
5	looking ups	17	exposed roots + soil
6	iron stain	18	looking ups
7	seep	19	tile drain inlet
8	sheen on bank		
9	looking ups		
10	looking d/s		
11	adjacent riparian		
12	looking up ups @ bend		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

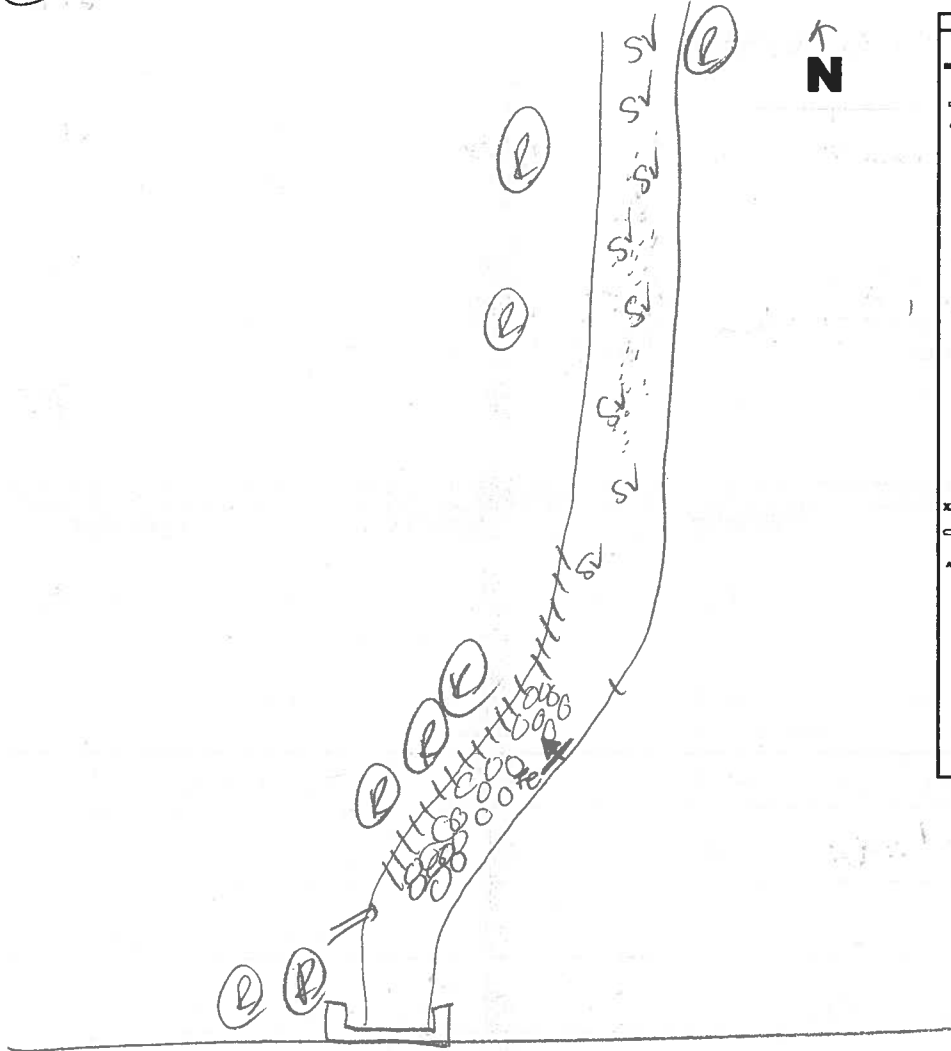
Bluewater

Land Parcel#

34.54/109B

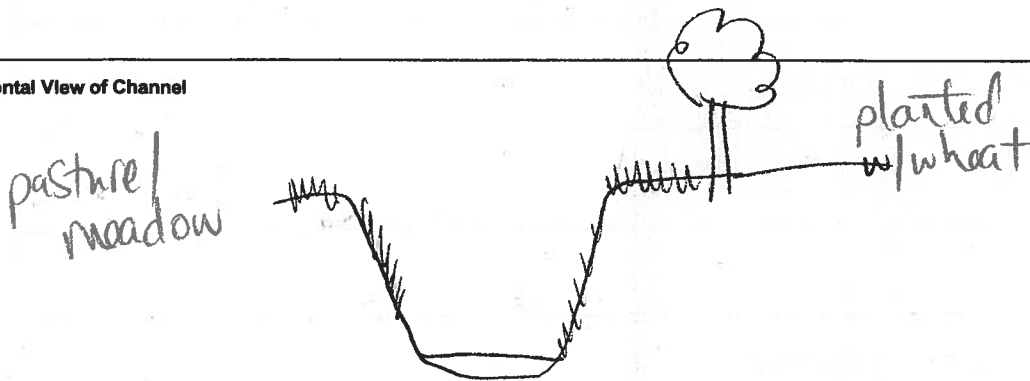
Site ID

R.4.16C JER3454



LEGEND	
10d depth (cm)	0w width
→ Riffle	○ Pool
⇌ Run/Glide	■ 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
- - - Fence line	□ Culvert

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 16, 2012

Technical QA/QC By: [Signature]

Date: Jun 11/12

Water Bodies Assessment Field Collection Form

24.16C

AECOM			
General Information			
Study Area: <u>Jericho</u> <u>Goshen</u> <u>Bluewater</u>	Land Parcel# <u>1023/1007</u>	Site ID: <u>24.16.001023</u>	
Date: <u>MAY 9/2012</u>	Start time: <u>14:42</u>	End Time: <u>15:30</u>	
Weather Conditions: <u>Sunny, moderate wind (4)</u>	Field Crew: <u>S. LOANES C. HARDING</u>	(ASA 1007)	
	Field Notes By: <u>S. LOANES</u>		
Site Location			
<u>South of Kennedy east of Jericho.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>0426730</u>	Northing: <u>4782029</u>	Description: farm <u>farm</u>	
Easting: <u>0426836</u>	Northing: <u>4781827</u>	Description: <u>START</u>	
Easting: <u>0427094</u>	Northing: <u>4781415</u>	Description: <u>END</u>	
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 checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>Now crops on either side.</u>		Description: <u>channel in somewhat natural alignment</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>tile drainage</u>			
Is any portion of the water body underground or not as mapped? Y / N <u>(N)</u>			
If Yes describe:			
GPS Coordinate: Easting - Northing - Description -			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>Slight slope towards water course.</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>15.7°C</u>	AT (°C): <u>15°C</u>	Watercress <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>8.67</u>	Cond (µs/cm): <u>584</u>	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
D.O. (mg/L) <u>9.42</u>		Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Water Clarity: <u>Clear</u> <input checked="" type="checkbox"/>	<u>Turbid</u> <input type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: <u>colourless</u>		Details: <u>watercress in small patches</u>	
Notes: <u>0427094</u> <u>4781415</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology																		
Site Length (m): <u>450m</u>		Bank Stability:																
Channel Dimensions		<table border="1" 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>0.75m</u>	Mean Wetted Depth (m): <u>0.25</u>	Description: <u>banks well vegetated</u>																
Mean Bankfull Width (m): <u>3.0m</u>	Mean Bankfull Depth (m): <u>0.70</u>																	
Mean Top of Bank Width (m): <u>6.0m</u>	Mean Top of Bank Depth (m): <u>2.0m</u>																	

Flow Description: (high or low flow conditions, stagnant, etc)
moderate flow.

Habitat													
Substrate (<=>) Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>Sa = Gr > Cl > Bo</u>	<table border="1" style="width:100%; text-align: center;"> <tr> <th colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td><u>10</u></td> <td><u>10</u></td> <td><u>80</u></td> <td></td> </tr> </table> Notes: <u>pools located after laneway culverts.</u>	Morphological Structure (%)				Pool	Riffle	Run	Flat	<u>10</u>	<u>10</u>	<u>80</u>	
Morphological Structure (%)													
Pool	Riffle	Run	Flat										
<u>10</u>	<u>10</u>	<u>80</u>											

Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
				<u>60</u>		Average Depth: (% Cover)

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

*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)
attached algae, filamentous algae, watercress + water speedwell.

Canopy Cover (% closed cover):		Types of Cover (% cover)		
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees <u>5</u>	Shrubs <u>25</u>	Man-made structures _____
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses _____	Herbaceous _____	Other _____
60-30% <input type="checkbox"/>				

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

Notes: (vegetation species, types of structures)
some maple, willow, cedar + dogwood shrubs

Riparian Vegetation	
Width and Description of riparian vegetation: LB - <u>> 5m staghorn sumac, grasses, cedar</u>	RB - <u>~ 2m grasses, some maple + apple</u>

Overhanging Vegetation Present % Overhanging Vegetation: 5%
 Description of Overhanging Vegetation: willows, grasses dogwood.

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

AECOM

Date: MAY 9 / 2012

Land Parcel/Site ID: R4.16-1063/1007 Page 3 of 4

Other General Comments Regarding the Study Area:

- watercourse meanders within channel through active agricultural fields
- channel is mainly grassy, but flows through section w/ closed canopy + some gravel substrate
- some overhanging vegetation in the form of grasses + sparse willow + dogwood shrubs.

Additional UTM Coordinates:

0 sheet

Photo log

Picture #	Description	Picture #	Description
1	looking w/s	13	overview farm N
2	looking d/s	14	Pool @ culvert
3	act. veg. + pool	15	access laneway
4	overhanging veg	16	shaded
5	overview	17	riparian shrubs
6	overview riparian	18	closed canopy
7	substrate/s (top of site)	19	bottom of site
8	meanders (top of site)	20	" " " looking @ 1063
9	overview	21	" " looking North
10	overhanging veg (looking d/s)	22	H ₂ O chem
11	channel meander (looking s)	23	meander
12	farm laneway	24-25	tile input

on way back NO 6th

Water Bodies Assessment Field Collection Form

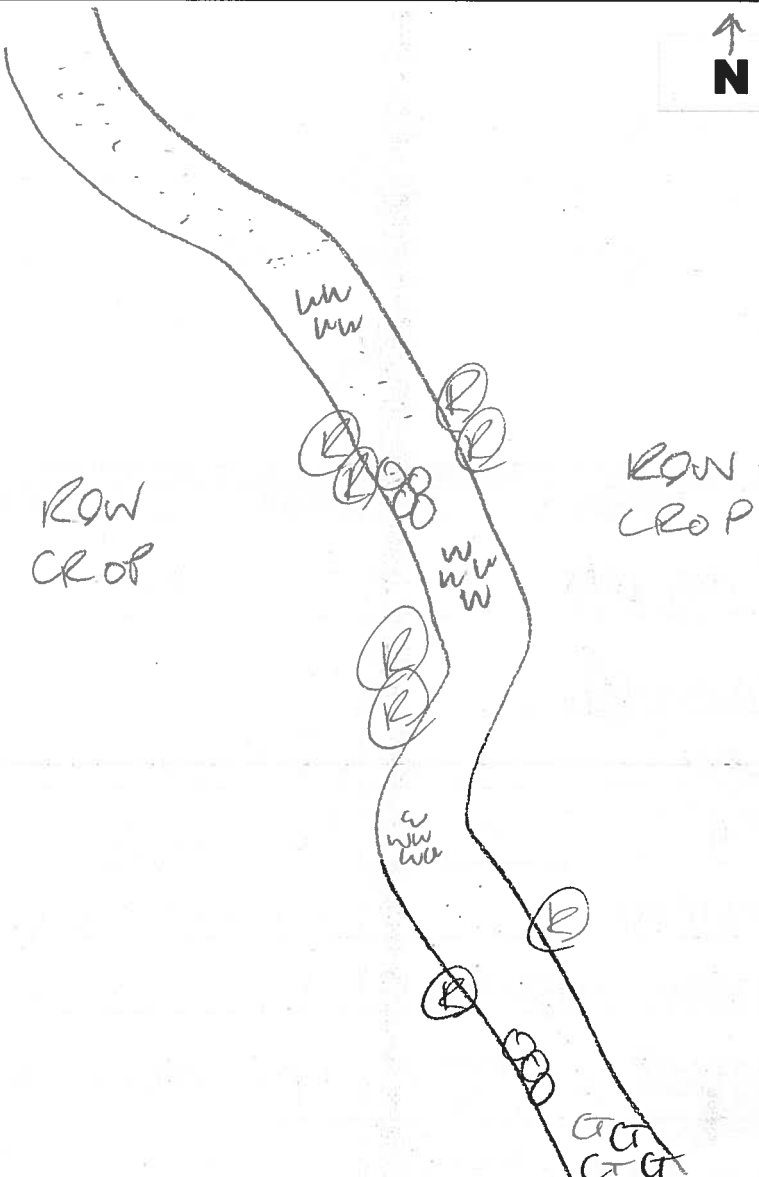
24.16C

AECOM

Page 4 of 4

Watercourse Sketch

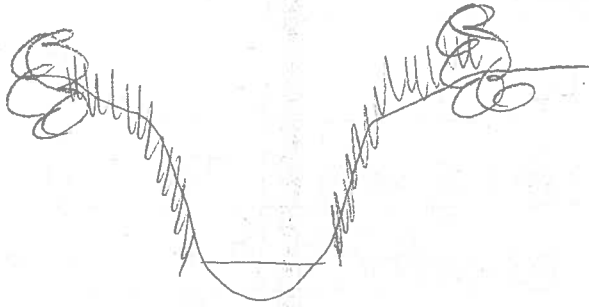
Study Area: Jericho Goshen Bluewater Land Parcel# 1023/1007 Site ID R4.16-JER1023



LEGEND

- 10d depth (cm)
- 0w width
- Riffle
- ⇌ Run/Glide
- Pool
- Island/Bar
- ▨ Fine Substrate
- ### Gravel Substrate
- oOoO Cobble/Boulder
- *** Debris
- CT Cattail
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W 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: May 16, 2012

Technical QA/QC By: [Signature]

Date: Jun 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1040 Site ID: JER1040_R4.16
 Date: MAY 9/2012 Start time: 14:15 End Time: 14:42
 Weather Conditions: overcast, wind 4c Field Crew: S. LOHNES C. HARDING
 Field Notes By: S. LOHNES

Site Location

South off Kennedy between Jericho + Elliott

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

Easting: 0426749 Northing: 4782250 Description: START
 Easting: 0426729 Northing: 4782038 Description: farm lane way
 Easting: 0426836 Northing: 4781828 Description: END
 Easting: 0426731 Northing: 4782059 Description: H2O quality

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: pastureland to east, row crop to the west

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description: water course beginning to naturalize in historical channel

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

two tile drains 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)

gentle rolling agricultural fields.

In-Situ Water Quality

WT (°C): 15.0°C AT (°C): 11°C
 pH: 8.71 Cond (s/cm): 595
 D.O. (mg/L) 8.95
 Water Clarity: Clear Turbid

Water Colour: colourless.

Notes: 0426731
4782059

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

some mats of water cress observed.

Water Bodies Assessment Field Collection Form

Stream Morphology																													
Site Length (m): 400m			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></td> </tr> <tr> <td>Mean Wetted Width (m): 1.25m</td> <td>Mean Wetted Depth (m): 0.25m</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Mean Bankfull Width (m): 2.25m</td> <td>Mean Bankfull Depth (m): 0.60m</td> <td>Left Bank <input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Mean Top of Bank Width (m): 6.0m</td> <td>Mean Top of Bank Depth (m): 2.5m</td> <td>Right Bank <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		Mean Wetted Width (m): 1.25m	Mean Wetted Depth (m): 0.25m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mean Bankfull Width (m): 2.25m	Mean Bankfull Depth (m): 0.60m	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mean Top of Bank Width (m): 6.0m	Mean Top of Bank Depth (m): 2.5m	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): 1.25m	Mean Wetted Depth (m): 0.25m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																								
Mean Bankfull Width (m): 2.25m	Mean Bankfull Depth (m): 0.60m	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																								
Mean Top of Bank Width (m): 6.0m	Mean Top of Bank Depth (m): 2.5m	Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																								
Description: banks veg. w/ grasses																													
Flow Description: (high or low flow conditions, stagnant, etc) moderate flow																													
Habitat																													
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			Morphological Structure (%)																										
Description Sa+Cl >> Bo			<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 align="center">10</td> <td align="center">10</td> <td align="center">80</td> <td></td> </tr> </table>			Pool	Riffle	Run	Flat	10	10	80																	
			Pool	Riffle	Run	Flat																							
10	10	80																											
			Notes: pool 3m x 5m x 0.6m D. pool @ outlet of farm laneway culvert.																										
Instream Cover (%)																													
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks																							
		5		50		Average Depth: 0.35m (% Cover) 10%																							
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																													
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) attached algae, watercress.																													
Canopy Cover (% closed cover):			Types of Cover (% cover)																										
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees	Shrubs	Man-made structures																									
90-60% <input type="checkbox"/>	0% <input checked="" 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) open channel w/ no canopy.																													
Riparian Vegetation																													
Width and Description of riparian vegetation: LB - >5m, then meadow pasture beyond			RB - <1m, then row crop adjacent																										
Overhanging Vegetation Present Y/N <input checked="" type="checkbox"/>			% 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: MAY 9/2012

Land Parcel/Site ID: JER1040

Page 3 of 4

Other General Comments Regarding the Study Area:

R4.16C

- watercourse flows north through active crop land over sandy clay substrate.
- some boulders provide instream cover with attached algae + watercress predominant
- no canopy cover and little riparian vegetation, moderate flow

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a	sheet		
1b	looking up from road		
2	looking up		
3	looking thru culvert		
4	substrate		
5	burrows		
6	watercress mat		
7	riparian overview d/s		
8	overview looking u/s		
9	d/s of laneway		
10	looking d/s from laneway		
11	slumped bank		
12			

Water Bodies Assessment Field Collection Form

R4.16C

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

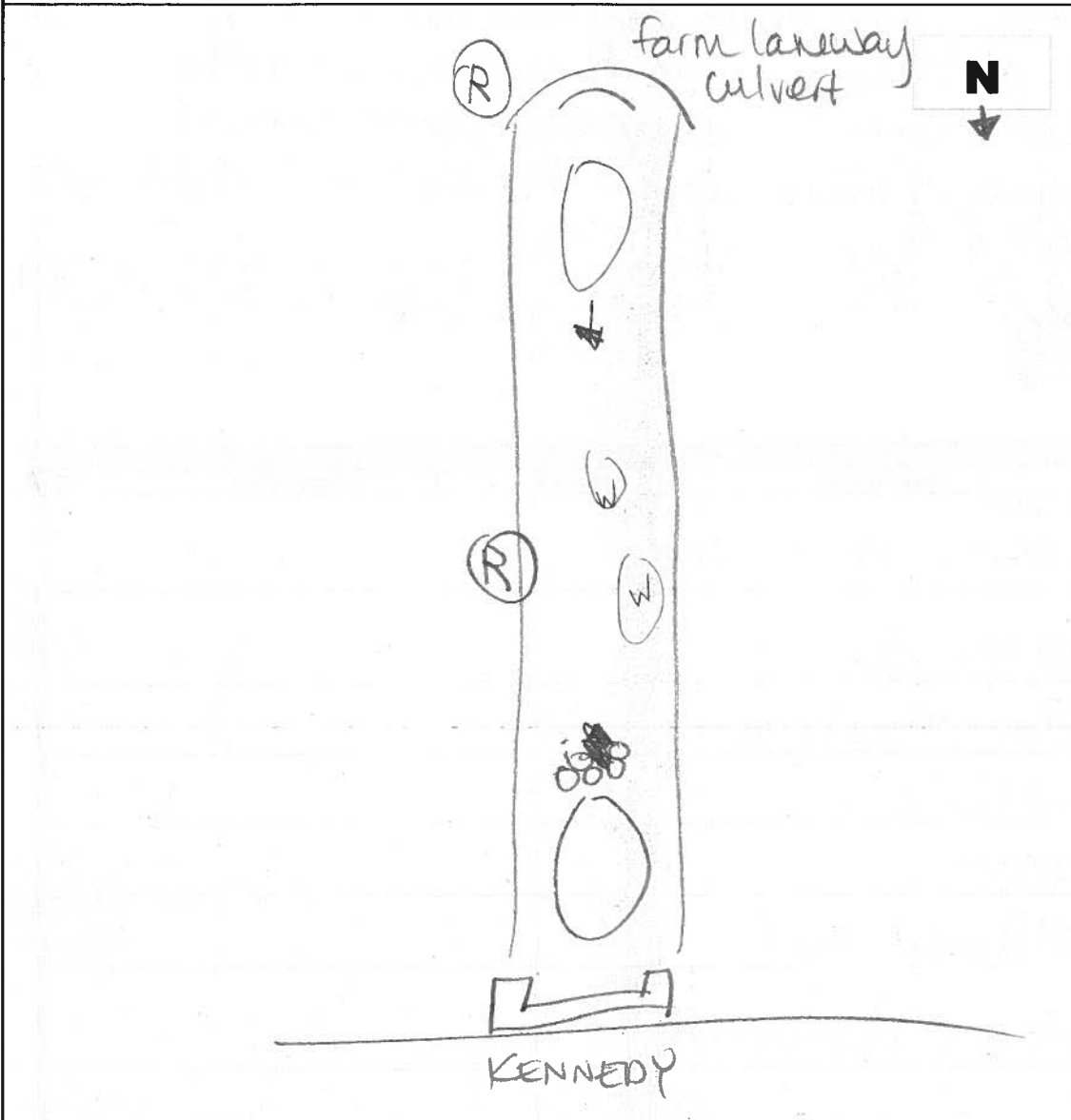
Bluewater

Land Parcel#

1040

Site ID

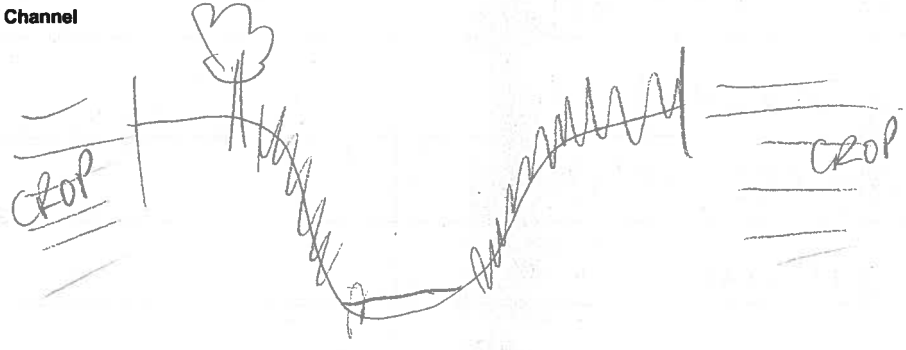
R4.16-JR1040



LEGEND

- 10d depth (cm)
- Bar 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
- *** Dam/Weir Obstruction
- ⊙ Riparian Tree
- ↳ Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- S- Seasonal Barrier
- x-x- Fence line
- Culvert

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 16 2008

Technical QA/QC By: [Signature]

Date: Jun 11/12

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

AECOM			
General Information			
Study Area: <u>Jericho</u> Goshen Bluewater Land Parcel# <u>SER 3348/1042</u> Site ID: <u>R4.29</u>			
Date: <u>May 23/12</u> Start time: <u>10:10</u> End Time: <u>10:20</u>			
Weather Conditions: <u>Sunny, 15°C</u>	Field Crew: <u>C. Boros, J. EPP</u> Field Notes By: <u>C. Boros</u>		
Site Location			
<u>Ravenswood Ln, west of Jericho Rd</u>			
UTM Co-ordinates			
Easting: <u>425399</u> Northing: <u>4780225</u> Description: <u>R4.29</u>			
Easting: _____ Northing: _____ Description: _____			
Easting: _____ Northing: _____ Description: _____			
Easting: _____ Northing: _____ Description: _____			
<table border="0" style="width:100%;"> <tr> <td style="width:50%; vertical-align: top;"> Surrounding Landuse Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/> Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input type="checkbox"/> </td> <td style="width:50%; vertical-align: top;"> Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Iron Staining <input type="checkbox"/> Bubbling <input type="checkbox"/> Bank Seepage <input type="checkbox"/> None <input checked="" type="checkbox"/> </td> </tr> </table>	Surrounding Landuse Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/> Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input type="checkbox"/>	Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Iron Staining <input type="checkbox"/> Bubbling <input type="checkbox"/> Bank Seepage <input type="checkbox"/> None <input checked="" type="checkbox"/>	Details:
Surrounding Landuse Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/> Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input type="checkbox"/>	Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Iron Staining <input type="checkbox"/> Bubbling <input type="checkbox"/> Bank Seepage <input type="checkbox"/> None <input checked="" type="checkbox"/>		
Description: <u>planted crop field</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway? Y / <u>(N)</u>			
2) Temporary channel for surface drainage, that can be tilled or driven through? <u>(Y)</u> / N			
3) Rock chutes or spillways? Y / <u>(N)</u>			
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / <u>(N)</u>			
5) Temporarily ponded areas that are normally farmed? Y / <u>(N)</u>			
6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / <u>(N)</u>			
8) Any other: <u>/</u>			
Description: (i.e. length of change, if it reappears, if there is evidence of water) <u>/</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1a</u>	<u>sheet overview - S side</u>		
<u>1b</u>	<u>overview - S side</u>		
<u>2</u>	<u>culvert for collected water</u>		
<u>3</u>	<u>overview - N side</u>		

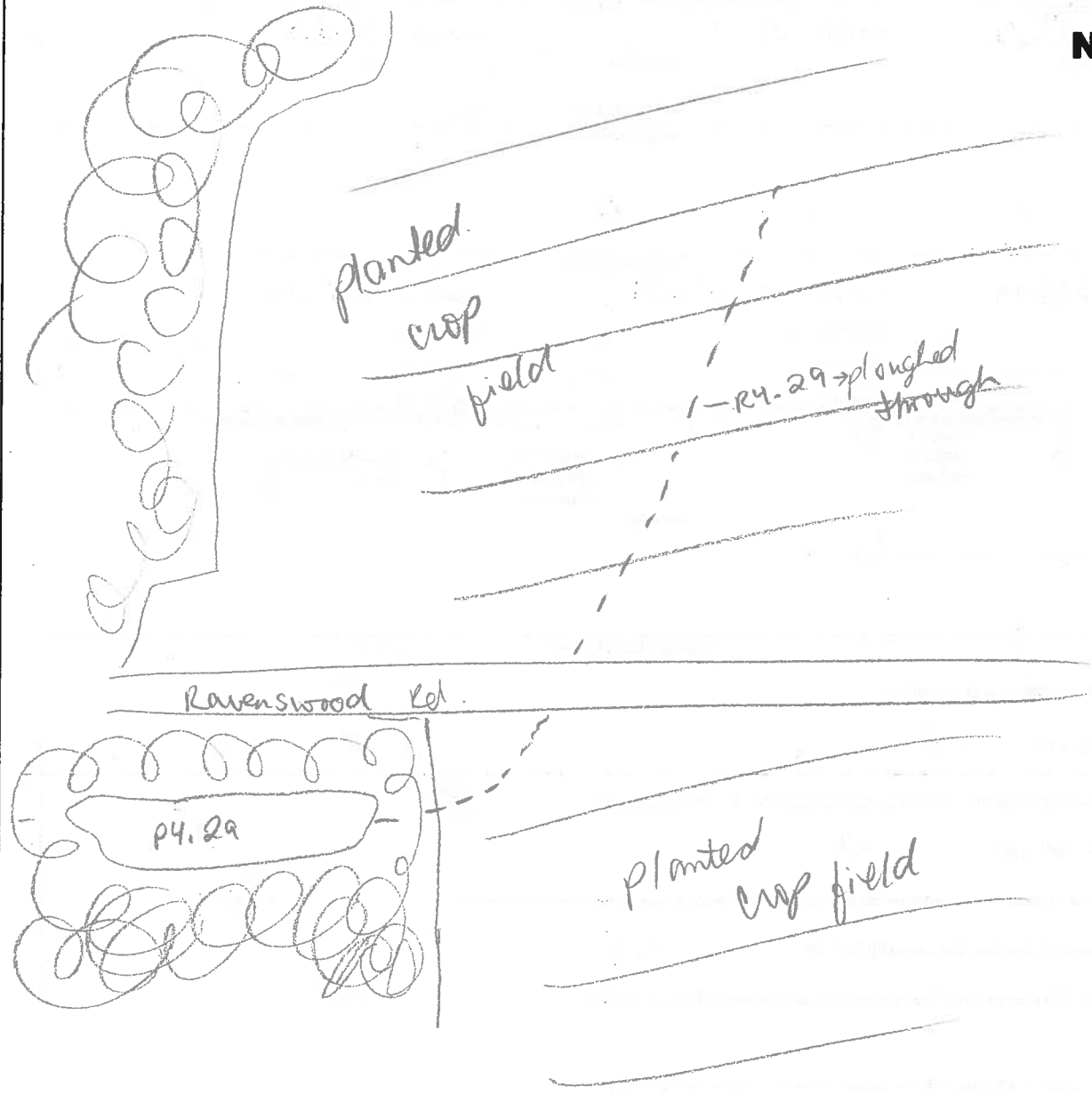
Assessment of Non-Water Body
(update to mapping required)

AECOM

Date: May 23/12

Land Parcel/Site ID: JER 3348/1042 R4.29 Page 2 of 2

Site Sketch



Initial QA/QC: Bentley May 30, 2012

Sketcher Jun. 11/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1042 Site ID: R4.29-05R104

Date: MAY 10/12 Start time: 14:15 End Time: 14:20

Weather Conditions: Sunny, 13°C Field Crew: S. LOHNER GARDING
Field Notes By: S. LOHNER

Site Location

north of Ravenswood b/w Jericho + Army Camp Rd.

UTM Co-ordinates

Easting: 0425415 Northing: 478 0237 Description: @ Ravenswood (culvert)

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:

now crop

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: roadside drainage flows along Ravenswood east towards

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

R4.29 - no watercourse as mapped.

Photo log

Picture #	Description	Picture #	Description

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

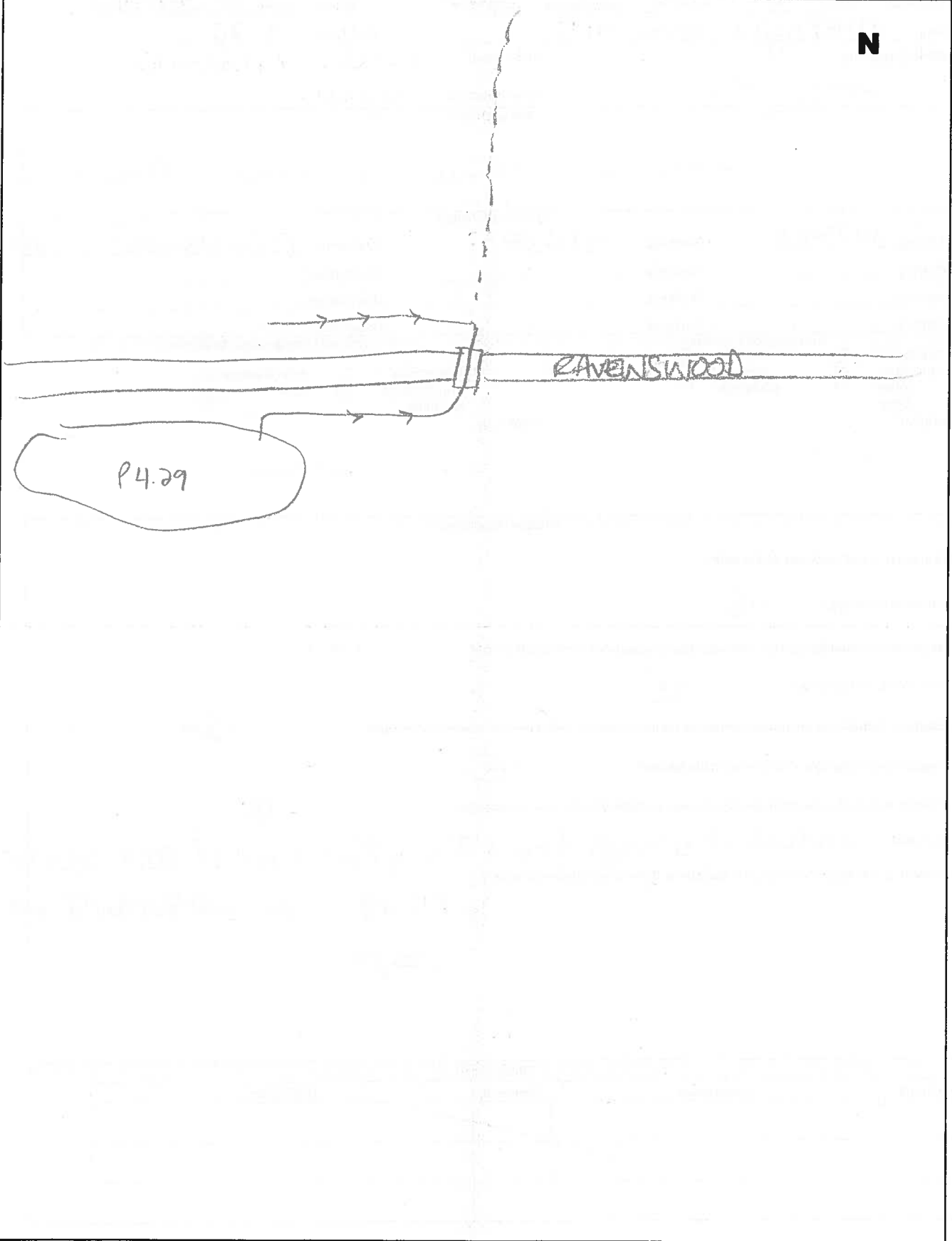
AECOM

Date: May 10/12

Land Parcel/Site ID: P4.29-JER1042

Page 2 of 2

Site Sketch



Initial QA/QC: L Bentley May 16, 2012

Technical QA/QC: Sturken July 19/12

Water Bodies Assessment Field Collection Form

R4.16B

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1121 Site ID: R4.16 JER1121
 Date: MAY 10/2012 Start time: 10:58 End Time: 11:20
 Weather Conditions: Sunny, 10°C
 Field Crew: S. LOHNE'S C. HARDING
 Field Notes By: S. LOHNE'S

Site Location

east of Jericho, south of Ravenswood, north of Thompson

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

Easting: 0426794 Northing: 4778950 Description: START
 Easting: 0426699 Northing: 4779331 Description: H₂O CHEM + END
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description:

row crop + winter wheat

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

naturalizing

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

tile drain inputs.

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)

smooth slope towards water course

In-Situ Water Quality

WT (°C): 12.9 AT (°C): 13.0
 pH: 8.57 Cond (s/cm): 547
 D.O. (mg/L) 10.46
 Water Clarity: Clear Turbid

Water Colour: colourless

Notes:

lots of floating + attached algae.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

none observed.

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): 400m			Bank Stability:			
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): 1.7m	Mean Wetted Depth (m): 0.25	Left Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Mean Bankfull Width (m): 2.25m	Mean Bankfull Depth (m): 1.10m	Right Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Mean Top of Bank Width (m): 6.0m	Mean Top of Bank Depth (m): 2.0m	Description: vegetated w/ grasses				
Flow Description: (high or low flow conditions, stagnant, etc) Low flow, Stagnant in pockets.						
Habitat						
Substrate (<=>)		Description		Morphological Structure (%)		
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Sa + Cl >> Gr.		Pool	Riffle	Run	Flat
			100			
			Notes: low gradient			
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
	5			90		Average Depth: (% Cover)
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) floating algae, filamentous algae, grasses, cattails.						
Canopy Cover (% closed cover):			Types of Cover (% cover)			
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees 15	Shrubs 5	Man-made structures		
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses _____	Herbaceous _____	Other _____		
60-30% <input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures) trees - willow, oak shrubs - honeysuckle						
Riparian Vegetation						
Width and Description of riparian vegetation:		LB - 2m	RB - 2m			
Overhanging Vegetation Present <input checked="" type="checkbox"/> N		% Overhanging Vegetation: 50%				
Description of Overhanging Vegetation: grasses predominantly w/ some shrubs (willow)						
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 10/2012

Land Parcel/Site ID: R4.16B
SER 1121

Page 3 of 4

Other General Comments Regarding the Study Area:

- channelized stream beginning to naturalize, some emergent vegetation providing cover as well as algae
- very narrow riparian vegetation - grasses

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1	Sheet		
2-3	overview		
4	substrate		
5-13	overview.		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

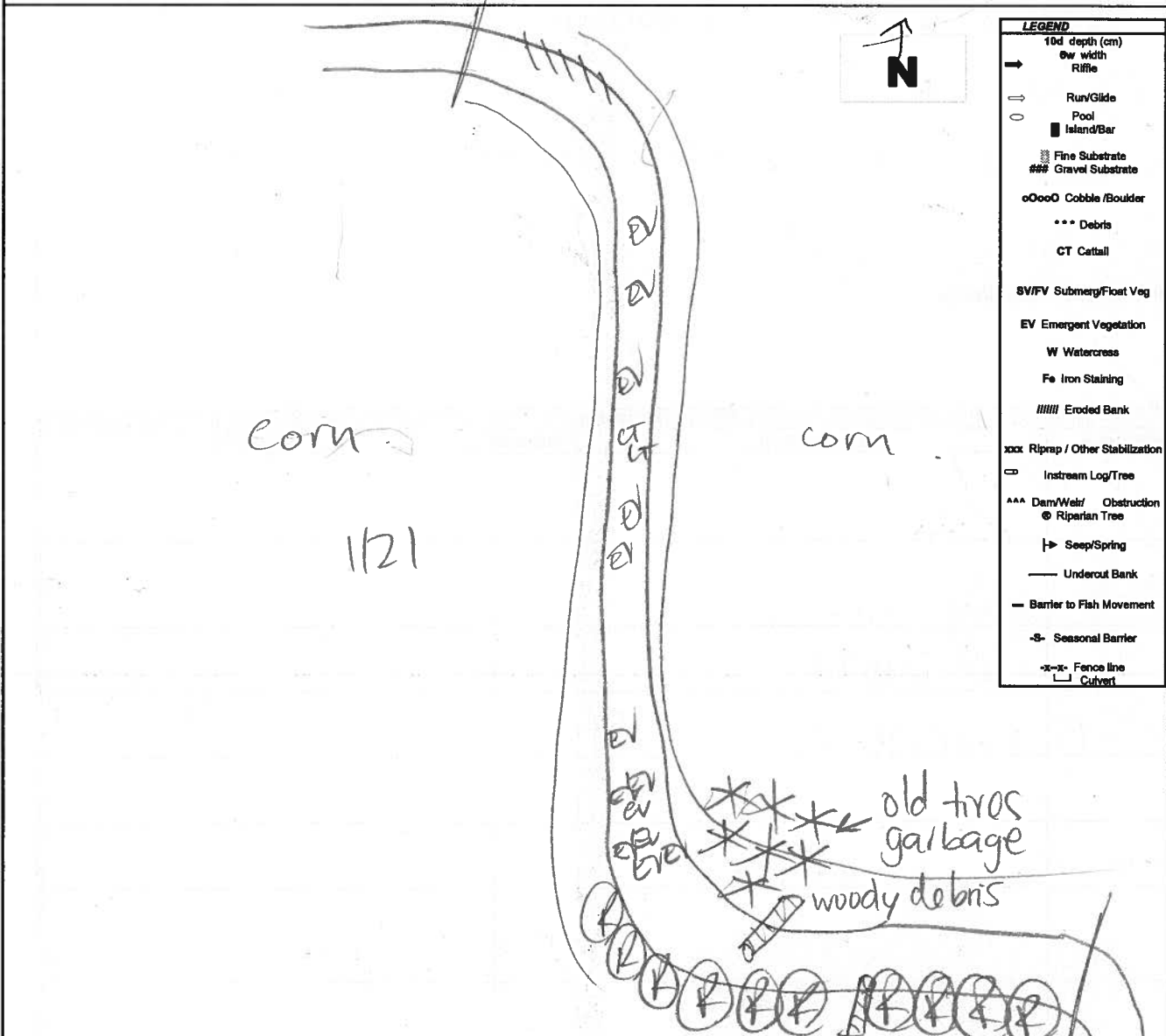
Bluewater

Land Parcel#

see 1121

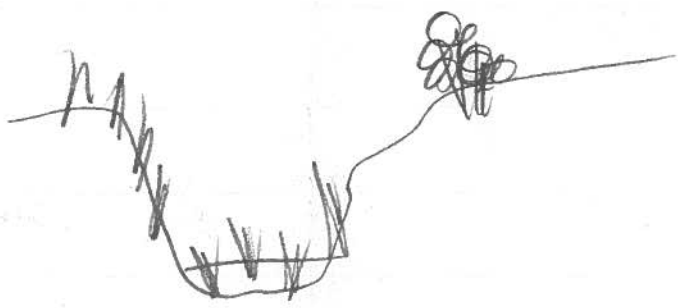
Site ID

R4.16.B



LEGEND	
10d depth (cm)	→
0w width	⇌
Riffle	○
Run/Glide	□
Pool	○
Island/Bar	■
Fine Substrate	
Gravel Substrate	###
Cobble/Boulder	oOooO
Debris	***
Cattail	CT
Submerg/Floet Veg	SV/FV
Emergent Vegetation	EV
Watercress	W
Iron Staining	Fe
Eroded Bank	
Riprap / Other Stabilization	xxx
Instream Log/Tree	☐
Dam/Welt/ 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: May 16, 2012

Technical QA/QC By: Luther

Date: June 11, 12

Water Bodies Assessment Field Collection Form

24.16B

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>1044</u> Site ID: <u>24.16_SER1044</u>
Date: <u>MAY 15/2012</u>	Start time: <u>12:40 PM</u>	End Time: <u>13:30 PM</u>	
Weather Conditions: <u>Sunny, 25°C</u>		Field Crew: <u>S. LOHNER J. EPP</u> Field Notes By: <u>S. LOHNER</u>	
Site Location			
<u>North of Thomson line, west of Northville Rd East of Jericho Rd.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>426722</u>	Northing: <u>4778948</u>	Description: <u>START</u>	
Easting: <u>426789</u>	Northing: <u>4778803</u>	Description: <u>water qual.</u>	
Easting: <u>426788</u>	Northing: <u>4778561</u>	Description: <u>END</u>	
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"/>	
Other <input type="checkbox"/>		Description:	
Description: <u>row crops - winter wheat</u>		Description: <u>channelized along agricultural fields</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>tile drains</u>			
Is any portion of the water body underground or not as mapped? <u>Y</u> / <u>N</u>			
If Yes describe:			
GPS Coordinate: Easting - Northing - Description -			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>flat agricultural land</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>23.8</u>	AT (°C): <u>25°C</u>	Watercress <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>8.35</u>	Cond (µs/cm): <u>516</u>	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
D.O. (mg/L) <u>6.47</u>		Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Water Clarity: Clear <input type="checkbox"/>	Turbid <input checked="" type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: <u>clear</u>		Details: <u>some isolated mats of water cress</u>	
Notes: <u>very low volume, turbid in areas</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 340m			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;"></td> <td style="width:16.6%;">Stable</td> <td style="width:16.6%;">Slightly unstable</td> <td style="width:16.6%;">Moderately unstable</td> <td style="width:16.6%;">Unstable</td> </tr> <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>				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): 0.5m	Mean Wetted Depth (m): 0.05m	Description: well vegetated																		
Mean Bankfull Width (m): 1.5m	Mean Bankfull Depth (m): 0.55m																			
Mean Top of Bank Width (m): 4.5m	Mean Top of Bank Depth (m): 1.75m																			
Flow Description: (high or low flow conditions, stagnant, etc) low flow, low volume																				
Habitat																				
Substrate (< = >)		Morphological Structure (%)																		
Description		Pool	Riffle	Run	Flat															
Sa + Si					100															
<ul style="list-style-type: none"> Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus 		Notes: v. low volume, flat																		
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
				90		Average Depth: (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) watercress, grasses, cattails, water speedwell,																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees 5	Shrubs	Man-made structures														
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	Herbaceous	Other														
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) one large tree, sumac																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - < 3m grassed.			RB - < 3m grassed																	
Overhanging Vegetation Present (Y) N			% Overhanging Vegetation: 50% . 5																	
Description of Overhanging Vegetation: wild rose, honeysuckle, alder, willow sp., dogwood																				
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: culvert perched																				
Height of Barrier (m) ~ 0.05m			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

24.16 B

AECOM

Date: MAY 15/12

Land Parcel/Site ID: 24.16 JER 1044 Page 3 of 4

Other General Comments Regarding the Study Area:

- channelized agricultural drain w/ very low volume.
- well vegetated banks w/ some overhanging grasses, dogwood + alder
- silty substrate with attached + floating algae as well as isolated mats of watercress

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1	Sheet		
2-18	Site overview		

Water Bodies Assessment Field Collection Form

24.16 B

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

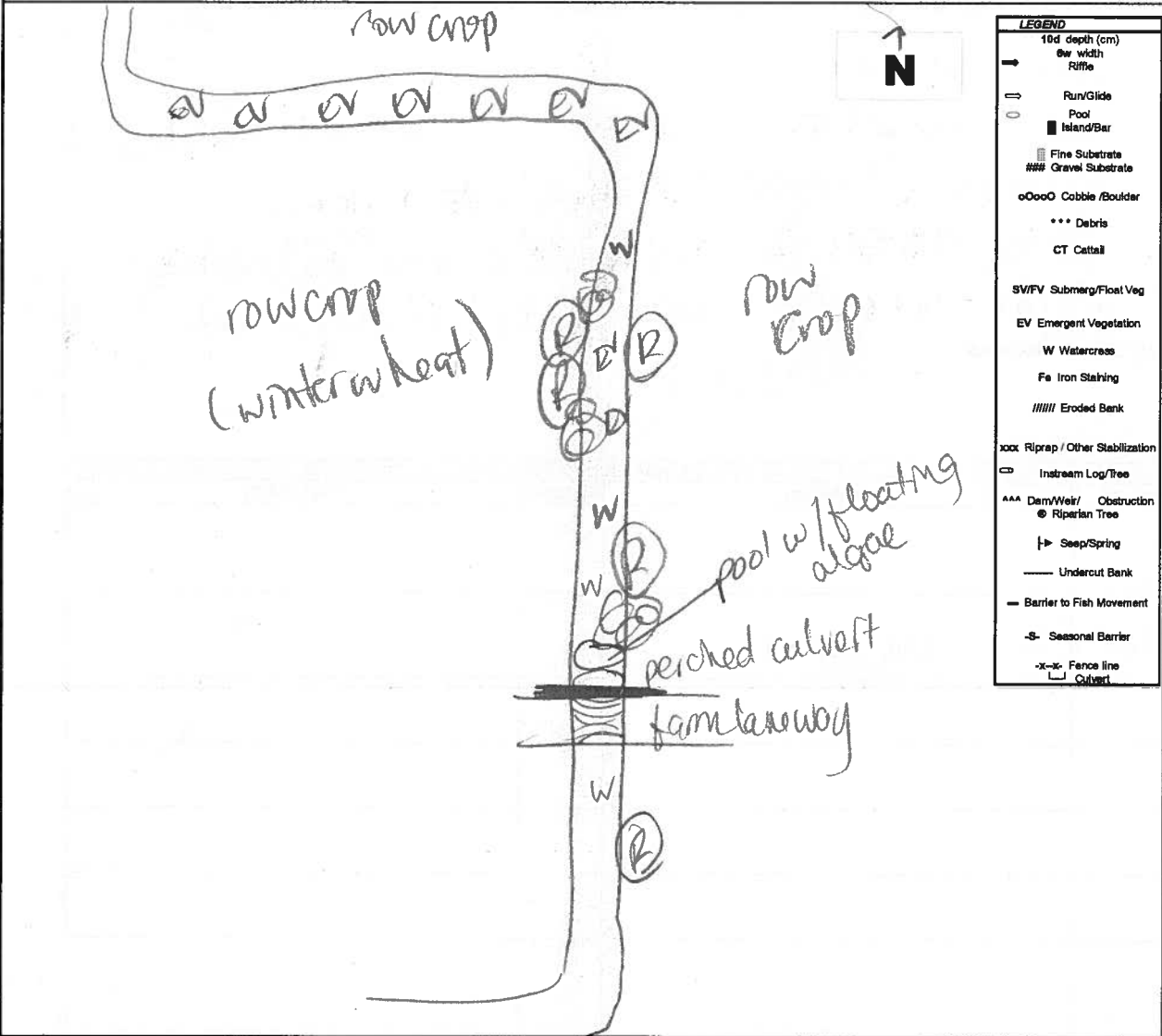
Bluewater

Land Parcel#

1044

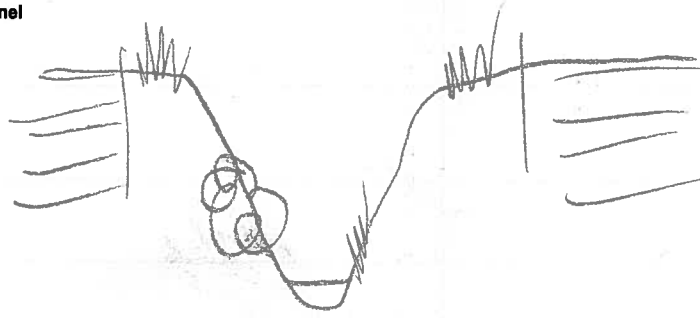
Site ID

24.16 BR 1044



LEGEND	
10d depth (cm)	→
5w width	⇄
Riffle	○
Run/Glide	□
Pool	■
Island/Bar	▣
Fine Substrate	□
Gravel Substrate	###
Cobble/Boulder	oOoO
Debris	***
Cattail	CT
Submerg/Floal 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. Bentley

Date:

May 22 2012

Technical QA/QC By:

Stutke

Date:

Jan 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1121/1143 Site ID: R4.31-JER1121
 Date: MAY 10/2012 Start time: 12:20 PM End Time: 12:44
 Weather Conditions: Sunny, 13°C Field Crew: S. LOHNES C. HARRING
 Field Notes By: S. LOHNES

Site Location

East of Jericho, between Thompson Line & Ravenswood.

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

Easting: 0426389 Northing: 4779502 Description: START
 Easting: 0426281 Northing: 4779422 Description: H₂O CHEM.
 Easting: 0426207 Northing: 4779241 Description: END.
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential
 Agriculture
 Forest
 Other
 Meadow
 Wetland
 Livestock

Description:

row crop (corn)

Type of Watercourse

Intermittent
 Permanent
 Ephemeral
 Channelized
 Natural Channel

Description:

channelized stream

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

roadside drainage ditches.

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)

slopes from agricultural row crops to w/c

In-Situ Water Quality

WT (°C): 14.9°C AT (°C): 13°C
 pH: 8.64 Cond (µs/cm): 646
 D.O. (mg/L) 10.85
 Water Clarity: Clear Turbid

Water Colour: colourless

Notes:

algae

Ground Water and Seepage Indicators

Watercress
 Iron Staining
 Bubbling
 Other
 Bank Seepage
 None

Details:

none observed.

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>400m</u>			Bank Stability:																	
Channel Dimensions			<table border="1" 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>1.50m</u>	Mean Wetted Depth (m): <u>0.2m</u>	Description: <u>vegetated w/ grasses + shrubs</u>																		
Mean Bankfull Width (m): <u>2.0m</u>	Mean Bankfull Depth (m): <u>0.5m</u>																			
Mean Top of Bank Width (m): <u>4.5m</u>	Mean Top of Bank Depth (m): <u>1.8m</u>																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
<u>moderate flow through alga</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%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td><u>5</u></td> <td><u>95</u></td> <td></td> </tr> </table>			Pool	Riffle	Run	Flat		<u>5</u>	<u>95</u>								
Pool	Riffle	Run	Flat																	
	<u>5</u>	<u>95</u>																		
<u>Sa + Si > Gr > Co</u>			Notes: <u>meandering low volume run w/ riffles over cobble</u>																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
			<u>5</u>	<u>80</u>		Average Depth: (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<u>attached + filamentous algae + grasses</u>																				
Canopy Cover (% closed cover):																				
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Types of Cover (% cover)																
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Trees <u>20</u>	Shrubs <u>5</u>															
60-30%	<input type="checkbox"/>			Grasses _____	Herbaceous _____															
Man-made structures _____ Other _____																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<u>Austrian pine, red-osier dogwood, willow</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - <u>3m low crop</u>			RB - <u>21m low crop</u>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <u>25%</u>																	
Description of Overhanging Vegetation: <u>grasses</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: <u>none observed</u>																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: MAY 10/12

Land Parcel/Site ID: R4.31 JER 1121
1173 Page 3 of 4

Other General Comments Regarding the Study Area:

- watercourse flows through corn row crop fields then into residential property where it joins R4.16.
- some overhanging grasses and riparian shrubs are present, substrate is predominantly sand and silt, with cobble in riffle areas.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1	Sheet		
2	confluence		
3	looking u/s		
4	laneway culvert		
5	overview		
6	aq. veg / algae		
7	grasses		
8	overhanging shrub		
9	riparian tree		
10	shaded area		
11-18	overview		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

143/101

Site ID

R431



LEGEND	
10d depth (cm)	→
0w width	→
Riffle	→
Run/Glide	→
Pool	○
Island/Bar	■
Fine Substrate	▨
Gravel Substrate	###
Cobble/Boulder	oOoO
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	⌊

low crop

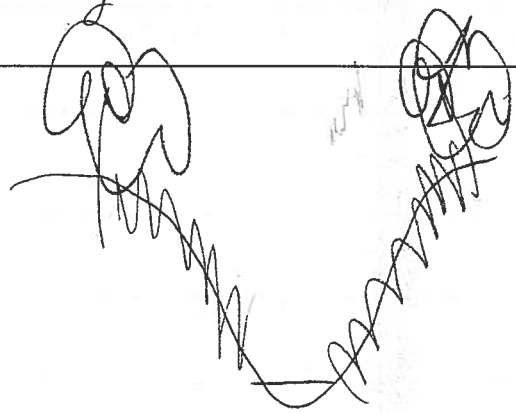
planted cedar sapling

row crop

staghorn sumac

laneaway

Horizontal View of Channel



Initial QA/QC By: L Bentley

Date: May 16, 2012

Technical QA/QC By: [Signature] Date: June 11/12

Water Bodies Assessment Field Collection Form

R4.25B

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER3302/3303 Site ID: R4.25-JER3302/3303

Date: May 22/12 Start time: 18:50 End Time: 19:40

Weather Conditions:

10° Cloudy

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

ASA
3303

Site Location

West side of Northville Rd, North of Decker Rd.

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

Easting: 428102 Northing: 4779725 Description: R4.25 JER3302S

Easting: 428157 Northing: 4779648 Description: R4.25 JER3302wg

Easting: 428223 Northing: 4779539 Description: end.

Easting: Northing: Description:

Surrounding Landuse

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

Description: wheat crop west side
meadow grasses east side

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description: Channelized

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

rills along banks, tile drains

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

If Yes describe:

GPS Coordinate: Easting - Northing - Description -

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

flat

In-Situ Water Quality

WT (°C): 16.58 AT (°C): 10
 pH: 6.27 Cond (µs/cm): 664
 D.O. (mg/L) 15.10
 Water Clarity: Clear Turbid

Water Colour: sl. turbid in some areas
& brown

Notes: wg taken in clear water

Ground Water and Seepage Indicators

- Watercross Bank Seepage
- Iron Staining None
- Bubbling water
- Other Speedwell

Details: watercross found in clumps
and a couple large mats

Water Bodies Assessment Field Collection Form

Stream Morphology									
Site Length (m): <i>200m</i>			Bank Stability:						
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable			
Mean Wetted Width (m):	<i>0.55</i>	Mean Wetted Depth (m):	<i>0.13</i>	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Bankfull Width (m):	<i>0.70</i>	Mean Bankfull Depth (m):	<i>0.25</i>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Top of Bank Width (m):	<i>3.0</i>	Mean Top of Bank Depth (m):	<i>1.75</i>	Description: <i>sd slumping</i>					
Flow Description: (high or low flow conditions, stagnant, etc)									
<i>slow flow</i>									
Habitat									
Substrate (<=>)			Morphological Structure (%)						
Description			Pool	Riffle	Run	Flat			
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>Cl-silt-sa</i>			<i>2</i>	<i>28</i>					
			Notes: <i>debris build up at road culvert cannot riffle</i>						
Instream Cover (%) <i>29</i>									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks			
<i>/</i>	<i>1%</i>	<i>/</i>	<i>2%</i>	<i>14%</i>	<i>/</i>	Average Depth: <i>0.15</i> (% Cover) <i>12%</i>			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)									
<i>algae, grasses, watercress, cattail, phragmites</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	<i>10</i>	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>80</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>Manitoba maple, sumac, willow</i>									
Riparian Vegetation									
Width and Description of riparian vegetation:			RB - <i>2.5 grasses</i>						
<i>LB - 5-15m meadow grass</i>									
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N			% Overhanging Vegetation: <i>20</i>						
Description of Overhanging Vegetation:									
<i>grasses</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:						
<i>/</i>			<i>/</i>						

Water Bodies Assessment Field Collection Form

AECOM

Date: May 22/12

Land Parcel/Site ID: JER 3302/
3353

Page 3 of 4
R4-25B

Other General Comments Regarding the Study Area:

- at south edge of property watercourse flows into culvert into blocked off area - do not see it pop out again
- watercourse straight channelized feature with soft bottom, slumped grass tufts cause braiding at times, instream cover emergent grasses, algae

Additional UTM Coordinates:

- small minors ~10

Photo log

Picture #	Description	Picture #	Description
1a 1b	Sheet Start of site - north end		
2-5	channel overview		
6	width cross		
7	overview		
8	water speedwell		
9-12	Channel overview		
13-14	passover culvert		
15-16	channel to road culvert		
17	road culvert		
18	- aquatic veg		

Water Bodies Assessment Field Collection Form

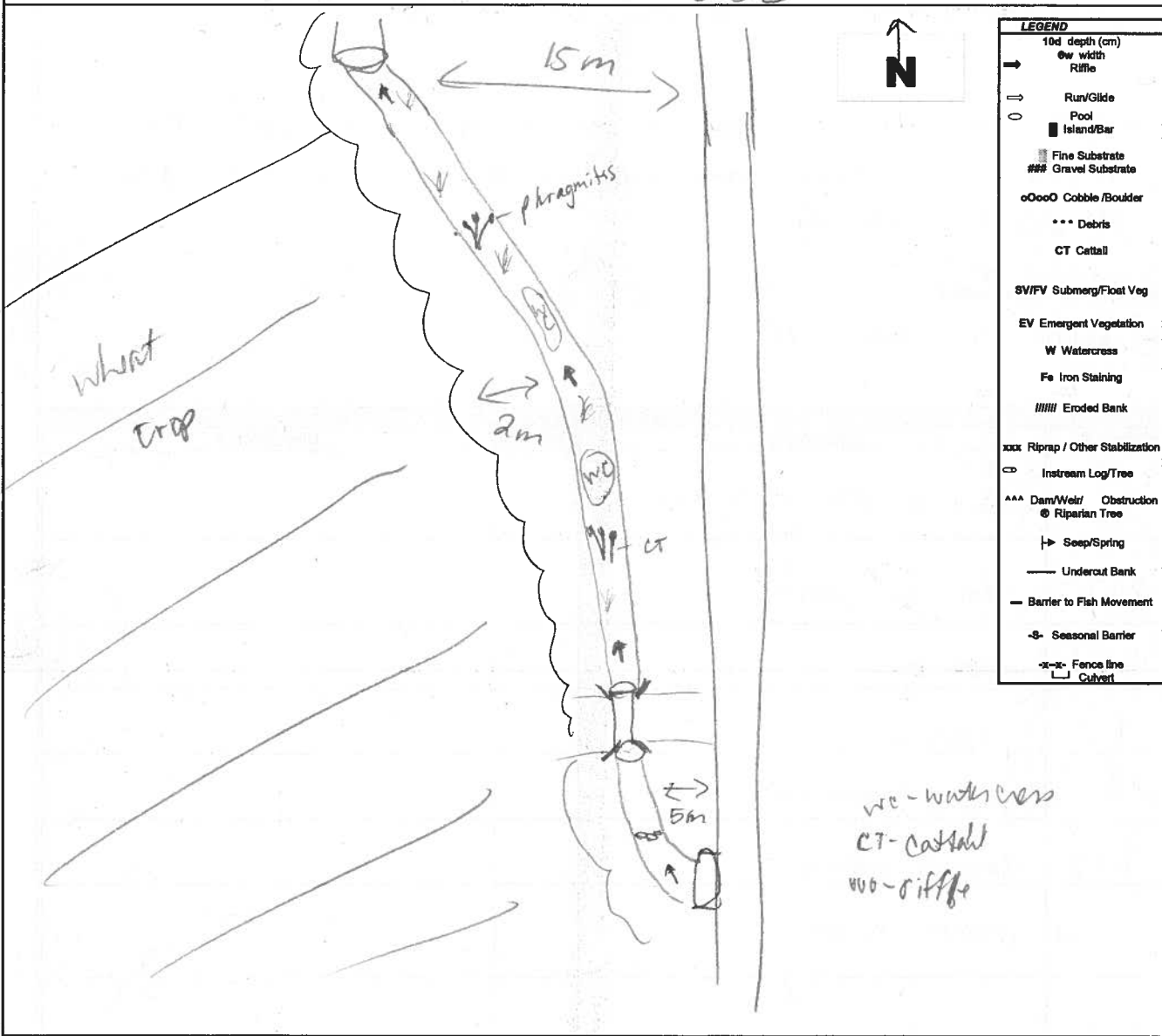
24.25B

AECOM

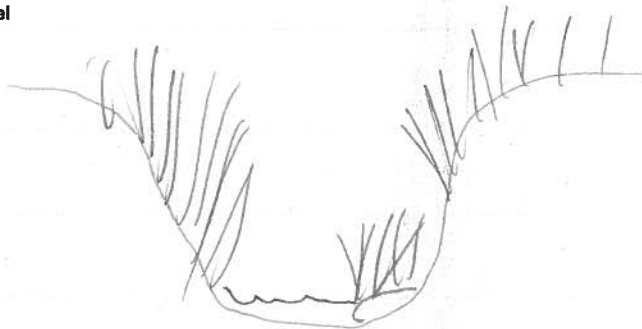
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JER3302/3303 Site ID R4.25-JER3302



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: Nov 30, 2012

Technical QA/QC By: Jutker Date: Jan 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3489/3488 Site ID: R4.25 ~~1012/3487 B~~

Date: May 22/12 Start time: 17:20 End Time: 18:15

Weather Conditions:

Cloudy, 11°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

ASA for 1012

Site Location

East side of Northville Rd, North of Decker Rd

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

Easting: 428286 Northing: 4778908 Description: R4.25 JER 3489 S

Easting: 428261 Northing: 4779490 Description: R4.25 JER 3489 end -wg

Easting: Northing: Description:

Easting: Northing: Description:

Surrounding Landuse

- Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: JER 3489 - corn agri field
JER 3488 - cattle pasture.

Type of Watercourse

- Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description: meanders but clearly a dug out channel.

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

tile drains - did not see them flowing

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

GPS Coordinate: Easting - Northing - Description -

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

flat

In-Situ Water Quality

WT (°C): 18.42 AT (°C): 15°C
 pH: 7.89 Cond (µs/cm): 678
 D.O. (mg/L) 13.05
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: wg taken roadside due to low water levels w/ls and access

Ground Water and Seepage Indicators

- Watercress Bank Seepage
 Iron Staining None
 Bubbling water
 Other Speedwell

Details:

- sporadic in agri field area
- mats in cattle area.

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>500m</u>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>1</u>	Mean Wetted Depth (m): <u>0.15</u>	Description: <u>erosion in agri fields + dumping in pasture</u>																		
Mean Bankfull Width (m): <u>1.5</u>	Mean Bankfull Depth (m): <u>0.25</u>																			
Mean Top of Bank Width (m): <u>2</u>	Mean Top of Bank Depth (m): <u>0.95</u>																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
slow flow																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>Si = Cl = Sand > mk</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></td> <td><u>5</u></td> <td></td> <td><u>100</u></td> </tr> </table>			Pool	Riffle	Run	Flat		<u>5</u>		<u>100</u>							
Pool	Riffle	Run	Flat																	
	<u>5</u>		<u>100</u>																	
Notes:			<u>debris caused riffle</u>																	
Instream Cover (%) <u>C = 90</u> <u>a = 60</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	<u>5 = a</u>	/	<u>5 = a</u>	<u>C = 90</u> <u>a = 60</u>	/	Average Depth: <u>0.15</u> (% Cover) <u>10</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<u>C = grasses, watercress, water speedwell</u> <u>a = algae - attached > algae blooms, grasses, speedwell, watercress</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-10% <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> = c	Trees <u>a = 50</u>	Shrubs <u>a = 50</u>	Man-made structures														
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <u>C = 100</u>	Herbaceous	Other														
60-30%	<input checked="" type="checkbox"/> a =																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<u>deciduous</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:	LB - <u>Cattle 0m</u>	<u>agri 3m</u>	RB - <u>Cattle 0m</u>	<u>agri 3m</u>																
Overhanging Vegetation Present <input checked="" type="checkbox"/> Y / N	% Overhanging Vegetation: <u>15</u>																			
Description of Overhanging Vegetation: <u>Willow shrubs not dense and found throughout</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): <u>/</u>																				
GPS Coordinates: <u>/</u>																				

Water Bodies Assessment Field Collection Form

AECOM

Date: May 22/12

Land Parcel/Site ID: JER 3489/3488/1012/3487
 Page 3 of 4
 R4.25B

Other General Comments Regarding the Study Area:

- minnows observed

Water course flows through corn field where it is densely vegetated into a pasture field for cattle that has no riparian buffer and is grass choked.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
10 15-8	Sheet JER 3489 - channel overview		
9-13	JER 3488 channel overview		
14-18	JER 3487		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

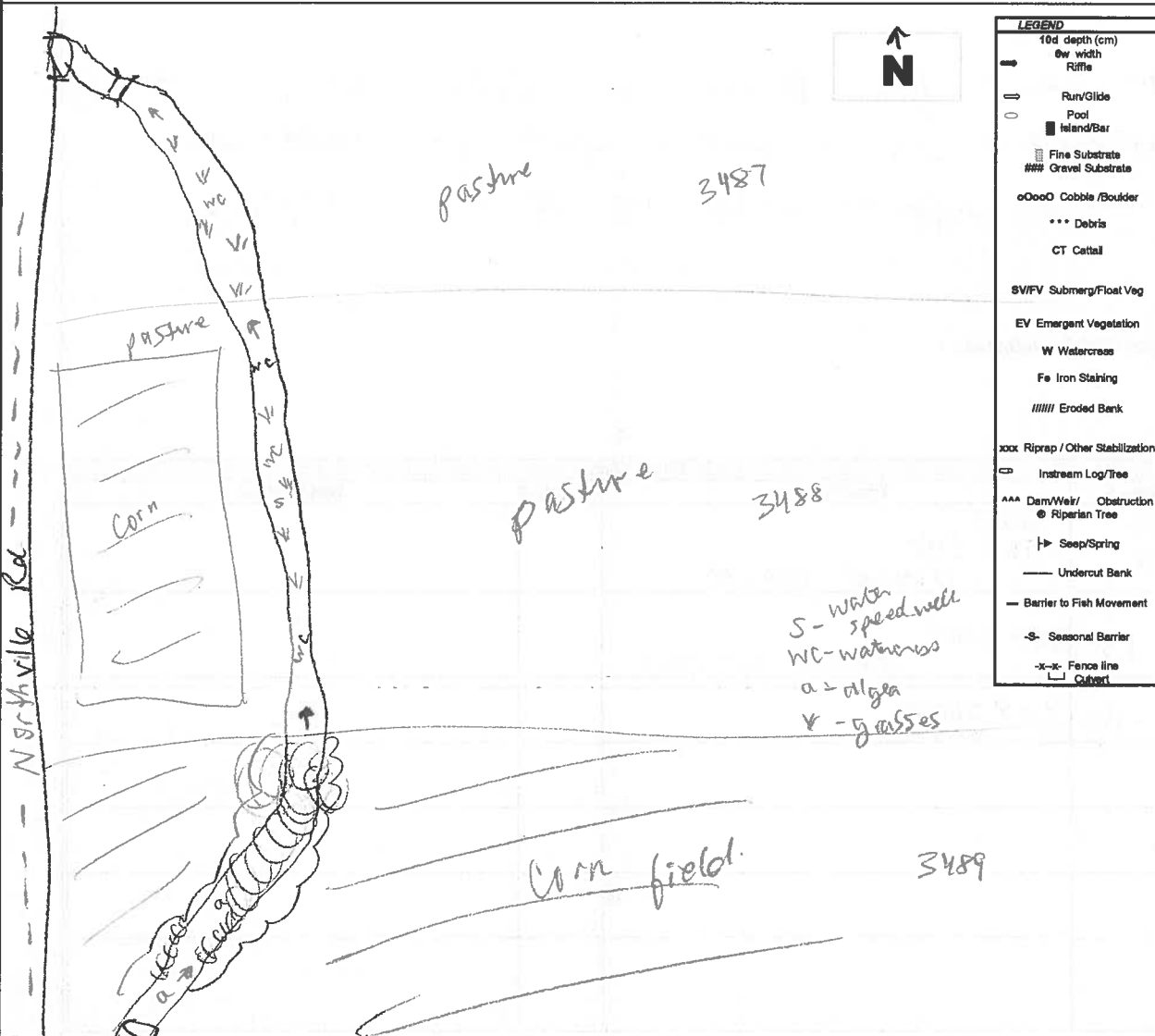
Bluewater

Land Parcel#

JER3489/3488/1012/3487

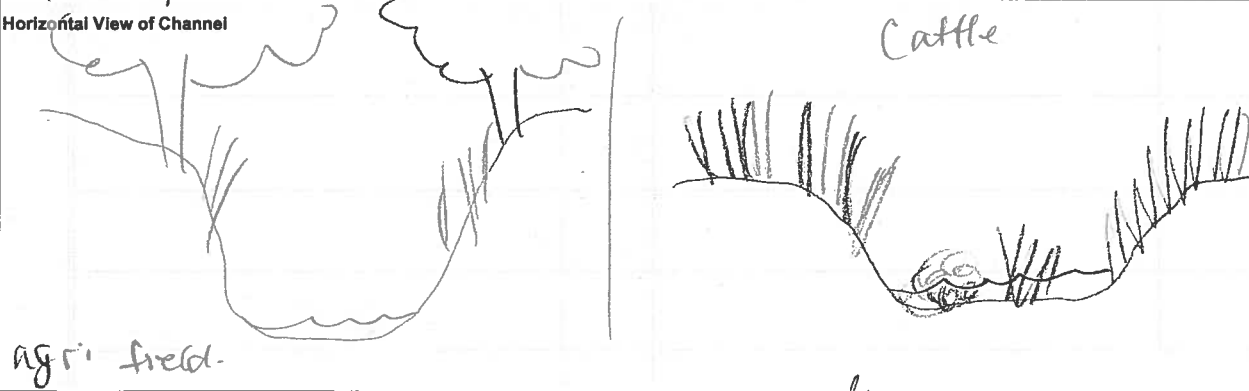
Site ID

R 4.25 B



LEGEND

- 10d depth (cm)
- 0w width
- Flow direction
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- Gravel Substrate
- Cobble/Boulder
- Debris
- Cattail
- Submerg/Float Veg
- Emergent Vegetation
- Watercross
- 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



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: J. Walker

Date: June 11/2

**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>JER 3302/1</u>	Site ID: <u>R4.41</u>
Date: <u>June 18/12</u>		Start time: <u>13:50</u>	End Time: <u>14:30</u>
Weather Conditions: <u>Cloudy, 25°C</u>		Field Crew: <u>C. Boros, J. Epp</u>	Field Notes By: <u>C. Boros</u>
Site Location			
<u>Northville Rd, north of Decher</u>			
<u>ASDA 3303</u>			
UTM Co-ordinates			
Eastings: <u>427973</u>	Northing: <u>4779536</u>	Description: <u>R4.41</u>	
Eastings:	Northing:	Description:	
Eastings:	Northing:	Description:	
Eastings:	Northing:	Description:	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>wheat + corn field</u>		Details:	
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?		Y / <u>N</u>	
2) Temporary channel for surface drainage, that can be tilled or driven through?		<u>Y</u> / N	
3) Rock chutes or spillways?		Y / <u>N</u>	
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?		Y / <u>N</u>	
5) Temporarily ponded areas that are normally farmed?		Y / <u>N</u>	
6) Artificial bodies of water intended for storage, treatment for farming purposes?		Y / <u>N</u>	
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>Corn + wheat field planted. Did not see the drain</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1a</u>	<u>Sheet</u>		
<u>1b</u>	<u>looking at 3303</u>		
<u>2</u>	<u>looking at 3302</u>		

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

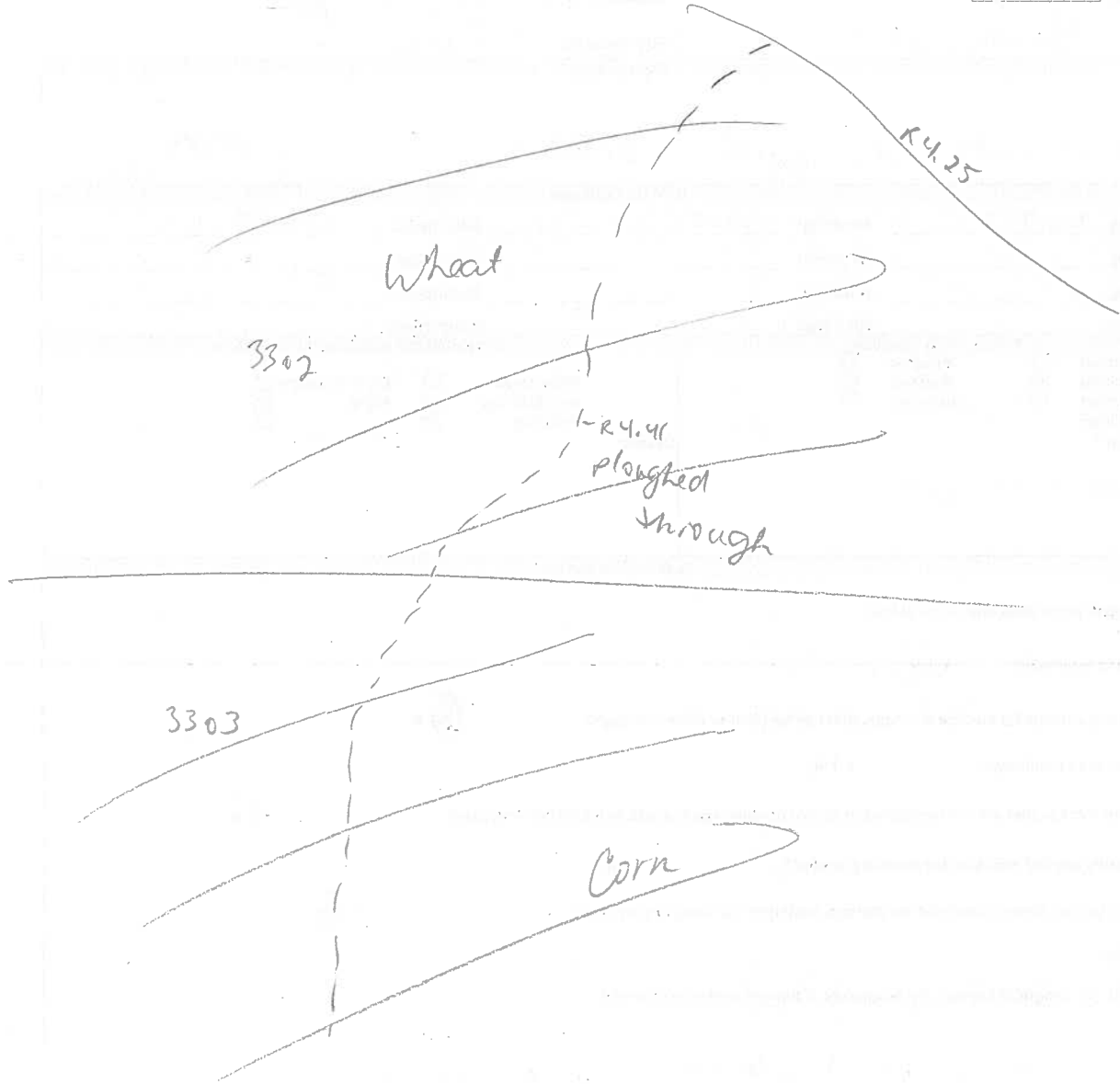
AECOM

Date: June 18/12

Land Parcel/Site ID: RA.41-JER3302/3303

Page 2 of 2

Site Sketch



Initial QA/QC: L. Bentley June 26, 2012
Technical QA/QC: S. Lister July 10/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3305 Site ID: RH.41-JER 3305

Date: MAY 10/2012 Start time: 09:00 AM End Time: 09:05 AM

Weather Conditions: sunny, windy, 9°C. Field Crew: S. LOHNES CHARDING
Field Notes By: S. LOHNES

Site Location

west of northfield, opposite of Decker

UTM Co-ordinates

Easting: 0427740 Northing: 4778717 Description: R441 NR

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:

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)

actively farmed agricultural field, no evidence of waterbody or swale

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>Sheet</u>	<u>4</u>	<u>E</u>
<u>2</u>	<u>N</u>	<u>5</u>	<u>S</u>
<u>3</u>	<u>W</u>		

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

AECOM

Date:

MAY 10/12

Land Parcel/Site ID:

JER 3365-R4.41

Page 2 of 2

Site Sketch



R4.33

R4.41

fallow

JER 3365

property line

planted row crop

JER 3307

--- = mapped but
not present

Initial QA/QC: L. Bentley May 16, 2012

Sketcher for 11/12

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

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# Jer 3305 Site ID: R4.54-JER 3305
 Date: MAY 10/10 Start time: 10:16 AM End Time: 10:20 AM

Weather Conditions: Sunny, 10°C Field Crew: SLOANES CLEARING
 Field Notes By: SLOANES

Site Location

west of North field.

UTM Co-ordinates

Easting: 6477809 Northing: 4779228 Description: mapped location
 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:

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? I N
- 5) Temporarily ponded areas that are normally farmed? Y N
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? I N
- 8) Any other: planted agriculture - no watercourse. I N

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

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>Sheet</u>	<u>4</u>	<u>facing east</u>
<u>2</u>	<u>crop (facing S)</u>	<u>5</u>	<u>facing west</u>
<u>3</u>	<u>crop (facing N)</u>		

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

AECOM

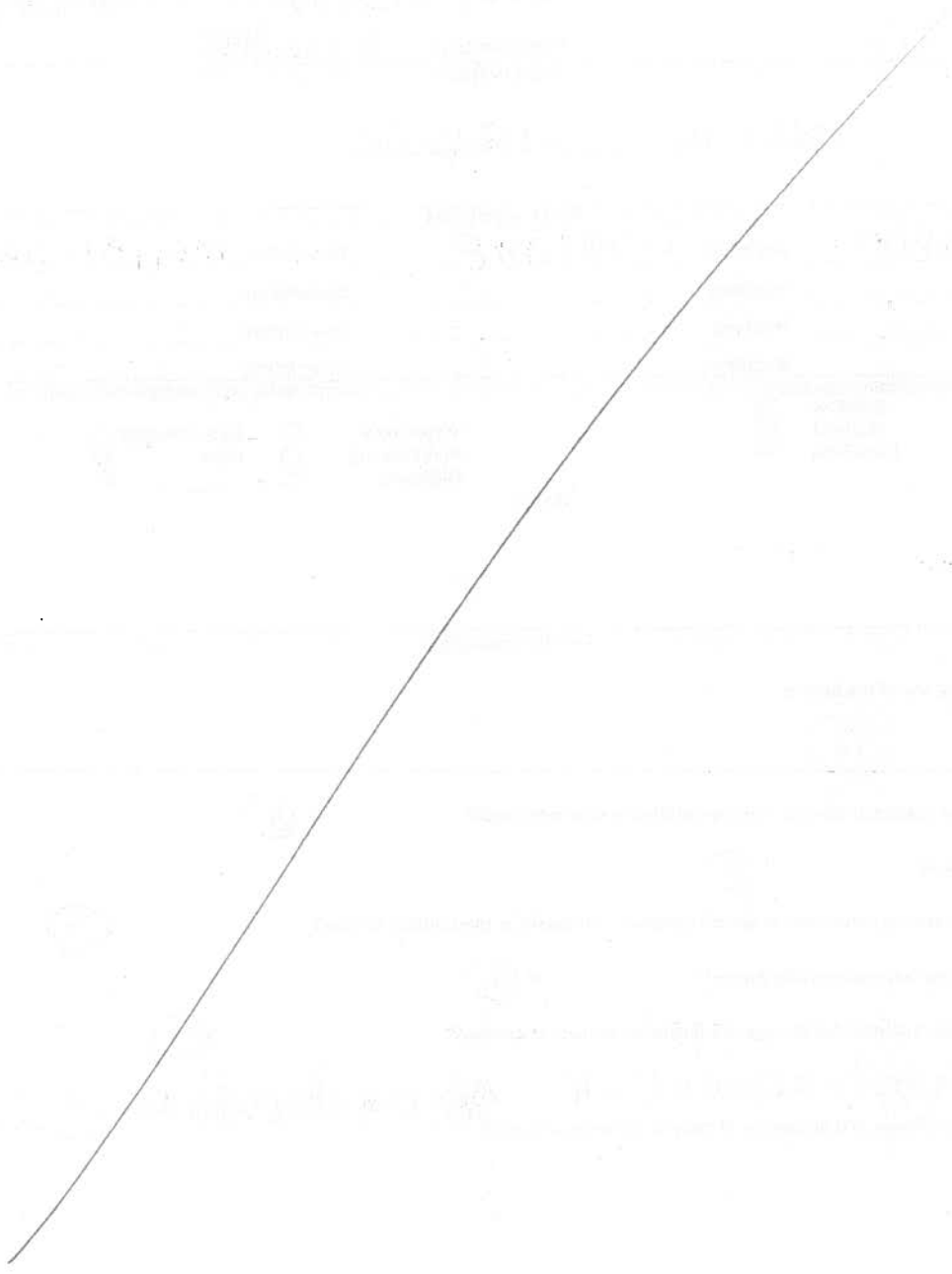
Date: May 10/12

Land Parcel/Site ID: R4 SA JER 3305

Page 2 of 2

Site Sketch

N



Initial QA/QC: L Bentley May 16, 2012

Leutker Jun 11/12

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

AECOM		Page 1 of 2	
General Information			
Study Area: Jericho Goshen Bluewater	Land Parce#	JER3305	Site ID: R4.48 - JER3305
Date: MAY 10/2012	Start time: 10:21 AM	End Time: 10:36 AM	
Weather Conditions: Sunny, 10°C		Field Crew: S. COHNES C. HARRING	Field Notes By: S. COHNES
Site Location			
west of Northfield			
UTM Co-ordinates			
Easting: 0427938	Northing: 4779223	Description: R4.48C prop line	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: row crop - grasses - corn.		Details: none obs. no waterbody.	
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:	agricultural fields - no channel or water body.		
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
none.			
Photo log			
Picture #	Description	Picture #	Description
1	Sheet	4	E
2	S	5	W
3	N		

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

AECOM

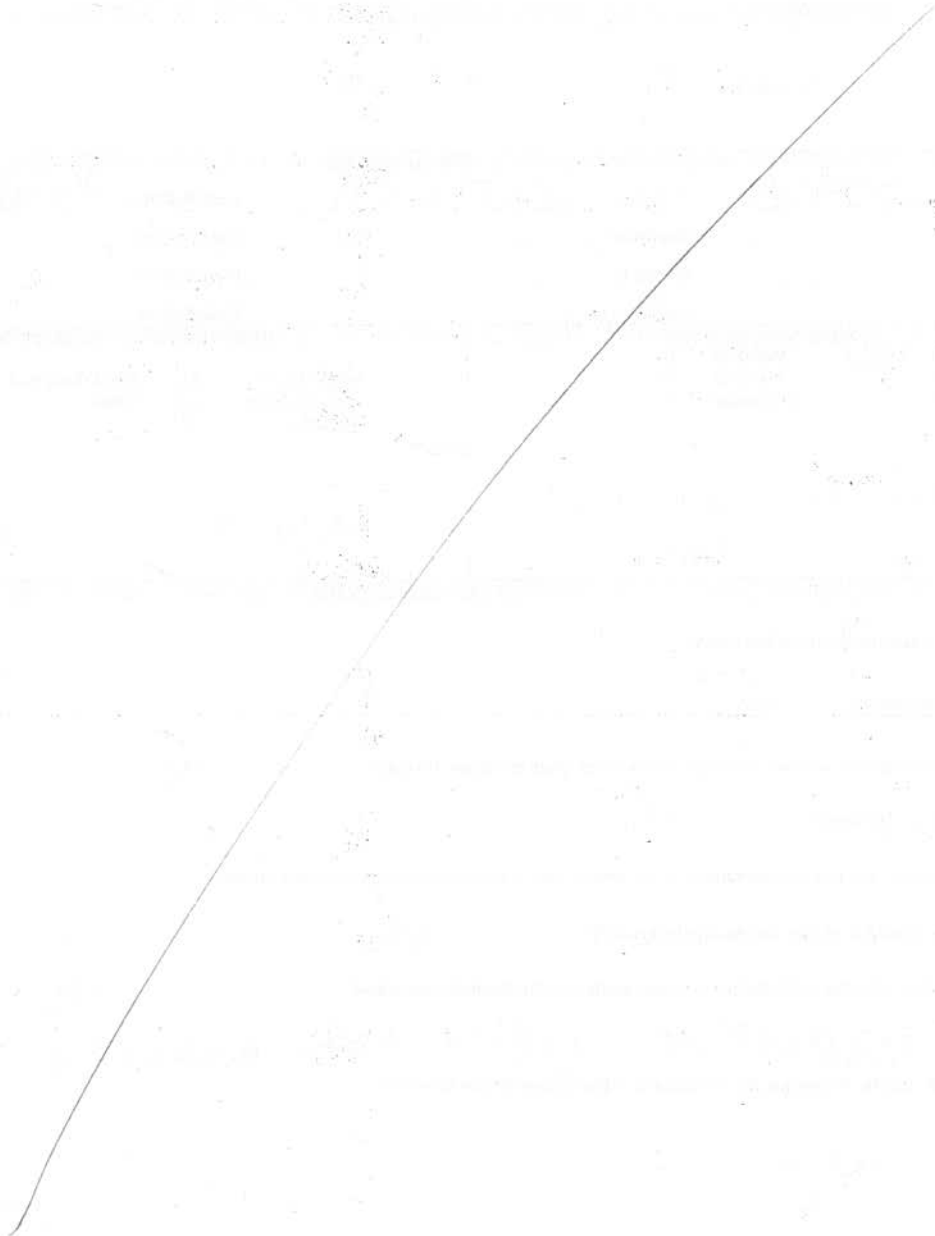
Date: May 10/12

Land Parcel/Site ID: RA-48-JER3305

Page 2 of 2

Site Sketch

N



Initial QA/QC: L Bentley May 16, 2012

Sketcher: JFW 11/12

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

AECOM		Page 1 of 2	
General Information			
Study Area: <u>ericho</u> Goshen Bluewater	Land Parcel# <u>JER 3363</u>	Site ID: <u>R4.48</u>	
Date: <u>Sept 28 /12</u>	Start time: <u>12:55</u>	End Time: <u>13:15</u>	
Weather Conditions: <u>Sunny, 12°C</u>	Field Crew: <u>C. Boros, R. Byer-Coward</u>		
	Field Notes By: <u>C. Boros</u>		
Site Location			
<u>Northville Rd, north of Decker Rd.</u>			
UTM Co-ordinates			
Easting: <u>427950</u>	Northing: <u>4779232</u>	Description: <u>R4.48</u>	
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 _____		Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/> Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/> Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>	
Description: <u>corn field</u>		Details: _____	
Feature Description			
is the mapped water body any of the below:			
1) a grassed waterway?	Y / <u>N</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?		<u>Y</u> / N	
3) Rock chutes or spillways?	Y / <u>N</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?			Y / <u>N</u>
5) Temporarily ponded areas that are normally farmed?	Y / <u>N</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?			Y / <u>N</u>
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>No Culverts observed</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1-3</u>	<u>overview</u>		

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

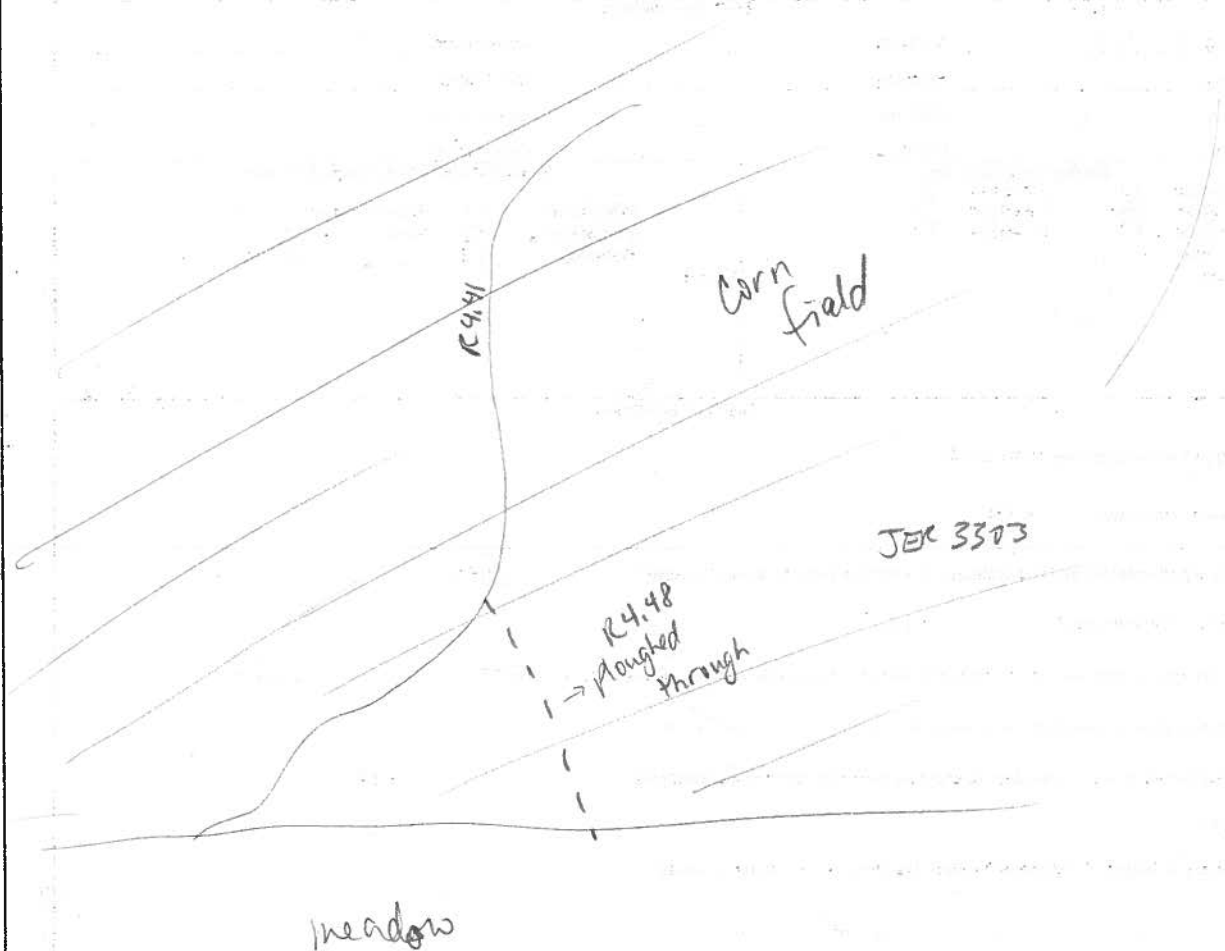
AECOM

Date: Sept 28/12

Land Parcel/Site ID: R4.48

Page 2 of 2

Site Sketch



Initial QA/QC: jfm Oct 2/12
Sketch 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 3302/3303</u>	Site ID: <u>R4,39</u>	
Date: <u>Sept 28/12</u>	Start time: <u>12:00</u>	End Time: <u>13:15</u>	
Weather Conditions: <u>Sunny 12°C</u>	Field Crew: <u>C. Boros, R. Dyer - Leonard</u>		
	Field Notes By: <u>C. Boros</u>		
Site Location			
<u>Northville Rd., north of Decker Rd.</u>			
UTM Co-ordinates			
Easting: _____	Northing: _____	Description: <u>n/a</u>	
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 checked="" type="checkbox"/> Livestock <input type="checkbox"/> Other _____		Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/> Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/> Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>	
Description: <u>Corn crop, then forest</u>		Details: _____	
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	Y / <u>N</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?		<u>Y</u> / N	
3) Rock chutes or spillways?	Y / <u>N</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?			<u>Y</u> / <u>N</u>
5) Temporarily ponded areas that are normally farmed?	Y / <u>N</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?			<u>Y</u> / <u>N</u>
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>- most likely floughed through, culvert/well at north property line (JER 3302)</u> <u>but did not find outlet culverts in forest area</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1-2</u>	<u>South J3302 prop line</u>	<u>7</u>	<u>forest crop interface</u>
<u>3-4</u>	<u>J3302 overview</u>		
<u>5-6</u>	<u>J3302 north end - culvert</u>		

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

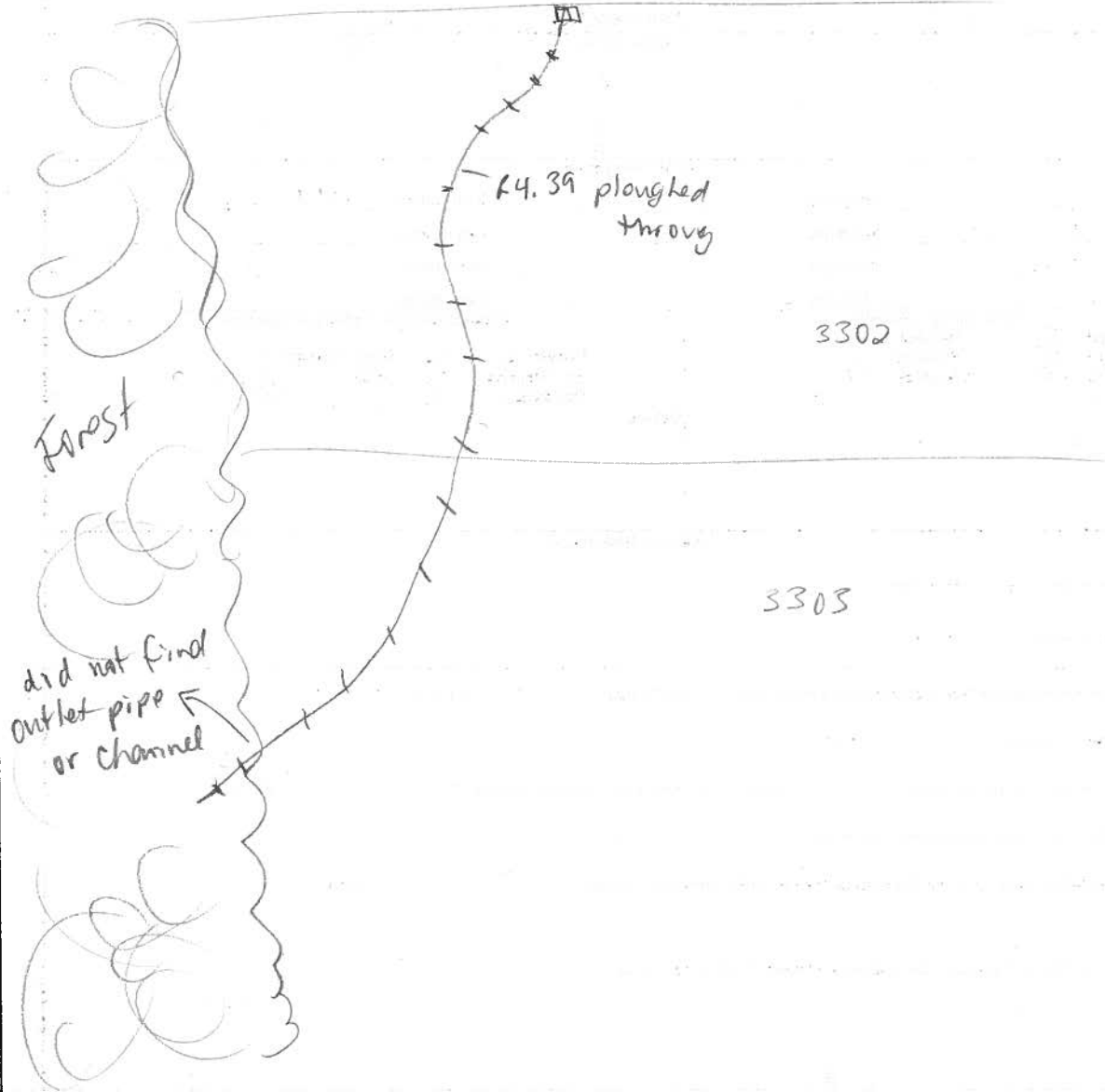
AECOM

Date: Sept 28/12

Land Parcel/Site ID: R.4.39

Page 2 of 2

Site Sketch



Initial QA/QC: JFM Oct 2/12
S. [unclear] 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 3302/</u> Site ID: <u>R4.39</u>
Date: <u>June 18 / 12</u>	Start time: <u>14:20</u>	<u>3303</u>	End Time: <u>14:30</u>
Weather Conditions: <u>Cloudy, 20°C</u>		Field Crew: <u>C. Boros, J. Epp</u>	
		Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Northville Rd, north of Decker</u>			
<u>ASA 3303</u>			
UTM Co-ordinates			
Easting: <u>427497</u>	Northing: <u>4779548</u>	Description: <u>R4.39</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Ground Water and Seepage Indicators	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>wheat + corn field</u>		Details:	
Feature Description			
is the mapped water body any of the below:			
1) a grassed waterway?	Y / <u>N</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?	<u>Y</u> / N		
3) Rock chutes or spillways?	Y / <u>N</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?	Y / <u>N</u>		
5) Temporarily ponded areas that are normally farmed?	Y / <u>N</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?	Y / <u>N</u>		
8) Any other:			
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>corn + wheat field planted</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1a</u>	<u>Sheet</u>		
<u>1b</u>	<u>looking N</u>		
<u>2</u>	<u>looking S</u>		

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

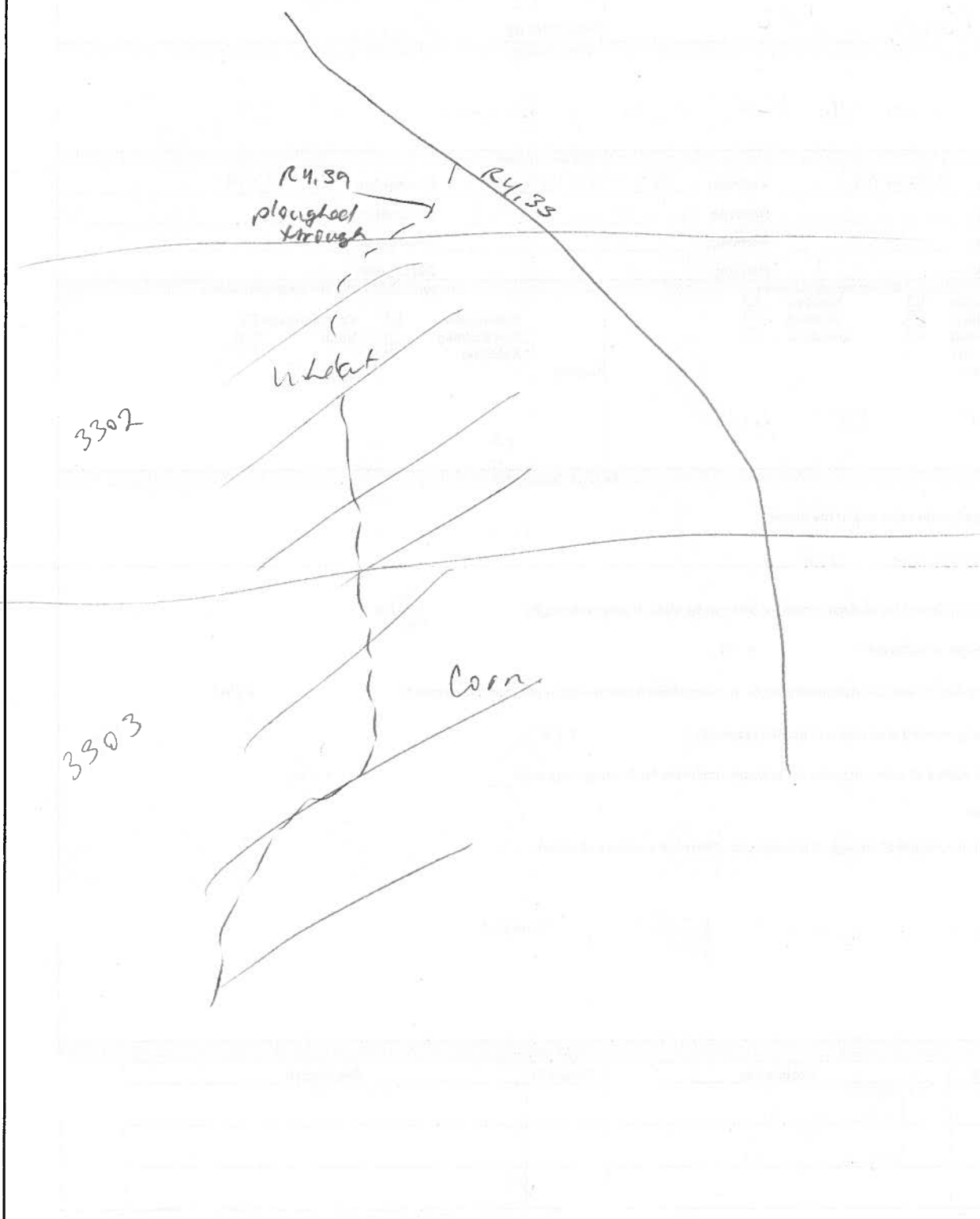
AECOM

Date: June 18/12

Land Parcel/Site ID: R4.39-JER3302/3303

Page 2 of 2

Site Sketch



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

Technical QA/QC: Slatken July 10/12

Water Bodies Assessment Field Collection Form

R4.33A

AECOM	
General Information	
Study Area: <u>Jericho</u> Goshen Bluewater Land Parcel# <u>JER 3308/3357</u> Site ID: <u>R4.33-JER3308/3357</u>	
Date: <u>MAY 16/2012</u> Start time: <u>09:05 AM</u> End Time: <u>09:40 AM</u>	
Weather Conditions: <u>overcast, 10°C</u>	Field Crew: <u>S. LAINES J. ERP</u> Field Notes By: <u>S. LAINES</u>
Site Location	
<u>north of Thomson Line,</u>	
UTM Co-ordinates (continue on page 3 if necessary)	
Easting: <u>427254</u> Northing: <u>4778115</u> Description: <u>@ Thomson L.</u>	
Easting: <u>427304</u> Northing: <u>4778350</u> Description: <u>water chem.</u>	
Easting: <u>427364</u> Northing: <u>4778417</u> Description: <u>end.</u>	
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 type="checkbox"/> Other <input type="checkbox"/>	Type of Watercourse Intermittent <input type="checkbox"/> Channelized <input checked="" type="checkbox"/> Permanent <input checked="" type="checkbox"/> Natural Channel <input type="checkbox"/> Ephemeral <input type="checkbox"/>
Description: <u>forest hedgerow then now crop</u>	Description: <u>historically channelized, now naturalizing w/ forest growth</u>
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow) <u>system begins as tile drain @ Thomson Line</u>	
Is any portion of the water body underground or not as mapped? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> If Yes describe: _____	
GPS Coordinate: Easting - _____ Northing - _____ Description - _____	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)	
<u>flat agricultural now crop + forest w/ slight slope</u>	
In-Situ Water Quality WT (°C): <u>12.0°C</u> AT (°C): <u>10°C</u> pH: <u>7.39</u> Cond (s/cm): <u>649</u> D.O. (mg/L) <u>3.53</u> Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Water Colour: <u>colourless</u>	Ground Water and Seepage Indicators Watercress <input checked="" type="checkbox"/> Bank Seepage <input type="checkbox"/> Iron Staining <input type="checkbox"/> None <input type="checkbox"/> Bubbling <input type="checkbox"/> _____ <input type="checkbox"/> Other <input type="checkbox"/>
Notes: <u>lots of algae growth, low volume, + flow.</u>	Details: <u>some isolated pockets of watercress</u>

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <u>200m</u>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m):	<u>2.0m</u>	Mean Wetted Depth (m):	<u>0.1m</u>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<u>2.2m</u>	Mean Bankfull Depth (m):	<u>0.15m</u>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<u>5.0m</u>	Mean Top of Bank Depth (m):	<u>1.5m</u>	Description: <u>well vegetated</u>				
Flow Description: (high or low flow conditions, stagnant, etc)								
<u>low flow, comes from tile drainage</u>								
Habitat								
Substrate (<=>)			Morphological Structure (%)					
Description			Pool	Riffle	Run	Flat		
<u>Si + Cl > DT</u>						<u>100</u>		
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			Notes: <u>low flow</u>					
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
	<u>small woody debris</u>			<u>70</u>		Average Depth: (% Cover)		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)								
<u>algae - woody debris. watercress, water speedwell.</u>								
Canopy Cover (% closed cover):			Types of Cover (% cover)					
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <u>50</u>	Shrubs <u>50</u>	Man-made structures		
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____	Other _____		
60-30%	<input type="checkbox"/>							
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%								
Notes: (vegetation species, types of structures) <u>elderberry, buckthorn. black maple, sumac, elm, silver maple, ash, raspberry.</u>								
Riparian Vegetation								
Width and Description of riparian vegetation: LB - <u>3m.</u>			RB - <u>< 1m then overgrown pasture w/ mature trees.</u>					
Overhanging Vegetation Present <input checked="" type="checkbox"/> (Y/N)			% Overhanging Vegetation:					
Description of Overhanging Vegetation: <u>shrubs - raspberry</u>								
Obstructions to Fish Passage								
None Observed <input checked="" type="checkbox"/>	Man-Made <input checked="" type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>					
Description of Barrier: <u>perched culvert @ Thomson L + goes underground @ north boundary of property.</u>								
Height of Barrier (m)			GPS Coordinates:					

Water Bodies Assessment Field Collection Form

24.33A

AECOM

Date: MAY 16 / 2012

Land Parcel/Site ID: 24.33 - JERSON 13357 Page 3 of 4

Other General Comments Regarding the Study Area:

- watercourse is fed from tile drainage then flows north through hedgerow forest w/ dense shrub understory (overhanging veg) before it goes back underground at north end of property.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1	Sheet		
2	tile drain + culvert		
3	across Thomson line		
4	dry culvert inlet		
5	outlets		
6	adjacent land overview (N)		
7	facing u/s		
8	facing d/s - woody debris		
9-10	dense thicket riparian		
11	adjacent lands		
12	grate where goes under ground		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

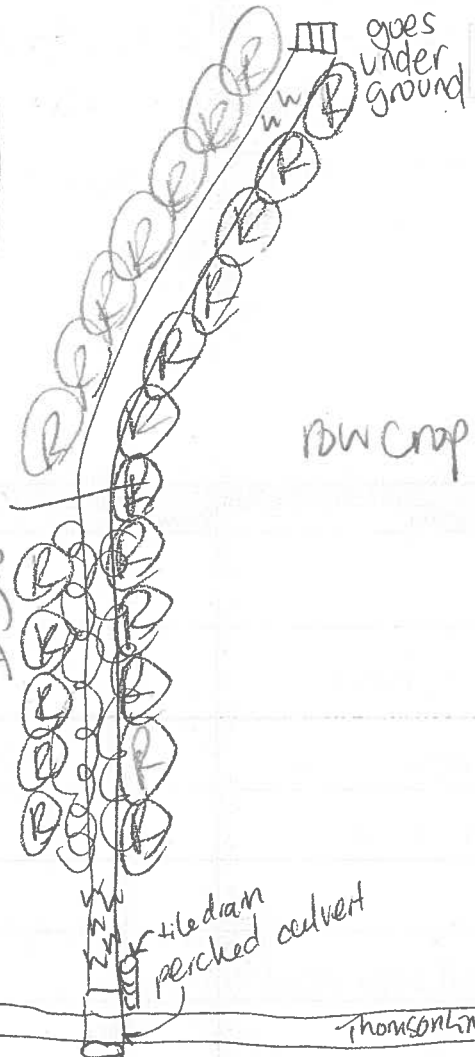
Study Area:

Jericho Goshen Bluewater Land Parcel#

3308/3357 Site ID

R4.33A

pond
(not able
to assess)



goes
under
ground

↑
N

LEGEND	
10d depth (cm)	→
0w width	⇌
Rifle	○
Run/Glide	□
Pool	■
Island/Bar	▨
Fine Substrate	###
Gravel Substrate	oOooO
Cobble/Boulder	***
Debris	CT
Cattail	SW/FV
Submerg/Floet 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	-S-
Seasonal Barrier	-x-x-
Fence line	□
Culvert	

pasture
(horses)
ASA

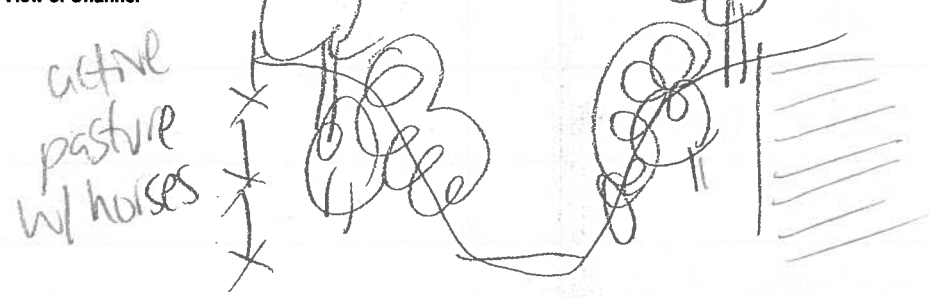
RDW Crap

tile drain
perched culvert

Thomson line

dry ditches

Horizontal View of Channel



active
pasture
w/ horses

Initial QA/QC By: L. Bentley

Date: May 22, 2012

Technical QA/QC By: SMR Date: Jun 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3305 Site ID: JER3305 Rt. 33B

Date: MAY 10/2012 Start time: 09:22 End Time: 10:04

Weather Conditions:

sunny, 9°C

Field Crew: S. SLOANES CHARDING

Field Notes By: SLOANES

Site Location

west of northville, across from Decker

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

Eastings: 0427412 Northing: 4778724 Description: START
 Eastings: 0427410 Northing: 4778737 Description: 4.33 GLEM
 Eastings: 0427658 Northing: 4779250 Description: 4.33 END.

Eastings: Northing: Description:

Surrounding Landuse

- Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse

- Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

now crops, fallow field and thickety forest

Description:

channelized watercourse naturalizing w/ good riparian veg.

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

watercourse begins underground from JER3307

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

If Yes describe:

u/s reach on JER3307 IS underground.

GPS Coordinate: Easting - 0427412 Northing - 4778726 Description - underground

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

low gradient, gentle slope towards water course

In-Situ Water Quality

WT (°C): 10.4°C AT (°C): 12°C
 pH: 8.13 Cond (s/cm): 640
 D.O. (mg/L) 7.24
 Water Clarity: Clear Turbid

Water Colour:

colourless

Notes:

taken in shallow area w/ some filamentous algae

Ground Water and Seepage Indicators

- Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

some large mats of watercress + water speedwell

Water Bodies Assessment Field Collection Form

Stream Morphology																		
Site Length (m): <u>600m</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>0.95m</u>	Mean Wetted Depth (m): <u>0.05m</u>	Description: <u>banks well vegetated w/ grasses, shrubs & trees</u>																
Mean Bankfull Width (m): <u>2.25m</u>	Mean Bankfull Depth (m): <u>0.25m</u>																	
Mean Top of Bank Width (m): <u>5.0m</u>	Mean Top of Bank Depth (m): <u>1.60m</u>																	
Flow Description: (high or low flow conditions, stagnant, etc)																		
<u>Moderate flow, low volume.</u>																		
Habitat																		
Substrate (<=>)		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Description	<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td>100</td> <td></td> </tr> </table>	Pool	Riffle	Run	Flat			100		Notes:							
Pool	Riffle	Run	Flat															
		100																
	<u>Sa + D</u>		<u>low gradient</u>															
Instream Cover (%)																		
Other <u>DETritus</u>	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks												
<u>5</u>	<u>5</u>			<u>25</u>		Average Depth: (% Cover)												
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																		
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																		
<u>watercress, filamentous algae, water speedwell, cattail, Phragmites</u>																		
Canopy Cover (% closed cover):				Types of Cover (% cover)														
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees <u>25</u>	Shrubs <u>25</u>	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)																		
<u>staghorn sumac, honeysuckle, apple/cherry, hawthorn, red, osier dogwood, elm.</u>																		
Riparian Vegetation																		
Width of riparian vegetation: <u>3m L+R</u>																		
Description of vegetation community surrounding 30 m from watercourse:																		
<u>row crops</u>																		
Obstructions to Fish Passage																		
No Obstructions <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>															
Description of Barrier: <u>none observed</u>																		
Height of Barrier (m)			GPS Coordinates:															

Water Bodies Assessment Field Collection Form

AECOM

Date: MAY 10 / 2012 Land Parcel/Site ID: JER 3305 Page 3 of 4

24.33B

Other General Comments Regarding the Study Area:

- watercourse begins @ boundary of properties JER 3307 + JER 3305 then flows north
- a closed canopy is provided by successional hedgerow trees throughout reach.
- stream habitat from aq. veg + detritus as well as spots w/ woody debris

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1	sheet	14	riparian
2	overview	15	Crops
3	looking d/s / outlet	16	looking u/s
4	channel	17	open
5	looking us	18	aq. veg
6	substrate	19	overhanging veg
7	riparian	20	overview
8	overview	21	overview
9-10	u/s	22	looking east
11	channel		
12	aq. veg.		
13	surrounding lands		

Water Bodies Assessment Field Collection Form

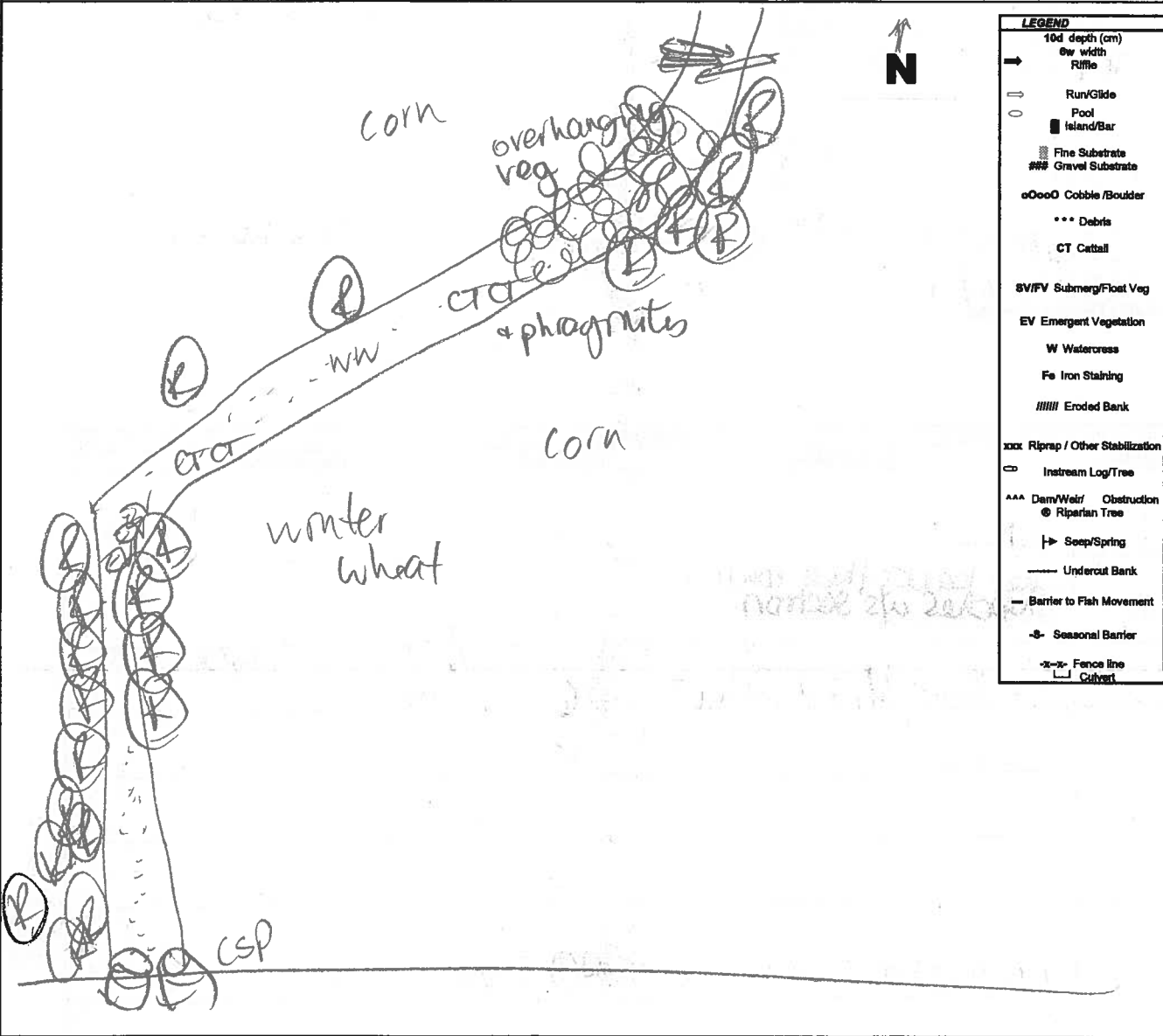
24.33B

AECOM

Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# 3305 Site ID 24.33 JER3305



Horizontal View of Channel



Initial QA/QC By: Bentley

Date: May 16, 2012

Technical QA/QC By: Katku

Date: June 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JEK 3303, 3302 Site ID: R4.33 B
 Date: Sept 28/12 Start time: 12:00 End Time: 13:15
 Weather Conditions: Sunny, 12°C Field Crew: C. Boros, R. Byer-Coward
 Field Notes By: C. Boros

Site Location

Northwile Rd., north of Decker Rd.

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

Easting: 427621 Northing: 4779735 Description: R4.33
 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:

alfalfa, corn

Description:

Dry at time of investigation

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

yes tile drain outlets observed - not flowing

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

If Yes describe:

GPS Coordinate: Easting -

Northing -

Description -

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

flat to v.s. hilly.

In-Situ Water Quality

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

Water Colour:

Notes:

Channel dry.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

small bunches of wc throughout site.

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): 500m			Bank Stability:			
Channel Dimensions <i>Dry Channel</i>			Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): 1	Mean Wetted Depth (m): /		Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): 1.3	Mean Bankfull Depth (m): 0.25		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): 4.5	Mean Top of Bank Depth (m): 1.5		Description:			
Flow Description: (high or low flow conditions, stagnant, etc)						
<i>no flow - channel dry.</i>						
Habitat						
Substrate (<=>)			Morphological Structure (%)			
Bo - Boulder	Description		Pool	Riffle	Run	Flat
Co - Cobble	<i>Su = Si = Cl > dt</i>		Notes:			
Gr - Gravel			<i>Channel dry.</i>			
Sa - Sand						
Si - Silt						
Cl - Clay						
MK - Muck						
DT - Detritus						
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
				20		Average Depth: 0.10 (% Cover) 5
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)						
<i>Emergent grasses, watercress</i>						
Canopy Cover (% closed cover):			Types of Cover (% cover)			
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>		Trees 20	Shrubs 65	Man-made structures	
90-60% <input checked="" type="checkbox"/>	0% <input type="checkbox"/>		Grasses 15	Herbaceous	Other	
60-30% <input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures)						
<i>willow, dogwood, sumac</i>						
Riparian Vegetation						
Width and Description of riparian vegetation:			LB - 2m - meadow			RB - 2m meadow
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 5			
Description of Overhanging Vegetation:						
<i>small percentage of shrubs overhanging stream - mostly sumac</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 channel</i>						
Height of Barrier (m)			GPS Coordinates:			

Water Bodies Assessment Field Collection Form

AECOM

Date: *Sept 28 / 12*

Land Parcel/Site ID: *JER 3302
3303*

Page 3 of 4

Other General Comments Regarding the Study Area:

The channel was dry the entire study reach. It is defined and highly vegetated - banks and in stream. Large tile drain outlet observed at north end of JER 3302, but no flow or water present.

Channel appeared similar 20m south on JER 3305.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
<i>1-2</i>	<i>north start. overview</i>		
<i>3-6</i>	<i>culvert/outlet</i>		
<i>7-13</i>	<i>JER 3302</i>		
<i>14-24</i>	<i>JER 3303</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

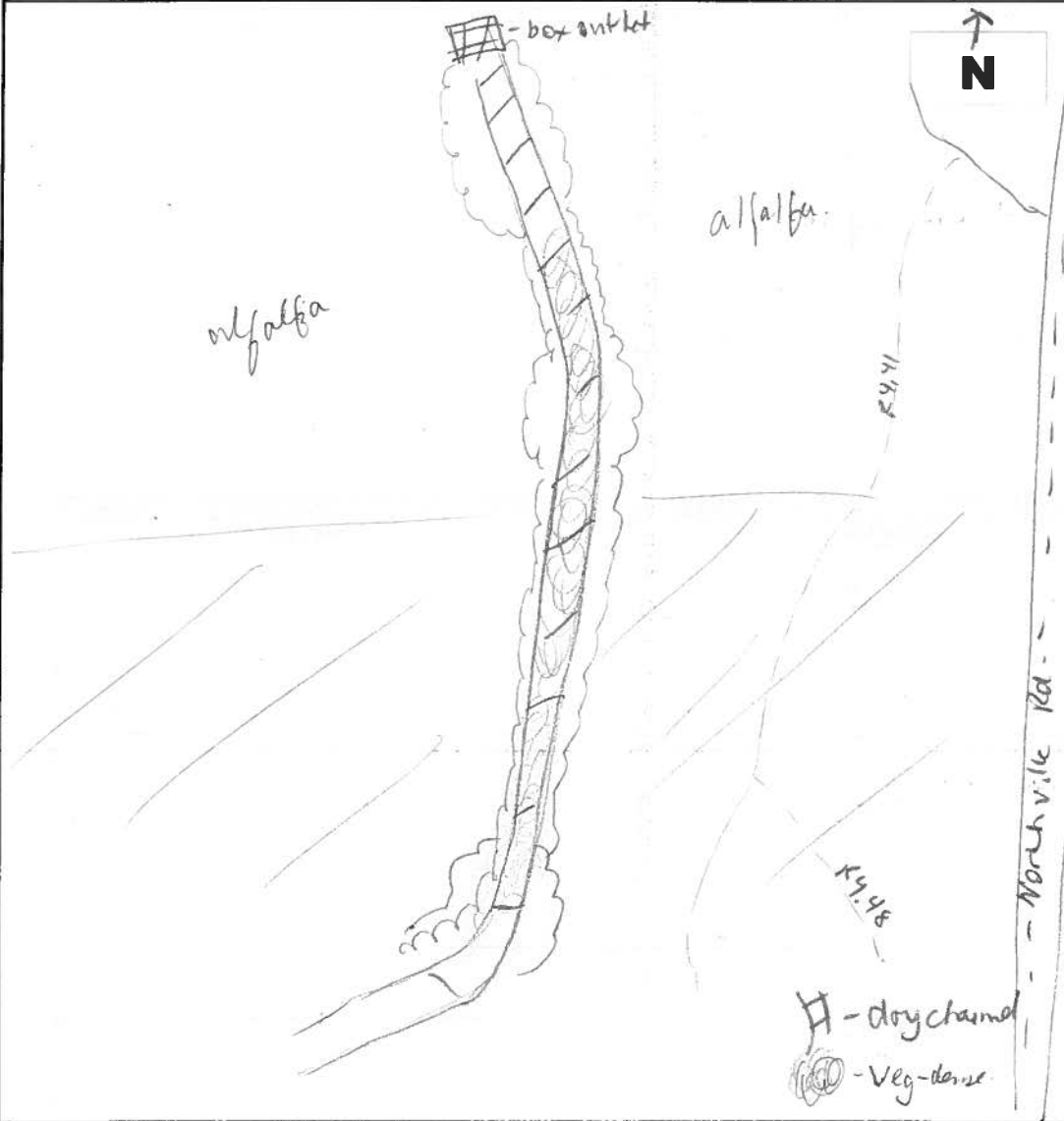
Bluewater

Land Parcel#

JER 3302
3303

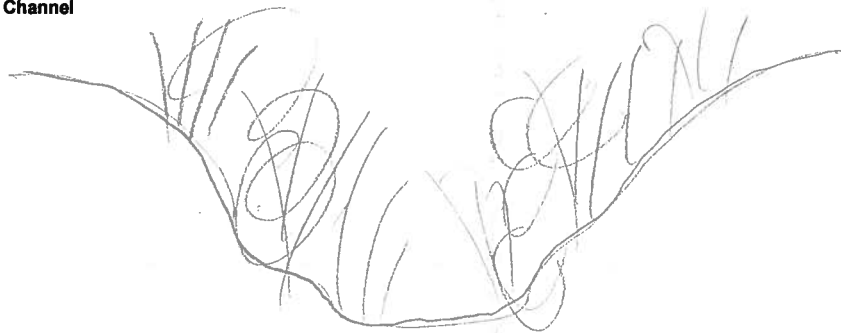
Site ID

R4.33B.



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
Watercross	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	↔
Fence line	-x-x-
Culvert	⌈

Horizontal View of Channel



Initial QA/QC By:

Jm

Date: Oct 2/12

Technical QA/QC By:

Stetten

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3302/3303 Site ID: R4.33B

Date: June 18 / 12 Start time: 19:00 End Time: 19:30

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

Site Location

Northville Rd, north of Decatur ASA 3303

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

Easting: 487735 Northing: 4779539 Description: R4.33

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:

Corn + wheat fields

Description:

slight meander

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

tile drains observed - not flowing

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

If Yes describe:

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

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

flat

In-Situ Water Quality

WT (°C): 20.0 AT (°C): 25°C
pH: 7.93 Cond (µs/cm): 595
D.O. (mg/L) 7.31
Water Clarity: Clear Turbid sl.

Water Colour: n/a

→ taken on JER 3302

Notes: small pool, algae present
water depth - 0.2m

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>~220m on 3302</i>				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m):	<i>0.3</i>	Mean Wetted Depth (m):	<i>0.10</i>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<i>1.5</i>	Mean Bankfull Depth (m):	<i>0.5</i>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>4</i>	Mean Top of Bank Depth (m):	<i>2</i>	Description: <i>well vegetated</i>			
Flow Description: (high or low flow conditions, stagnant, etc)							
<i>v. slow flow, low water conditions</i>							
Habitat							
Substrate (<=>)				Morphological Structure (%)			
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus				Pool	Riffle	Run	Flat
<i>Sa = Si = Cl > Gr > Co</i>				<i>/</i>	<i>/</i>	<i>/</i>	<i>100</i>
Notes:				<i>/</i>			
Instream Cover (%) <i>50</i>							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
<i>/</i>	<i>/</i>	<i>/</i>	<i>10</i>	<i>40</i>	<i>/</i>	Average Depth: <i>/</i>	
(% Cover)							
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)							
<i>algae - attached >> grasses</i>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-10%	<input checked="" type="checkbox"/>	Trees	Shrubs <i>10</i>	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>/</i>							
Riparian Vegetation							
Width and Description of riparian vegetation:				RB - <i>1.5 meadow</i>			
LB - <i>1.5 m - meadow</i>							
Overhanging Vegetation Present <input checked="" type="checkbox"/> N				% Overhanging Vegetation: <i>2</i>			
Description of Overhanging Vegetation:							
<i>dogwood overhanging stream</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>potentially a low flow barrier</i>							
Height of Barrier (m)				GPS Coordinates:			

Water Bodies Assessment Field Collection Form

AECOM

Date: June 18/12

Land Parcel/Site ID: R4. 33B
JER 3302/3303 Page 3 of 4

Other General Comments Regarding the Study Area:

Final watercourse assessment completed on JER 3302 → the watercourse looks similar on JER 3303 but could not see the water, → grasses + veg in the way

It is a small drain watercourse most likely fed by tile drains.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	sheet		
1b	overview 3302		
2	Culvert at property line		
3	channel on 3302		
4	looking at 3303		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

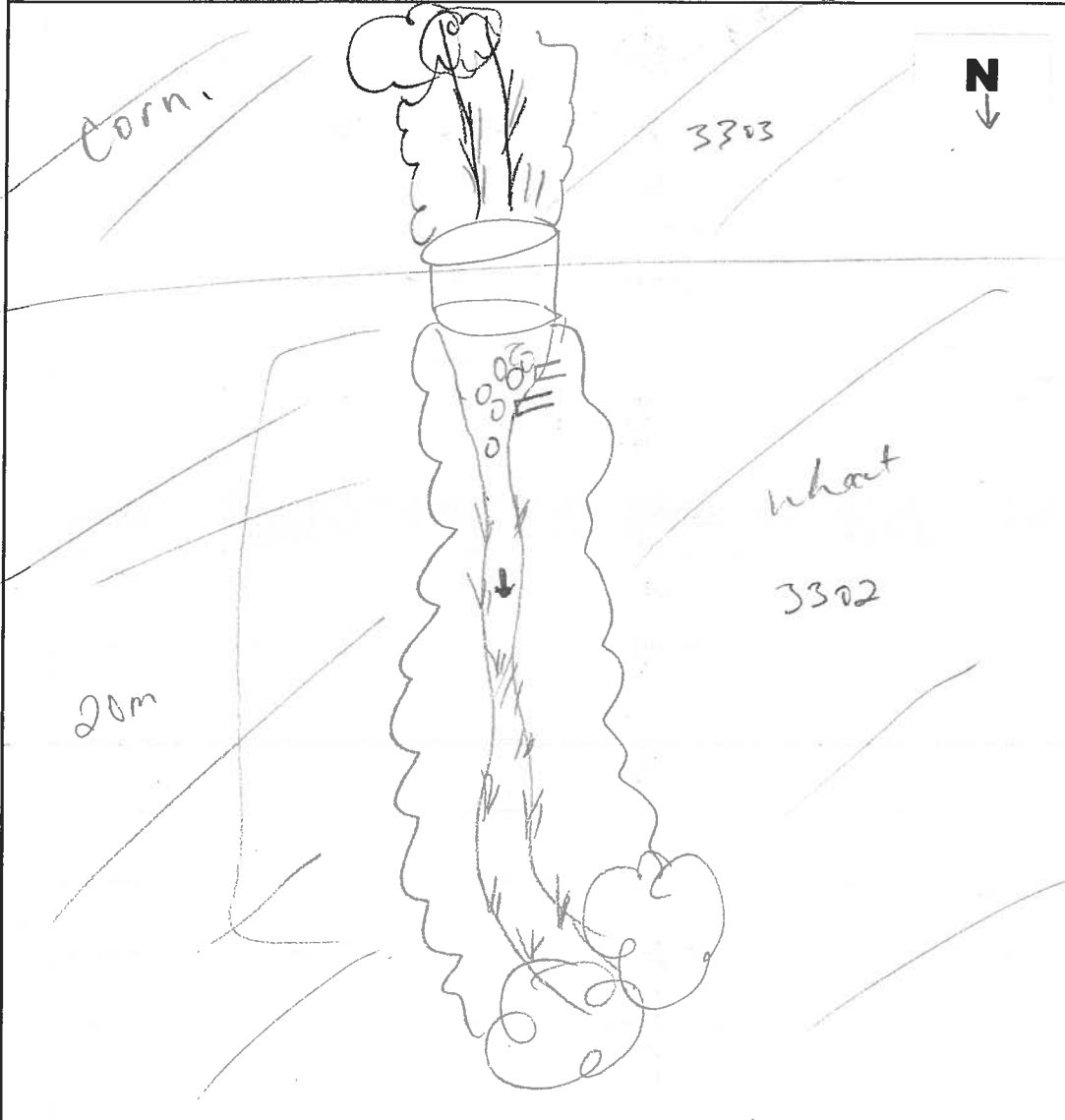
Bluewater

Land Parcel#

JER 3302/
3303

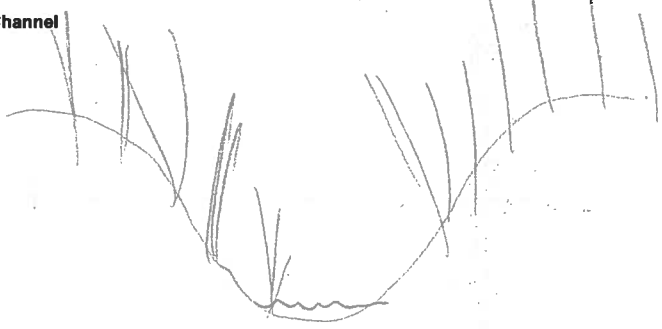
Site ID

R4.33B



LEGEND	
10d depth (cm)	→
8w width	⇌
Riffle	⇌
Run/Glide	⇌
Pool	○
Island/Bar	■
Fine Substrate	□
Gravel Substrate	##
Cobble/Boulder	oOooO
Debris	***
CT Cattail	CT
SV/FV Submerg/Float Veg	SV/FV
EV Emergent Vegetation	EV
W Watercress	W
Fe 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 10/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# Jek 3598 Site ID: R4D
 Date: Sept 17/12 Start time: 12:10 End Time: 13:25
 Weather Conditions: Sunny 25°C Field Crew: C. Boros, K. Byer-Coward
 Field Notes By: C. Boros

Site Location

Northville Rd, south of Cedar Point Ln.

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

Easting: 0428550 Northing: 4774020 Description: J
 Easting: 428924 Northing: 4773916 Description: F
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Description: Corn fields

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral _____

Description: straight

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

- none observed but highly likely -

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

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

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

- flat

In-Situ Water Quality

WT (°C): 18.4 AT (°C): 25°C
 pH: 7.76 Cond (µs/cm): 0.577
 D.O. (mg/L) 3.70
 Water Clarity: Clear Turbid
 Water Colour: c/c #1012 used

Notes: Small pool, ~0.10m deep

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>557m</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>0.07</i>	Description: <i>some historical erosion - could still be from this year but not recent</i>																	
Mean Bankfull Width (m): <i>2.5</i>		Mean Bankfull Depth (m): <i>0.7</i>																		
Mean Top of Bank Width (m): <i>5</i>		Mean Top of Bank Depth (m): <i>1.7</i>																		
Flow Description: (high or low flow conditions, stagnant, etc) <i>-> no flow observed</i>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>mk > si = cl > sa >> co</i>			Pool	Riffle	Run	Flat														
			<i>5</i>			<i>95</i>														
			Notes: <i>v small pool areas</i>																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
	<i>1</i>		<i>5</i>	<i>90</i>		Average Depth: <i>0.05</i> (% Cover) <i>1</i>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>emergent grasses >> emergent aquatic veg = cattail</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>80</i>	Shrubs	Man-made structures													
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>20</i>	Herbaceous	Other													
60-30%	<input checked="" type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <i>deciduous trees</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:																	
LB - <i>< 1m - meadow</i>			RB - <i>< 1m - meadow</i>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <i>3</i>																	
Description of Overhanging Vegetation: <i>grasses overhanging from banks</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

R4D

AECOM

Date: Sept 17/12

Land Parcel/Site ID: JER 3598 Page 3 of 4

Other General Comments Regarding the Study Area:

Watercourse channelized feature that is highly vegetated in stream w emergent grasses. Substrate soft and stream is at low water level. Watercourse looked similar 50m up/s + down/s.

Note: an ASA had to be conducted as the watercourse crossed to JER 3599. Watercourse ran on JER 3599 property and not JER 3598. At time of investigation no access was granted to JER 3599.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1-2	channel overview		
3	water in channel		
4-8	channel on JER 3598		
9	wg station		
10-16	channel on JER 3599		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

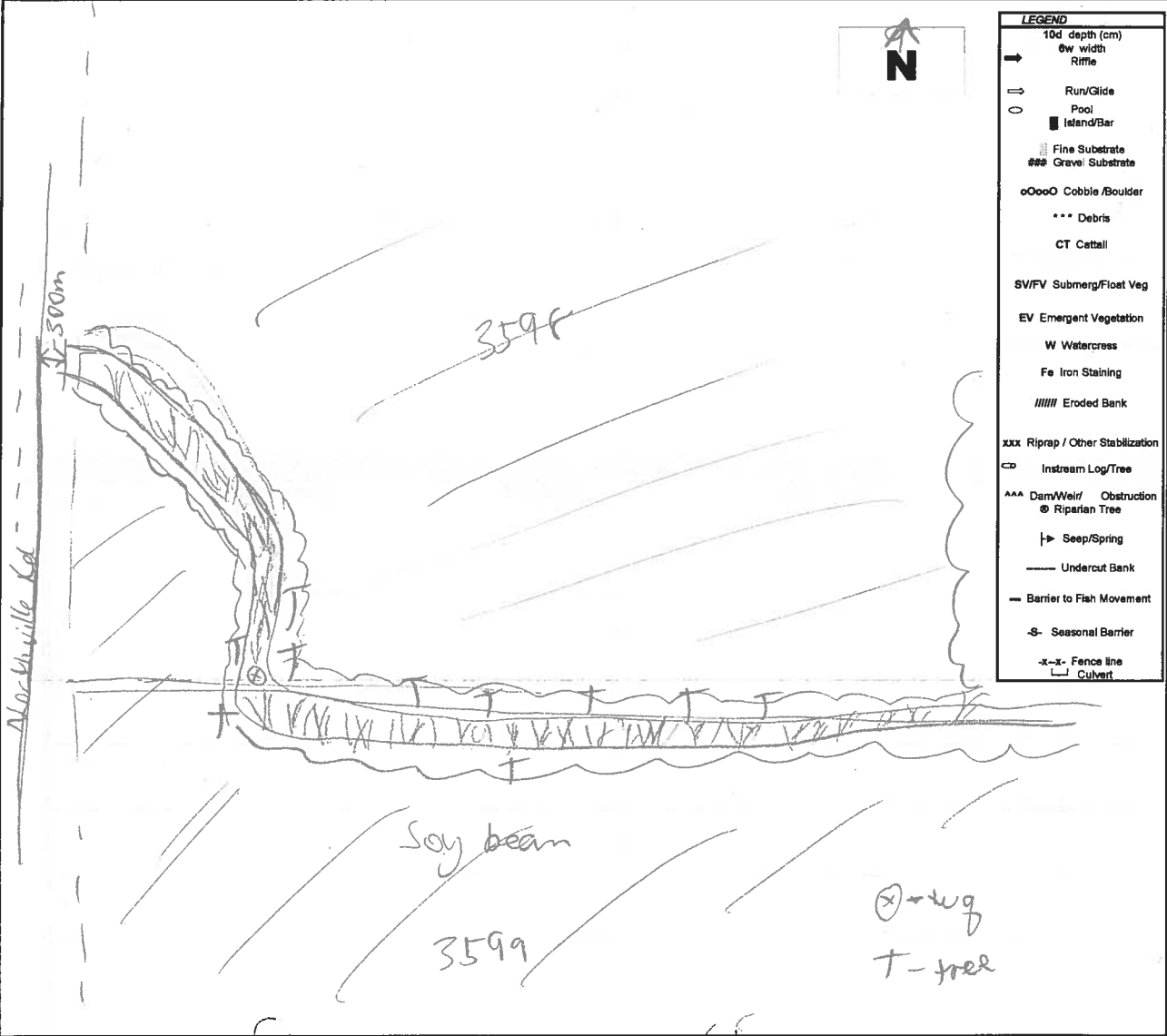
Bluewater

Land Parcel#

JE 2 3598

Site ID

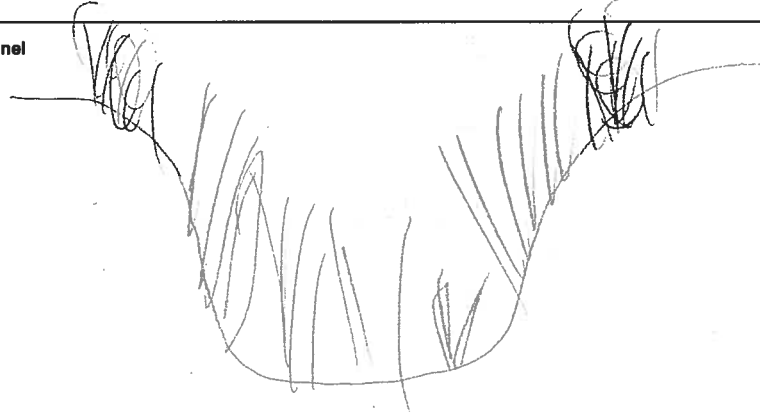
RND



LEGEND

- 10d depth (cm)
- 6w width
- Rifle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- ### Gravel Substrate
- oOooO Cobble/Boulder
- *** Debris
- CT Cattail
- SV/FV Submerg/Floater Veg
- EV Emergent Vegetation
- W Watercross
- Fe Iron Staining
- ////// Eroded Bank
- xxx Riprap / Other Stabilization
- CD 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: JGM

Date: Oct 2/12

Technical QA/QC By: [Signature]

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JEP 1011 13317/3318</u> Site ID: <u>R4D</u>
Date: <u>June 12/12</u>	Start time: <u>9:10</u>	End Time: <u>10:30</u>	
Weather Conditions: <u>Cloudy, 20°C</u>		Field Crew: <u>C. Boros, J. EPP</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Northville Rd, south of Cedar Point Line</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>428110</u>	Northing: <u>4774545</u>	Description: <u>R4 start</u>	
Easting: <u>428258</u>	Northing: <u>4779397</u>	Description: <u>R4 w2</u>	
Easting: <u>428307</u>	Northing: <u>4779111</u>	Description: <u>R4 end</u>	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Watercourse	
Residential <input checked="" type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>runs through wheat field + residential areas</u>		Description: <u>Straight</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>Tile drains - flowing, rock cantes</u>			
Is any portion of the water body underground or not as mapped? <u>Y / N</u>			
If Yes describe:			
/ / /			
GPS Coordinate: Easting -		Northing - Description -	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>flat.</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>21.0</u>	AT (°C): <u>20</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>7.57</u>	Cond (µs/cm): <u>565</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) <u>5.79</u>		Bubbling <input type="checkbox"/>	
Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>		Other <input type="checkbox"/>	
Water Colour: <u>n/a</u>		Details:	
Notes: <u>algae blooms + attached present</u> <u>~0.12m of water</u>			

ASA
3317
3318

Water Bodies Assessment Field Collection Form

Stream Morphology																							
Site Length (m): <i>~300m</i>			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></td> </tr> <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> <td></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> <td></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): <i>2</i>	Mean Wetted Depth (m): <i>0.12</i>	Description: <i>well vegetated</i>																					
Mean Bankfull Width (m): <i>3.5</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>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>mk = si = cl > sa</i>			<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 align="center">/</td> <td align="center">/</td> <td align="center">/</td> <td align="center">100</td> </tr> </table>			Pool	Riffle	Run	Flat	/	/	/	100										
Pool	Riffle	Run	Flat																				
/	/	/	100																				
			Notes: <i>straight</i>																				
Instream Cover (%) <i>fv</i>																							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks																	
/	/	/	/	80	/	Average Depth: / (% Cover) /																	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>algae - attached + blooms > pondweed >> grasses, water plantain</i>																							
Canopy Cover (% closed cover):			Types of Cover (% cover)																				
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees <i>80</i>	Shrubs <i>15</i>	Man-made structures																	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>5</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>Maple, ash, cottonwood, dogwood.</i>																							
Riparian Vegetation																							
Width and Description of riparian vegetation:			Riparian Vegetation																				
LB - <i>1m - meadow</i>			RB - <i>1m - meadow</i>																				
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N			% Overhanging Vegetation: <i>0.5%</i>																				
Description of Overhanging Vegetation: <i>some dogwood hanging just over wetted edge.</i>																							
Obstructions to Fish Passage																							
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>																
Description of Barrier:																							
Height of Barrier (m) <i>/</i>																							
GPS Coordinates: <i>/</i>																							

Water Bodies Assessment Field Collection Form

AECOM

Date: June 12/12

Land Parcel/Site ID: JER 1011, 3317/3318
~~3598~~ K47 Page 3 of 4

Other General Comments Regarding the Study Area:

- Y04 school observed
- Cyprinids (~3)

Watercourse is a straight channelized feature that is algae choked. Low canopy cover + soft bottom.

One JER 3318 channel more grass choked than algae - although algae present

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a	Sheet		
1b3	JER 3318		
4-25	Channel overview walking		
	North to South on JER 1011 + 3598		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

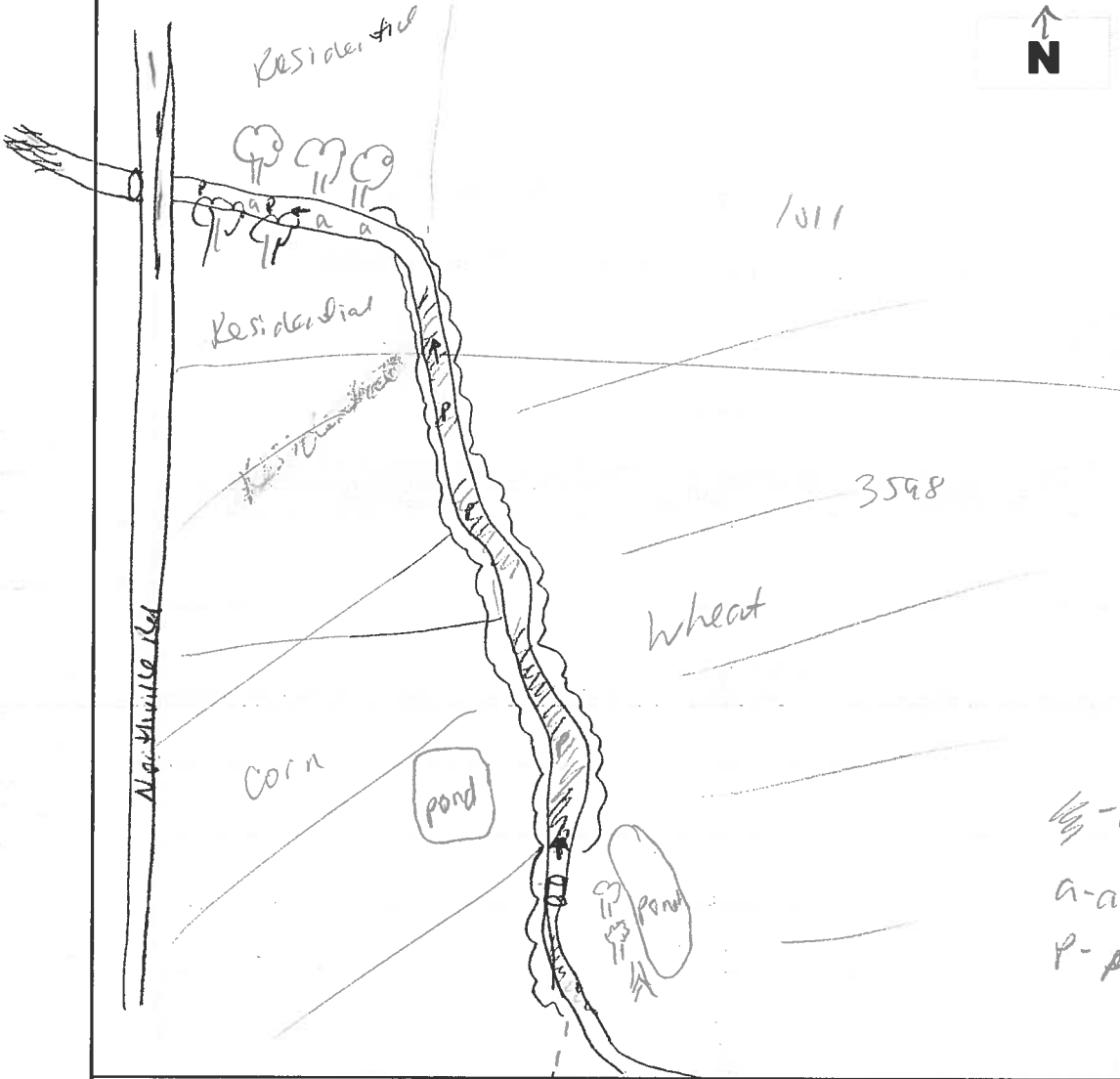
Bluewater

Land Parcel#

JER 1011 / 3598 / 3317 / 3318

Site ID

R4D



LEGEND	
→	10d depth (cm)
→	8w width
▭	Riffle
▭	Run/Glide
○	Pool
■	Island/Bar
	Fine Substrate
###	Gravel Substrate
oOoO	Cobble / Boulder
***	Debris
CT	Cattail
SV/FV	Submarg/Float Veg
EV	Emergent Vegetation
W	Watercross
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

1/3 - algae - mats (attached) → blooms
 a - algae attached
 P - pondweed

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 20, 2012

Technical QA/QC By: [Signature]

Date: July 10/12

**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>JKR 3598</u> Site ID: <u>R4.37</u>
Date: <u>June 12/12</u>	Start time: <u>10:00</u>	End Time: <u>10:30</u>	
Weather Conditions: <u>Cloudy 20°C</u>		Field Crew: <u>C. Boros, J. Epp</u> Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Northville Rd., south of Cedar Point Rd.</u>			
UTM Co-ordinates			
Easting: <u>428307</u>	Northing: <u>4774111</u>	Description: <u>R4</u>	
Easting: <u>428100</u>	Northing: <u>4773981</u>	Description: <u>R4.37 end</u>	
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 field</u>			
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	Y <u>(N)</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?	Y <u>(N)</u>		
3) Rock chutes or spillways?	Y <u>(N)</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?	Y <u>(N)</u>		
5) Temporarily ponded areas that are normally farmed?	Y <u>(N)</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?	Y <u>(N)</u>		
8) Any other:	<u>Buried</u>		
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>-green frog calling in area of R4</u>			
<u>Watercourse buried through corn field. Outlet/Inlet pipe observed at road + R4</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1a</u>	<u>sheet</u>		
<u>1-2</u>	<u>outlet at R4</u>		
<u>3</u>	<u>review</u>		
<u>4-5</u>	<u>outlet at road</u>		