

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

10/28/28
23.51

AECOM				Page 1 of 2			
General Information							
Study Area: Jericho		Goshen		Bluewater		Land Parcel# 3499/3090	
Date: May 31/12		Start time: 16:30		End Time: 16:40		Site ID: R3.28 R3.51	
Weather Conditions: Cloudy 10°C				Field Crew: C. Boros, A. Arsenault			
				Field Notes By: C. Boros			
Site Location							
Gordon Rd, (S) of Kennedy Ln.							
UTM Co-ordinates							
Easting:		Northing:		Description:			
Easting:		Northing:		Description:			
Easting:		Northing:		Description:			
Easting:		Northing:		Description:			
Surrounding Landuse				Ground Water and Seepage Indicators			
Residential	<input type="checkbox"/>	Meadow	<input type="checkbox"/>	Watercross	<input type="checkbox"/>	Bank Seepage	<input type="checkbox"/>
Agriculture	<input checked="" type="checkbox"/>	Wetland	<input type="checkbox"/>	Iron Staining	<input type="checkbox"/>	None	<input checked="" type="checkbox"/>
Forest	<input type="checkbox"/>	Livestock	<input type="checkbox"/>	Bubbling	<input type="checkbox"/>		
Other	<input type="checkbox"/>						
Description: Corn field				Details: /			
Feature Description							
Is the mapped water body any of the below:							
1) a grassed waterway?		Y / (N)					
2) Temporary channel for surface drainage, that can be tilled or driven through?				(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)							
Potential swale feature as area is hilly - No defined channel in the woods were found either							
Photo log							
Picture #	Description	Picture #	Description				
1-2	overviews	6	looking at 3494				
3-4	forest area						
5	looking north						

ASA
3494

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

R3.51

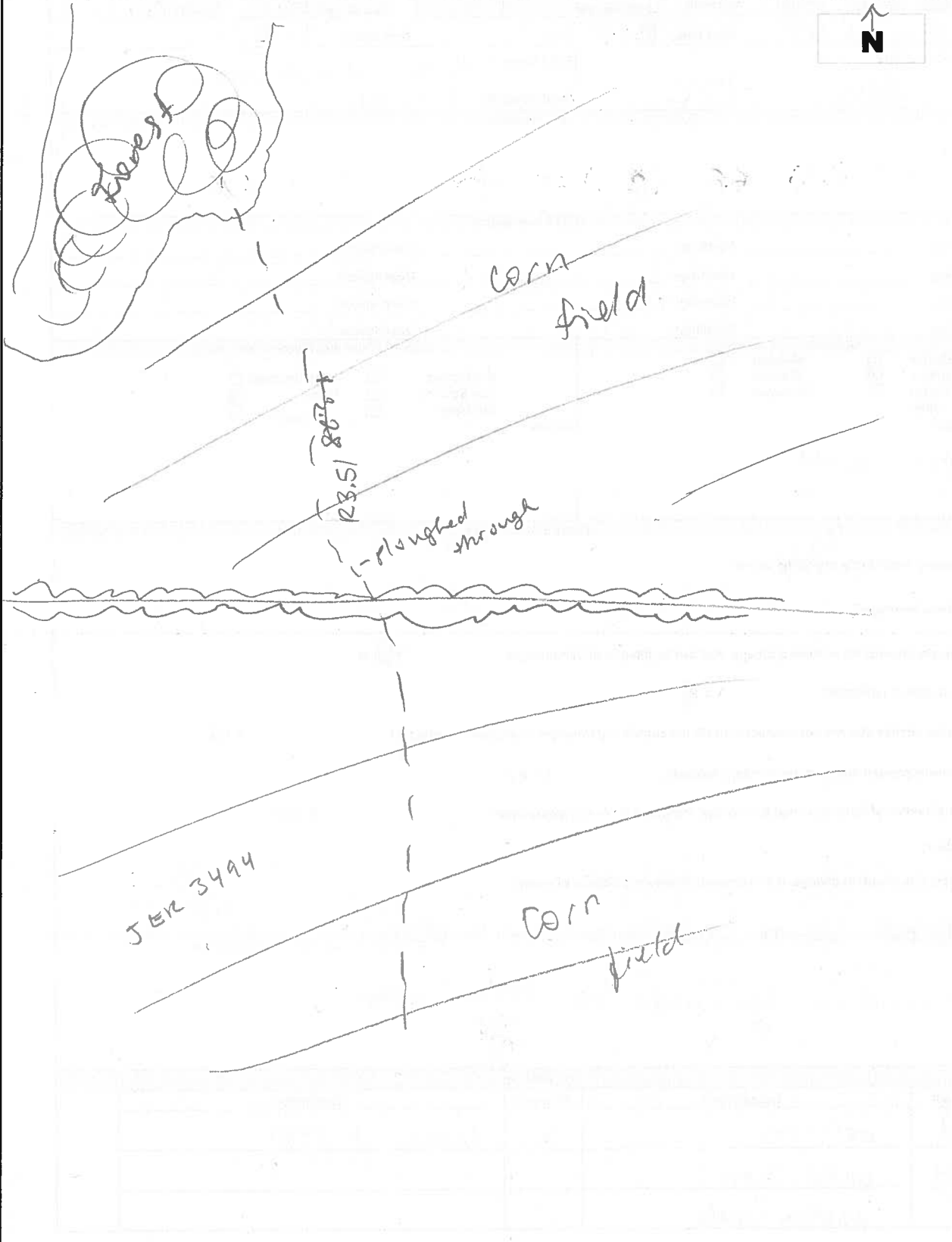
AECOM

Date: May 31/12

Land Parcel/Site ID: JER 3698 / 3494

Page 2 of 2

Site Sketch



Initial DA/AC: L Bentley June 4/2012
Sketcher Oct 2/12

Property ID: JER 3494 Date: May 31 / 12
Property Access: No Start Time: 17:30
End Time: 17:10

Field Investigators: C. Boros, A. Arsenault Weather: Cloudy

Terrestrial Feature Present: No Yes

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

Photograph Numbers: _____

Aquatic Feature Present: No Yes

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

ASA - Swale Check 1 + 2
↳ not a water body

Photograph Numbers: 1

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

AECOM

Page 1 of 2

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3494/3698 Site ID: R3.58/R3.51

Date: May 31/12 Start time: 16:15 End Time: 16:30

Weather Conditions:

Cloudy, 10°C

Field Crew:

C. Boros, A. Arsenault

Field Notes By:

C. Boros

Site Location

Gordon rd, (5) of Kennedy Ln.

ASA
3494

UTM Co-ordinates

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

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

Ground Water and Seepage Indicators

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

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? N
- 3) Rock chutes or spillways? Y / N
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / N
- 5) Temporarily ponded areas that are normally farmed? Y / N
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / N
- 8) Any other:

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

no evidence of water conveyance in area

Photo log

Picture #	Description	Picture #	Description
1	Looking North from fence line		
2	Looking South at Jct R 3494		

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

R3.51

AECOM

Date:

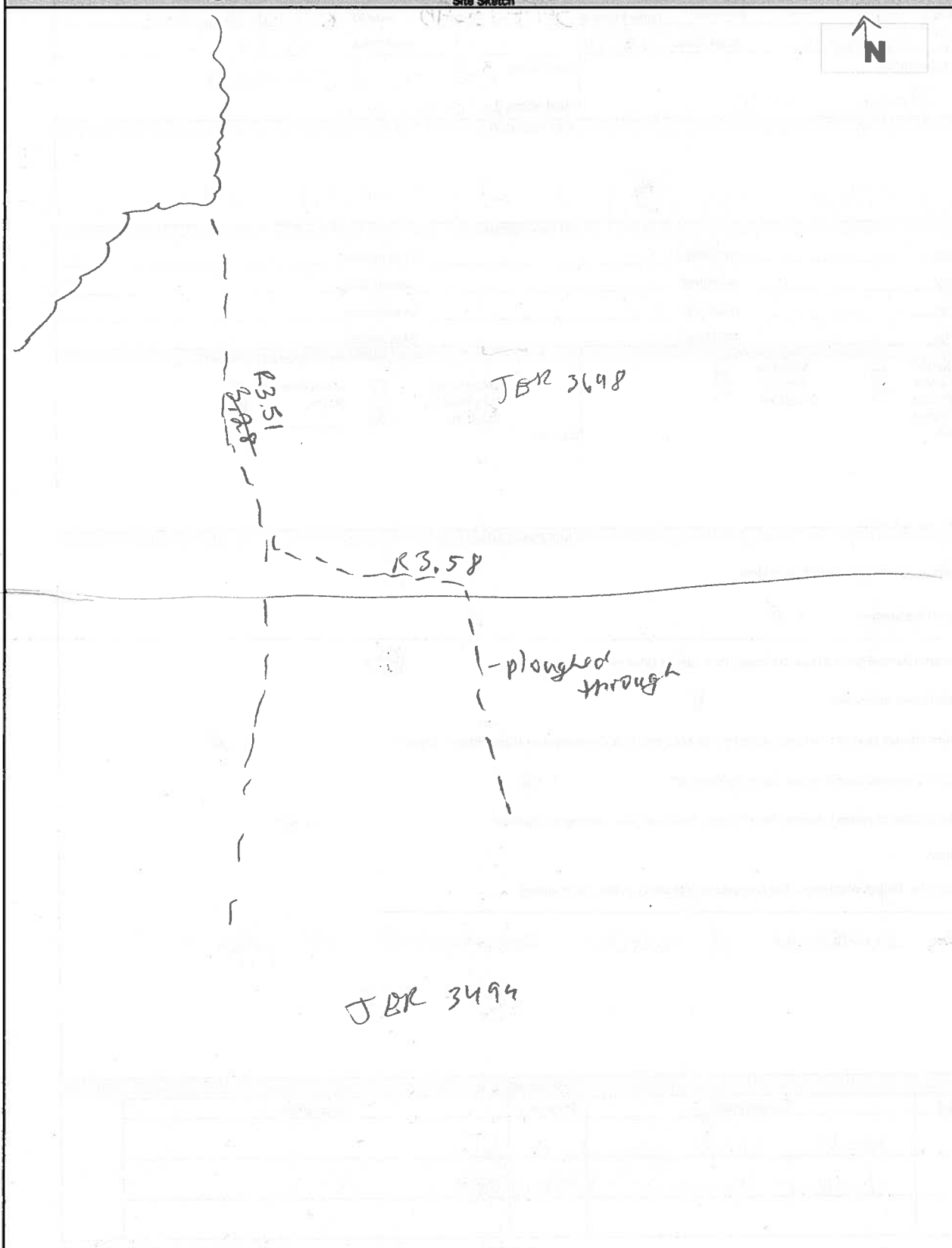
May 31/12

Land Parcel/Site ID:

R3.58 JBR 3494/3698

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Site Sketch



Initial QA/QC: L. Bentley June 9, 2012

Submitted Oct. 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jaricho Goshen Bluewater Land Parcel# EX 3552/1100 3313 Site ID: R3.73

Date: Sept 28/12 Start time: 9:10 End Time: 9:55

Weather Conditions: Sunny, 10°C Field Crew: C. Barros, R. Byer-Coward
Field Notes By: C. Barros

Site Location

Ridge Rd., west of Northville Rd. Roadside ASA

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

Easting: 428177 Northing: 4776972 Description: Northville Rd.

Easting: Northing: Description:

Easting: Northing: Description:

Easting: Northing: Description:

Surrounding Landuse

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

Description: watercourse riparian meadow forest than crop fields

Type of Watercourse

- Intermittent Est Channelized
- Permanent Natural Channel
- Ephemeral

Description: not known

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

none observed

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

If Yes describe: un-mapped.

GPS Coordinate: Easting - Northing - Description -

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

flat

In-Situ Water Quality

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

Water Colour:

Notes: no access

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): 400				Bank Stability:				
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable	
Mean Wetted Width (m):	~2-3	Mean Wetted Depth (m):	/	Left Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	/	Mean Bankfull Depth (m):	/	Right Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	/	Mean Top of Bank Depth (m):	/	Description: <i>unknown</i>				
Flow Description: (high or low flow conditions, stagnant, etc)								
Habitat								
Substrate (< = >)				Morphological Structure (%)				
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <i>unknown</i>				Notes:				
				/				
				Pool	Riffle	Run	Flat	
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
						Average Depth: (% Cover)		
Note: Low = 0 - 30% ; Moderate = 30 - 75% ; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)								
<i>- could not assess</i>								
Canopy Cover (% closed cover):				Types of Cover (% cover)				
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<i>50</i>	Shrubs	<i>50</i>	
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	/	Herbaceous	/	
60-30%	<input type="checkbox"/>			Man-made structures				
				Other				
Note: Low = 0 - 30% ; Moderate = 30 - 60% ; High = 60 - 100%								
Notes: (vegetation species, types of structures)								
<i>willow, phragmites</i>								
Riparian Vegetation								
Width and Description of riparian vegetation:				Riparian Vegetation				
LB - <i>5m - meadow + forest</i>				RB - <i>8m - meadow + forest</i>				
Overhanging Vegetation Present Y / N				% Overhanging Vegetation:				
Description of Overhanging Vegetation:								
<i>unknown</i>								
Obstructions to Fish Passage								
None Observed <input checked="" type="checkbox"/>		Man-Made <input type="checkbox"/>		Natural <input type="checkbox"/>		Low Flow Barrier <input type="checkbox"/>		
Description of Barrier:								
Height of Barrier (m)				GPS Coordinates:				

Water Bodies Assessment Field Collection Form

AECOM

Date: *Sept 28 /12*

Land Parcel/Site ID:

*JER 3313
3352
1100, 1067*

Page 3 of 4

Other General Comments Regarding the Study Area:

West - Could not see watercourse from Northville. Could not assess watercourse from Ridge Rd. (~25m from road).

East - dry channel observed crossing Ridge Rd and then appears to drain north along Northville Rd ditch.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
<i>1-2</i>	<i>West Side - from Northville Rd.</i>		
<i>3-8</i>	<i>- from Ridge Road</i>		
<i>9-10 +11</i>	<i>East side 50m east of Northville road along Ridge Rd.</i>		
<i>12-13</i>	<i>Northville Rd culvert area</i>		
<i>14</i>	<i>Culvert area ^{looking} from Ridge Rd.</i>		
<i>15-17</i>	<i>dry channel.</i>		

Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

JER 3352/1100/

Study Area:

Jericho

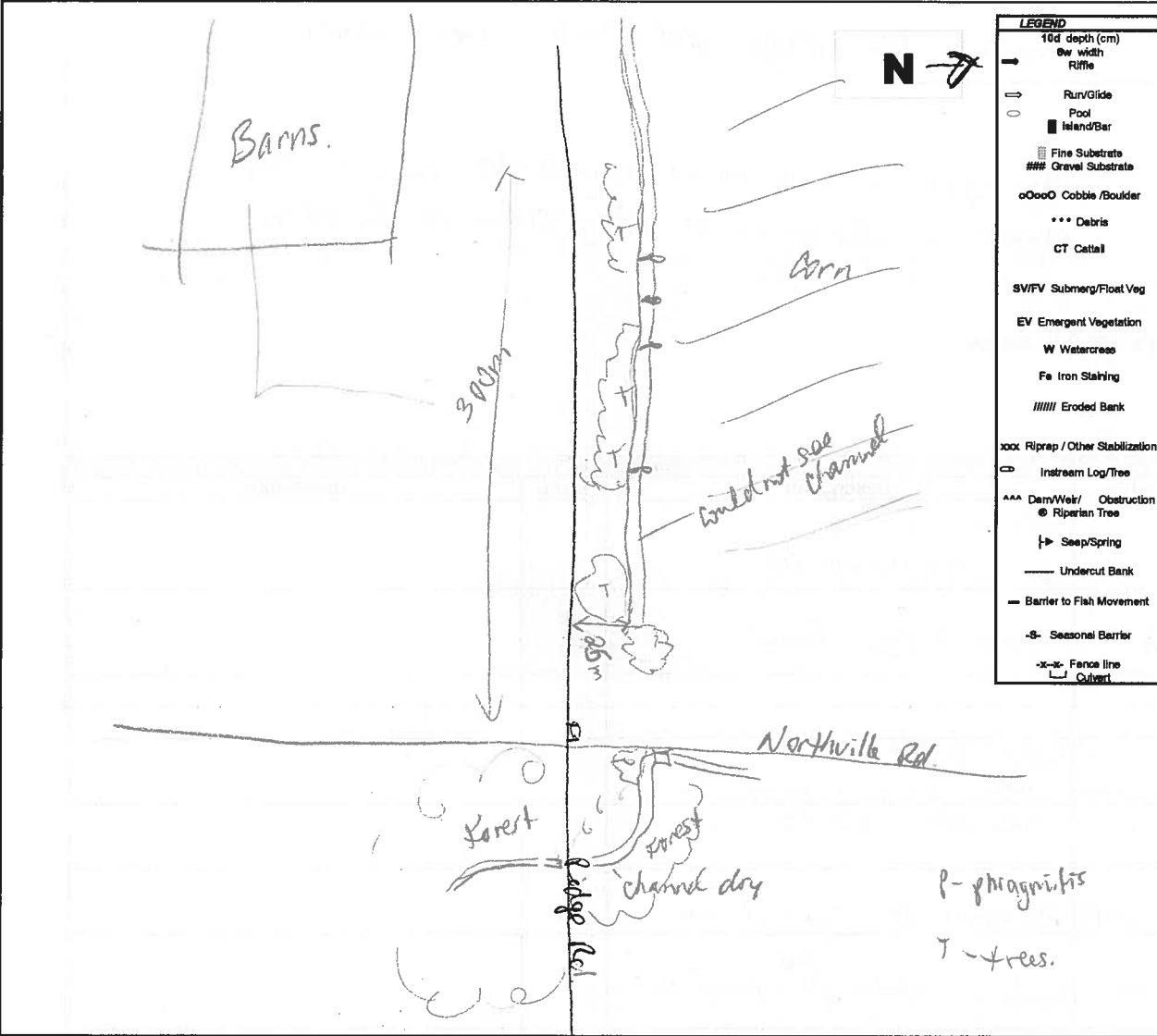
Goshen

Bluewater

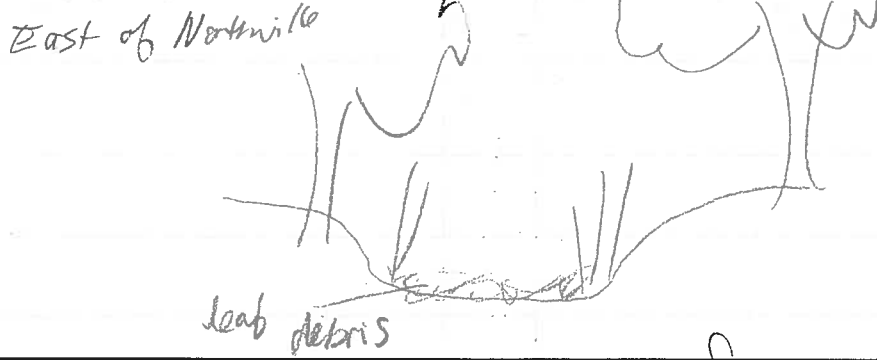
Land Parcel#

3313/1067 Site ID

R3.73



Horizontal View of Channel



Initial QA/QC By:

Jhm

Date:

Oct 21/12

Technical QA/QC By:

[Signature]

Date:

Oct 21/12

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

AECOM		Page 1 of 2	
General Information ROW			
Study Area: <u>Jericho</u>	Goshen	Bluewater	Land Parcel# <u>JER 3582</u> Site ID: <u>R3.70</u>
Date: <u>June 12/12</u>	Start time: <u>8:45</u>	End Time: <u>9:00</u>	
Weather Conditions: <u>Cloudy, 21°C</u>		Field Crew: <u>C. Boros, J. Epp</u>	
		Field Notes By: <u>C. Boros</u>	
Site Location			
<u>Gordon Rd, north of Cedar Point Rd.</u>			
UTM Co-ordinates			
Easting: <u>430196</u>	Northing: <u>4774703</u>	Description: <u>R3.70 Start</u>	
Easting: <u>430203</u>	Northing: <u>4774862</u>	Description: <u>R3.70 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 _____		Details: _____	
Description: <u>Roadside ditch</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?	<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>Roadside ditch dry + did not appear to convey water at any time. The west side of the road had a more defined channel - but again no water present</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1</u>	<u>looking south</u>		
<u>2-7</u>	<u>looking W at channel area</u>		
<u>8-10</u>	<u>west ditch.</u>		

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

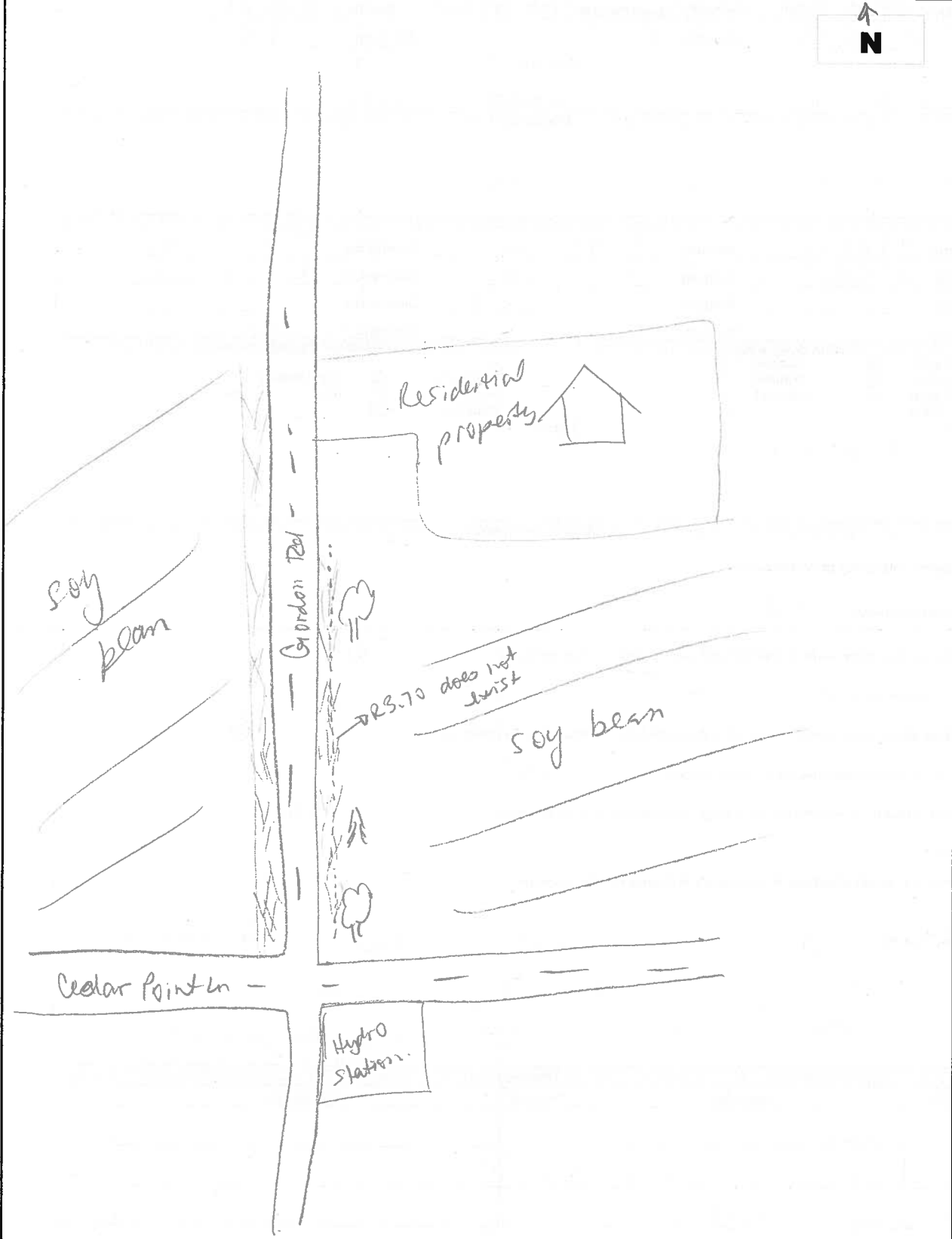
AECOM

Date: June 12/10

Land Parcel/Site ID: JER 3582 R3.70

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Site Sketch



Initial QA/QC: L Bentley June 20, 2012

Technical QA/QC: Suttner July 10/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 1125 Site ID: T56 R3.70
 Date: Sept 17 /12 Start time: 10:45 End Time: 11:50

Weather Conditions:

Sunny, 25°C

Field Crew: C. Boros, R. Byer-Coward

Field Notes By: C. Boros

Site Location

Gordon Rd, north of Cedar Point Ln

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

Easting: 430198 Northing: 4775108 Description: JER 1125 S
 Easting: 429908 Northing: 4775532 Description: JER 1125 S
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse
 Residential
 Agriculture
 Forest
 Other
 Meadow
 Wetland
 Livestock
 Description: - corn fields + very bean field

Type of Watercourse
 Intermittent
 Permanent
 Ephemeral
 Channelized
 Natural Channel
 Description: dry in some stretches

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

- tile drain inputs 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)

- slightly hilly

In-Situ Water Quality

WT (°C): 16.46 AT (°C): 25°C
 pH: 8.01 Cond (mS/cm): 1.76
 D.O. (mg/L) 1.8
 Water Clarity: Clear Turbid
 *Hach DR/9000 used
 Water Colour: brown tinge

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

Notes: taken in small pool by large tile drain input. Pool covered in duckweed
water depth 0.15 m.

Water Bodies Assessment Field Collection Form

Stream Morphology																		
Site Length (m): 400m		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 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): 1m	Mean Wetted Depth (m): 0.85	Description: Evidence of erosion in some sections - bare soils																
Mean Bankfull Width (m): 2	Mean Bankfull Depth (m): 0.65																	
Mean Top of Bank Width (m): 5	Mean Top of Bank Depth (m): 2																	
Flow Description: (high or low flow conditions, stagnant, etc)																		
- no flow → watercourse broken up by stretches of dry channel																		
Substrate (<=>)		Habitat																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Description: si, mk > sa, cl > gr	<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>10</td> <td></td> <td></td> <td>90</td> </tr> </table> Notes: pooled areas at 2 culverts + large tile drain input		Morphological Structure (%)				Pool	Riffle	Run	Flat	10			90			
Morphological Structure (%)																		
Pool	Riffle	Run	Flat															
10			90															
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.)																		
grasses >> sedges, water plantain, duckweed (reed canopy)																		
Canopy Cover (% closed cover):			Types of Cover (% cover)															
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs	Man-made structures												
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses 100	Herbaceous	Other												
60-30%	<input type="checkbox"/>																	
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																		
Notes: (vegetation species, types of structures)																		
grasses protruding from banks																		
Riparian Vegetation																		
Width of riparian vegetation: ~1m - meadow																		
Description of vegetation community surrounding 30 m from watercourse:																		
crop agri fields - corn																		
Obstructions to Fish Passage																		
No Obstructions	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier <input checked="" type="checkbox"/>												
Description of Barrier: stretches in channel dry																		
Height of Barrier (m)			GPS Coordinates:															

Water Bodies Assessment Field Collection Form

AECOM

Date: Sept 17/12

Land Parcel/Site ID: JER 1125

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Other General Comments Regarding the Study Area:

Watercourse is straight channelized feature with abundant in stream vegetation - dominant emergent grasses. Water level low, substrate soft, some evidence of erosion.

- frogs observed - most likely leopard

Additional UTM Coordinates:

- friendly farm dog on-site

Photo log

Picture #	Description	Picture #	Description
1-2	Site Overview		
3	Culvert		
4-8	Channel overview		
9	large tile drain input		
10	dip 1/5 → at tile drain input		
11	dip 1/5 → at tile drain input		
12	dog in water		
13	channel overview		
14-15	Culvert		
16-21	channel overview		

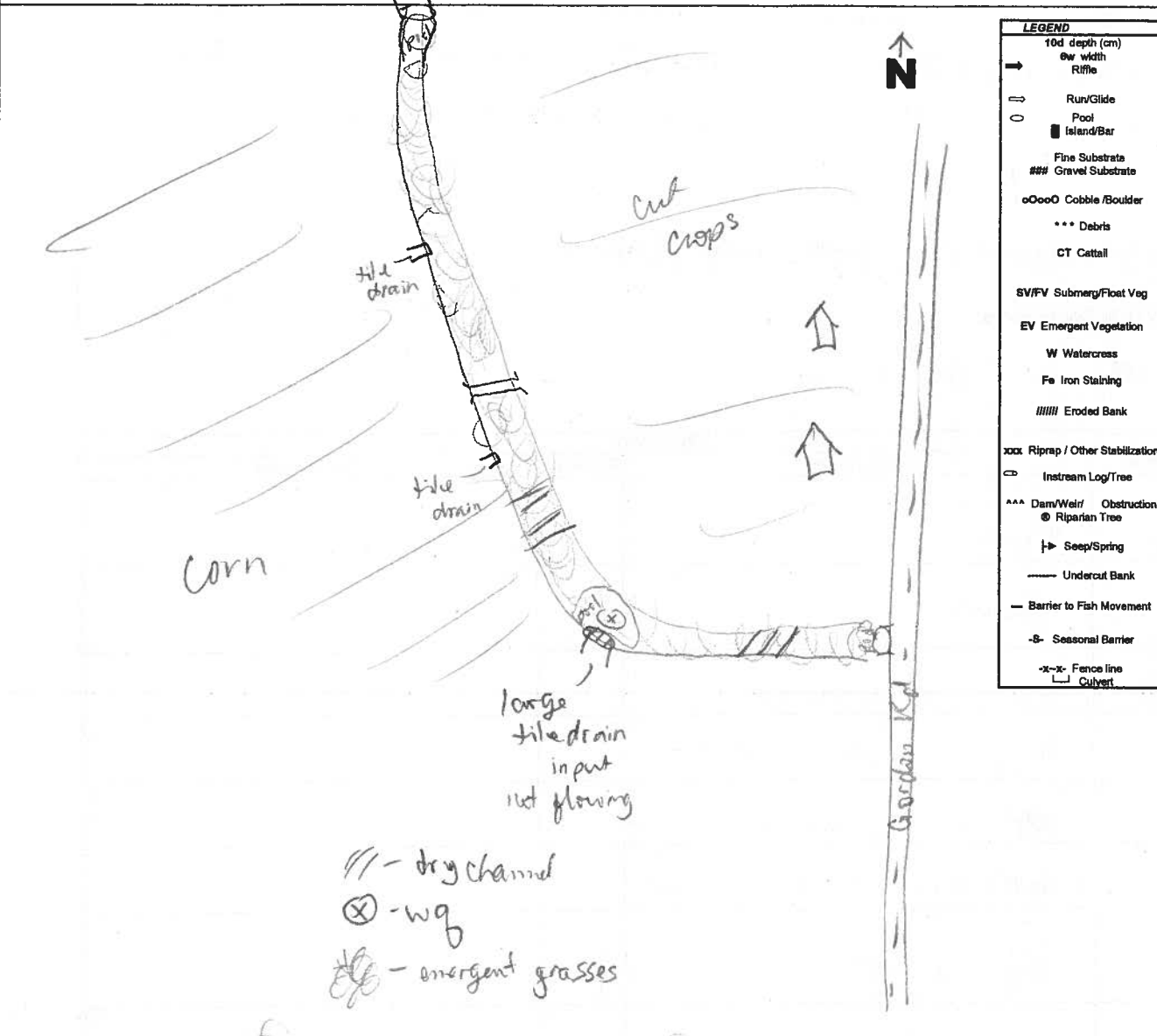
Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JER1125 Site ID J56 R3.70



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

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3530 Site ID: RS.46
 Date: May 14/12 Start time: 17:25 End Time: 17:45
 Weather Conditions: Sunny, 18°C Field Crew: C. Boros, A. Arsenauet
 Field Notes By: C. Boros

Site Location

Thompson Cr., West of Arkona

Roadside Survey

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

Easting: <u>0431925</u>	Northing: <u>4777995</u>	Description: <u>culvert at road</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse

Type of Watercourse

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

Description: forest adjacent
agri field starts at 15m

Description: Straight

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

tile drain fed - 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

Ground Water and Seepage Indicators

WT (°C): _____ AT (°C): 18°C
 pH: _____ Cond (s/cm): 1
 D.O. (mg/L) _____
 Water Clarity: Clear Turbid
 Water Colour: _____

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Notes: could not assess

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology											
Site Length (m): <i>10m</i>			Bank Stability:								
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable					
Mean Wetted Width (m): <i>2m</i>	Mean Wetted Depth (m): <i>n/a</i>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mean Bankfull Width (m): <i>2.5</i>	Mean Bankfull Depth (m): <i>n/a</i>		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Mean Top of Bank Width (m): <i>4</i>	Mean Top of Bank Depth (m): <i>n/a</i>	Description:									
Flow Description: (high or low flow conditions, stagnant, etc)											
<i>flow out of culvert but no observable flow down</i>											
Habitat											
Substrate (<= >)		Description		Morphological Structure (%)							
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay	MK - Muck	DT - Detritus	Pool	Riffle	Run	Flat
<i>n/a</i>								<i>100</i>			
<i>Could not assess</i>								Notes:			
<i>straight channel</i>											
Instream Cover (%)											
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
				<i>60</i>		Average Depth: (% Cover)					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
<i>algae blooms >> emergent grasses</i>											
Canopy Cover (% closed cover):			Types of Cover (% cover)								
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <i>70</i>	Shrubs <i>30</i>	Man-made structures					
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____	Other _____					
60-30%	<input type="checkbox"/>										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
<i>Oak, Elm, dogwood</i>											
Riparian Vegetation											
Width of riparian vegetation: <i>E = 15m W = 40m</i>											
Description of vegetation community surrounding 30 m from watercourse:											
<i>agri crop fields</i>											
Obstructions to Fish Passage											
No Obstructions	<input type="checkbox"/>	Man-Made	<input checked="" type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>				
Description of Barrier: <i>perched culvert</i>											
Height of Barrier (m) <i>0.15</i>											
GPS Coordinates: <i>0430925 9777995</i> <i>roadside</i>											

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Status

Study Area:

Jericho

Goshen

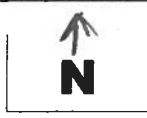
Bluewater

Land Parcel#

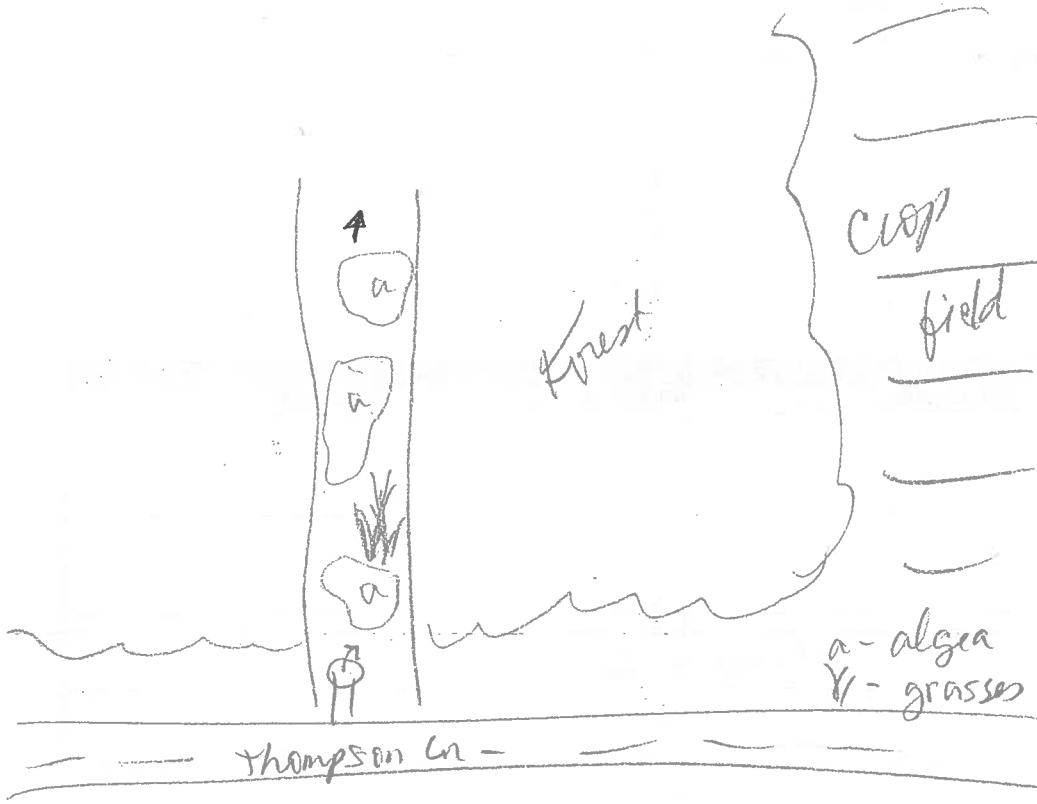
3530

Site ID

R3.4b



LEGEND	
10d depth (cm)	
6w width	
Rifle	→
Run/Glide	⇄
Pool	○
Island/Bar	◻
Fine Substrate	⊠
Gravel Substrate	##
Cobble / Boulder	oOoo
Debris	***
Catfall	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	***
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: A. Atkin

Date: May 29, 2012

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1073 Site ID: R8.53
 Date: May 14/12 Start time: 16:40 End Time: 17:10
 Weather Conditions: Sunny 18°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

Site Location

Thompson Ln, west of Arkona

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

Easting: 0431543 Northing: 4777978 Description: JER1073 start
 Easting: 0431558 Northing: 4778082 Description: JER1073 end
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Description: forest adjacent to stream
agri fields surrounding

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)

yes - tile drain fed at road - not flowing

Is any portion of the water body underground or not as mapped? Y /
 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): 15.25 AT (°C): 18°C
 pH: 7.37 Cond (µs/cm): 471
 D.O. (mg/L): -0.16
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: taken in stagnant water
algae present

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

large mat by road
culvert

Water Bodies Assessment Field Collection Form

Stream Morphology																
Site Length (m): <i>60m</i>			Bank Stability:													
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable										
Mean Wetted Width (m): <i>2</i>	Mean Wetted Depth (m): <i>0.2</i>		Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
Mean Bankfull Width (m): <i>3.0</i>	Mean Bankfull Depth (m): <i>0.65</i>		Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
Mean Top of Bank Width (m): <i>4.0</i>	Mean Top of Bank Depth (m): <i>1</i>		Description: <i>erosion</i>													
Flow Description: (high or low flow conditions, stagnant, etc)																
<i>v. low flow</i>																
Habitat																
Substrate (<= >)			Morphological Structure (%)													
Description			Pool	Riffle	Run	Flat										
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;"><i>100</i></td> </tr> </table>										<i>100</i>	Notes: <i>straight</i>		
			<i>100</i>													
Instream Cover (%) <i>80</i>																
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks										
<i>/</i>	<i>15</i>	<i>/</i>	<i>/</i>	<i>65</i>	<i>/</i>	Average Depth: (% Cover) <i>/</i>										
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																
<i>algae - mats (bloom), attached</i>																
Canopy Cover (% closed cover):			Types of Cover (% cover)													
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <i>90</i>	Shrubs <i>10</i>	Man-made structures										
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	Herbaceous	Other										
60-30%	<input type="checkbox"/>															
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																
Notes: (vegetation species, types of structures)																
<i>Ash, buckthorn</i>																
Riparian Vegetation																
Width of riparian vegetation: <i>E - 15m → logged forest W - forest - deciduous</i>																
Description of vegetation community surrounding 30 m from watercourse: <i>forest then agri fields</i>																
Obstructions to Fish Passage																
No Obstructions	<input type="checkbox"/>	Man-Made	<input checked="" type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>									
Description of Barrier: <i>perched culvert - 2</i>																
Height of Barrier (m) <i>0.5m + 0.20m</i>			GPS Coordinates: <i>0431543, 4777 978</i>													

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Study Area:

Jericho

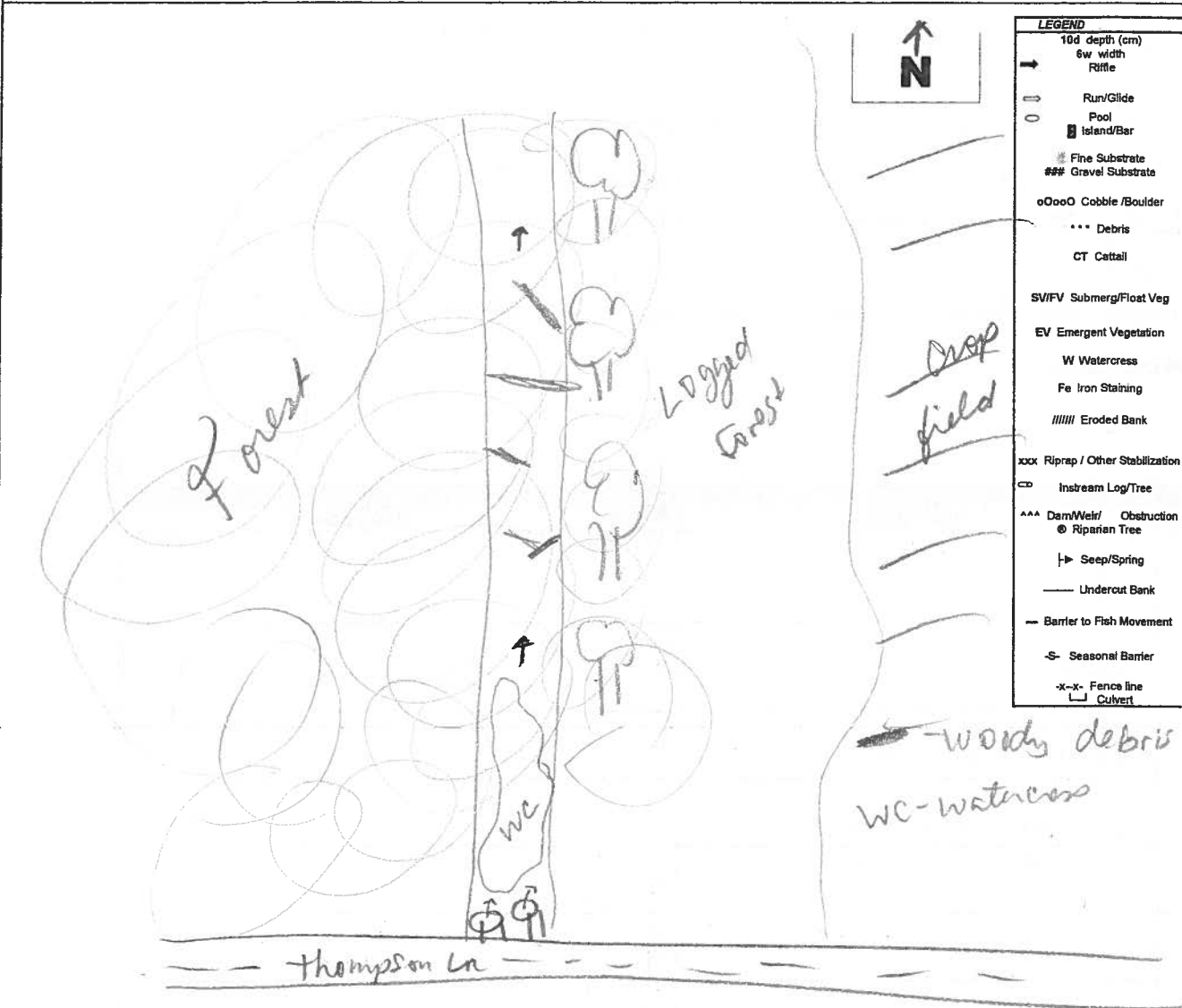
Goshen

Bluewater

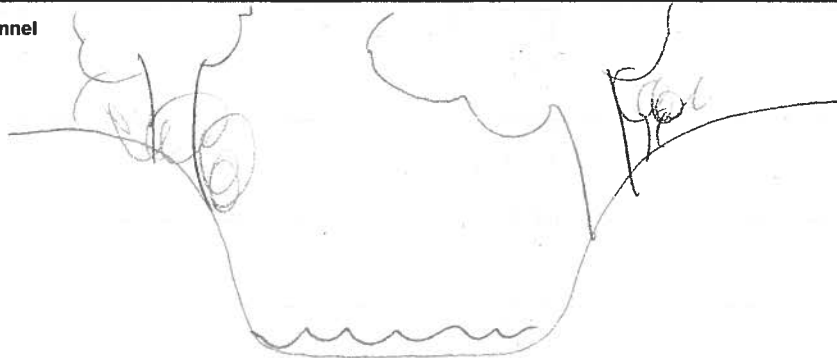
Land Parcel# 1073

Site ID

R3,53



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 22, 2012

Technical QA/QC By: [Signature]

Date: Oct 2012

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3695/3707 Site ID: R3C

Date: June 6/12 Start time: 7:50 End Time: 8:35

Weather Conditions: Cloudy, 10°C Field Crew: C. Boros, S. Paraihe
Field Notes By: C. Boros

Site Location

Gordon St., just south of Kennedy Rd

Roadside Survey

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

Easting: 430373 Northing: 4781762 Description: R3

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: on west south side planted crop field

Description: _____

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

None observed

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

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

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

Rolling hills

In-Situ Water Quality

WT (°C): 13.61 AT (°C): 14°C
pH: 7.96 Cond (µs/cm): 556
D.O. (mg/L) 7.62
Water Clarity: Clear Turbid

Water Colour: n/a

Notes: _____

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling _____
Other

Details: _____

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 40m (20E, 20W)				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): 3.5	Mean Wetted Depth (m): 0.3	Description: Bank erosion occurring by bridge - most likely a result of high flash flows																		
Mean Bankfull Width (m): 6	Mean Bankfull Depth (m): 1.5																			
Mean Top of Bank Width (m): 10	Mean Top of Bank Depth (m): 4																			
Flow Description: (high or low flow conditions, stagnant, etc) moderate flow, low water level																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus si = cl > mk > co = bo			<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>10</td> <td>10</td> <td>5</td> <td>75</td> </tr> </table> Notes: downstream of bridge has the riffles + pools			Pool	Riffle	Run	Flat	10	10	5	75							
Pool	Riffle	Run	Flat																	
10	10	5	75																	
Instream Cover (%)																				
Other	Small Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	5	3	20	/	/	Average Depth: / (% Cover) /														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
/																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	60	Shrubs	40	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) Ash, walnut, dogwood, willow																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - 70m - deciduous forest			RB - 5m - south west - forest 70m - east side																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 10																	
Description of Overhanging Vegetation: Not hanging close to stream - willow + dog wood - 2 locations																				
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

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Watercourse Sketch

Study Area:

Jericho

Goshen

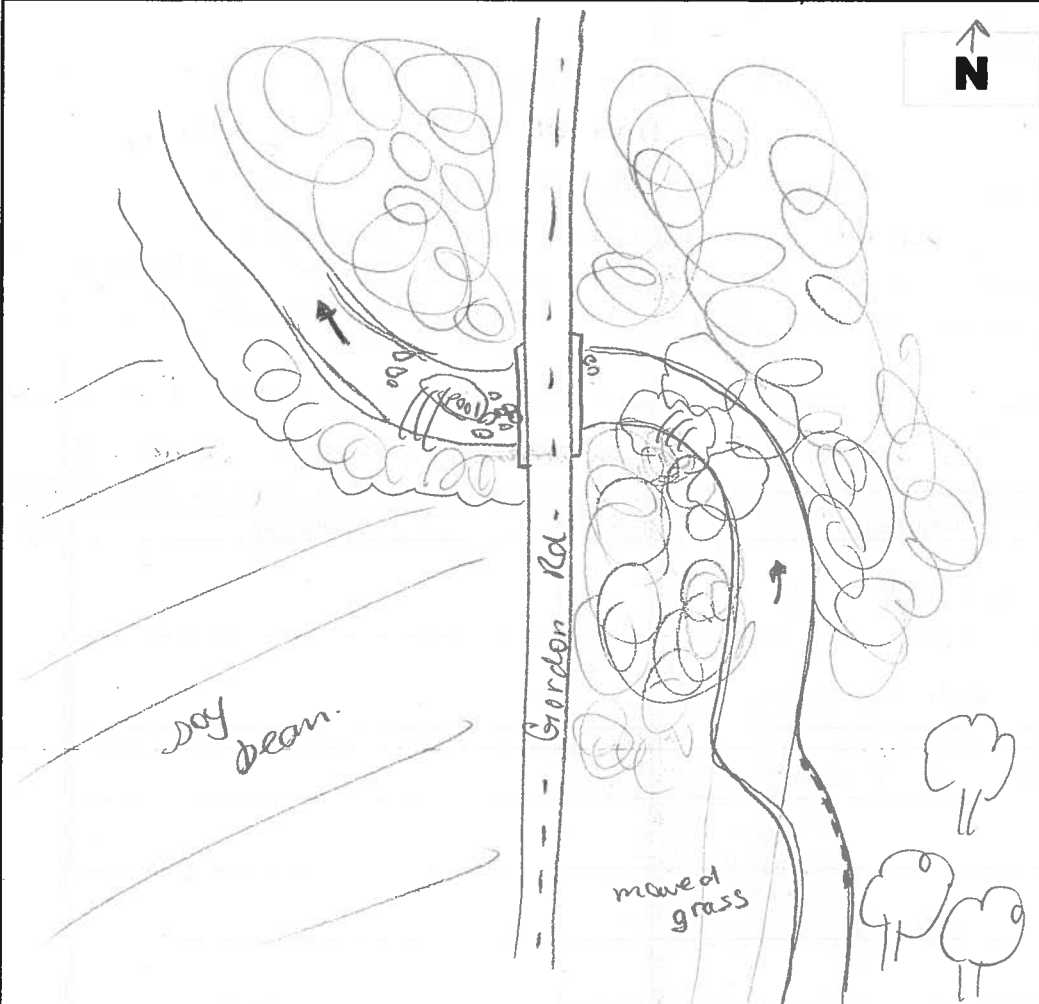
Bluewater

Land Parcel#

JER 3707
3695

Site ID

R3C

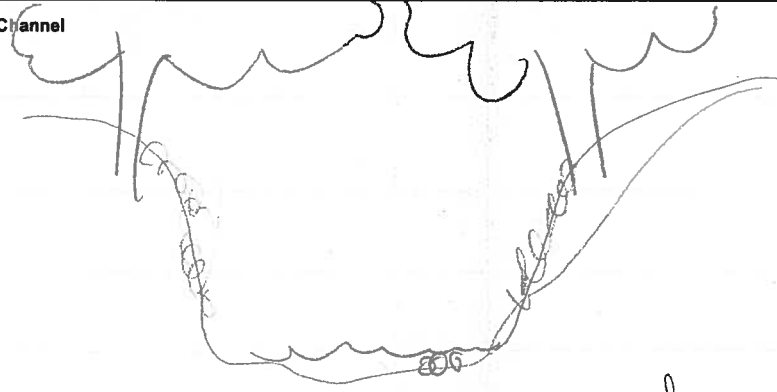


LEGEND	
10d depth (cm)	→
0w width	⇨
Riffle	⇨⇨
Run/Glide	⇨⇨⇨
Pool	○
Island/Bar	■
Fine Substrate	
Gravel Substrate	####
Cobble/Boulder	oOooO
Debris	***
Cattail	CT
Submerg/Floal Veg	SV/FV
Emergent Vegetation	EV
Watercress	W
Iron Staining	Fe
Eroded Bank	
Riprap / Other Stabilization	xxx
Instream Log/Tree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

≡≡≡ overhanging veg
 --- highly eroded.

ASA for properties: JER 3695, 3709, 3713, 3707, 3719, 3516, 3514

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 13, 2012

Technical QA/QC By: [Signature]

Date: Oct 21/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER1097 Site ID: R3A

Date: May 23/12 Start time: 11:07 am End Time: 11:30

Weather Conditions: Sunny 17°C Field Crew: C. Boros, J. Epp
Field Notes By: J. Epp

Site Location

West of Northfield in line with Farmer's Line

ASA Roadside

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

Easting: 428164 Northing: 4776425 Description: R3JER1097

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

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

Description: Agricultural - Row crops

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description: Channelized between agricultural fields.

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

None seen - ASA

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 - agricultural land.

In-Situ Water Quality

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

Water Colour: No colour.

Notes: ASA - water quality could not be taken.

Ground Water and Seepage Indicators

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

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 100			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Stable</td> <td style="text-align: center;">Slightly unstable</td> <td style="text-align: center;">Moderately unstable</td> <td style="text-align: center;">Unstable</td> </tr> <tr> <td>Mean Wetted Width (m): 0.2</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Mean Bankfull Width (m): 0.5</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Mean Wetted Width (m): 0.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mean Bankfull Width (m): 0.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Mean Wetted Width (m): 0.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Bankfull Width (m): 0.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Depth (m): ASA Mean Bankfull Depth (m): not deep			Left Bank: <input checked="" type="checkbox"/> Stable, <input type="checkbox"/> Slightly unstable, <input type="checkbox"/> Moderately unstable, <input type="checkbox"/> Unstable Right Bank: <input checked="" type="checkbox"/> Stable, <input type="checkbox"/> Slightly unstable, <input type="checkbox"/> Moderately unstable, <input type="checkbox"/> Unstable																	
Mean Top of Bank Width (m): 4.5			Mean Top of Bank Depth (m): 2.5																	
Description: well vegetated banks, no signs of erosion.																				
Flow Description: (high or low flow conditions, stagnant, etc) stagnant - no flow seen, low volume.																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description: Silt Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td align="center">100</td> </tr> </table>			Pool	Riffle	Run	Flat				100							
Pool	Riffle	Run	Flat																	
			100																	
			Notes: No visible flow.																	
Instream Cover (%) 40																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
				40		Average Depth: _____ (% Cover) _____														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) algae - attached.																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	5	Shrubs	3	Man-made structures												
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	92	Herbaceous		Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) Ash, Elm, grasses																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - 1.5 m			RB - 1.5 m																	
Overhanging Vegetation Present: 0/1 N			% Overhanging Vegetation: 80%																	
Description of Overhanging Vegetation: grasses.																				
Obstructions to Fish Passage																				
None Observed <input checked="" type="checkbox"/> Man-Made <input type="checkbox"/> Natural <input type="checkbox"/> Low Flow Barrier <input type="checkbox"/>																				
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

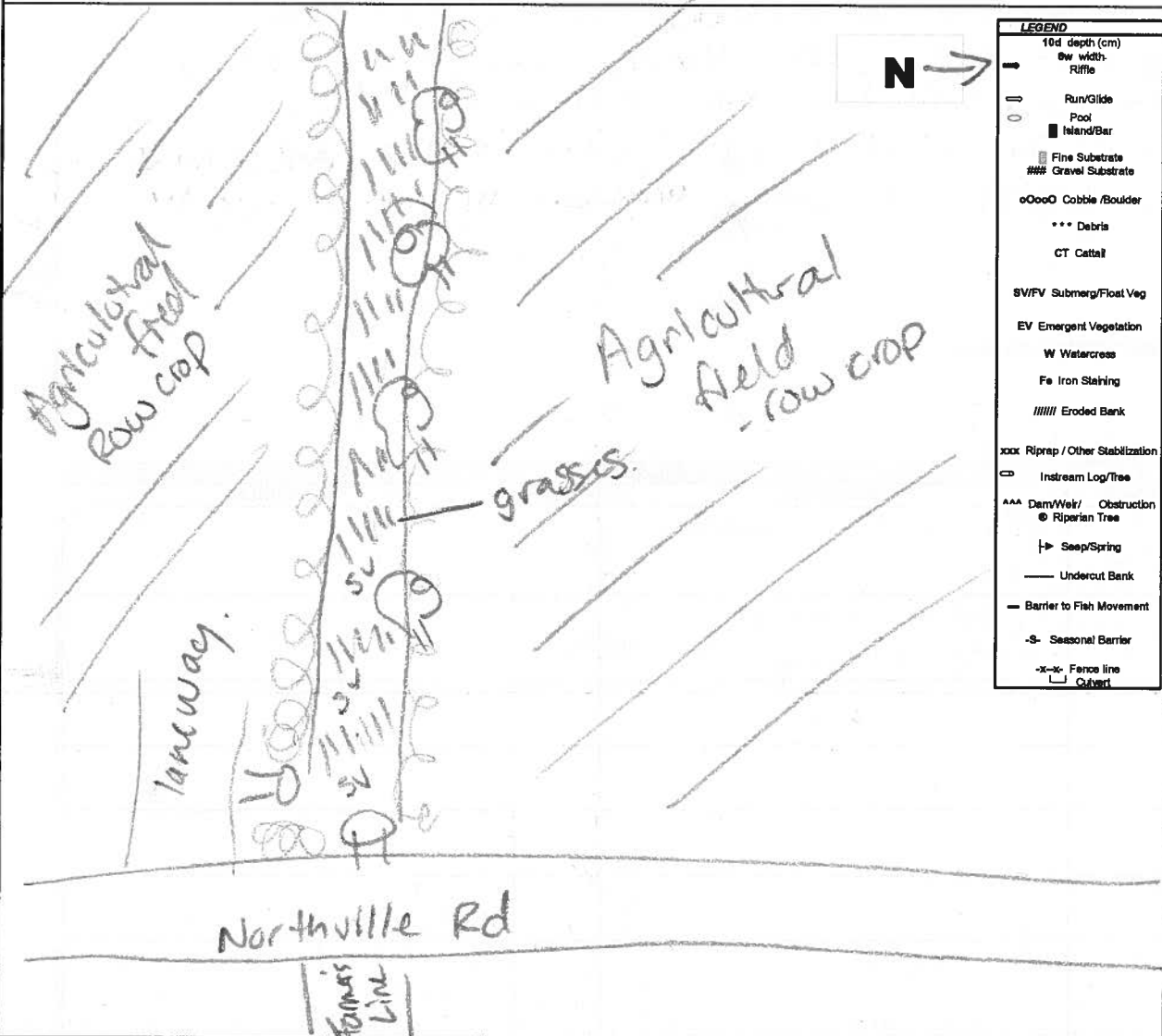
Water Bodies Assessment Field Collection Form

AECOM

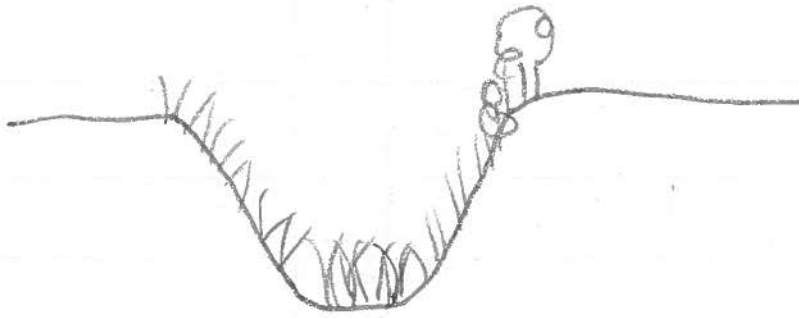
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# 3ER1094 Site ID R3A



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

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

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# Jer 1123/1067 Site ID: RSA
 Date: May 23 /12 Start time: 11:10 End Time: 11:35
 Weather Conditions: Sunny, 17°C Field Crew: C. Boras, J. EPP
 Field Notes By: C. Boras

Site Location

Northville road, north of Farmers

Roadside Survey

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

Easting: 428182 Northing: 4776421 Description: Farmers + Northville intersection
 Easting: Northing: Description: R3 JER 1123
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse
 Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other
 Description: corn crop field

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

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

GPS Coordinate: Easting - Northing - Description -

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

In-Situ Water Quality
 WT (°C): / AT (°C): 17.0
 pH: / Cond (s/cm): /
 D.O. (mg/L) /
 Water Clarity: Clear Turbid
 Water Colour:
 Notes: wq not completed bc no access

Ground Water and Seepage Indicators
 Watercress Bank Seepage
 Iron Staining None
 Bubbling water
 Other speedwell
 Details: small mats

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): <i>150m</i>			Bank Stability:				
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable	
Mean Wetted Width (m): <i>~1</i>	Mean Wetted Depth (m): <i>~0.15</i>	Left Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
Mean Bankfull Width (m): <i>~1.5</i>	Mean Bankfull Depth (m): <i>~0.3</i>	Right Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
Mean Top of Bank Width (m): <i>3</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>flowing out of roadside culvert - low + slow</i>							
Habitat							
Substrate (<=>)			Morphological Structure (%)				
Bo - Boulder	Description		Pool	Riffle	Run	Flat	
Co - Cobble	<i>at culvert</i>					<i>100</i>	
Gr - Gravel	<i>sa = si = gr</i>		Notes: <i>straight</i>				
Sa - Sand							
Si - Silt							
Cl - Clay							
MK - Muck							
DT - Detritus							
Instream Cover (%)							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>80</i>	<i>/</i>	Average Depth: <i>/</i>	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)							
<i>emergents - grasses, water sparrow, cattail, phragmites</i>							
Canopy Cover (% closed cover):			Types of Cover (% cover)				
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <i>50</i>	Shrubs <i>20</i>	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>30</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>North branch treed - deciduous Roadside - few shrubs</i>							
Riparian Vegetation							
Width and Description of riparian vegetation:	LB - <i>roadside</i>	RB - <i>roadside 3m - grasses</i>					
	<i>< 1 m - grasses, herbaceous</i>	<i>Res - < 6m - trees, grasses</i>					
Overhanging Vegetation Present	<input checked="" type="checkbox"/> N	% Overhanging Vegetation: <i>5</i>					
Description of Overhanging Vegetation: <i>small dogwood shrubs - do not provide much cover</i>							
Obstructions to Fish Passage							
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>
Description of Barrier:							
Height of Barrier (m)			GPS Coordinates:				

Water Bodies Assessment Field Collection Form

AECOM

Date: May 23/12

Land Parcel/Site ID: JER 1123/1967

Page 3 of 4

R3A

Other General Comments Regarding the Study Area:

- difficult to assess as waterbody was a few meters in from road.

Water course is a straight channelized feature that has moderate canopy cover & high instream cover - emergent veg.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 1-3	sheet overview roadside		
4-7	overview - Residential adjacent.		

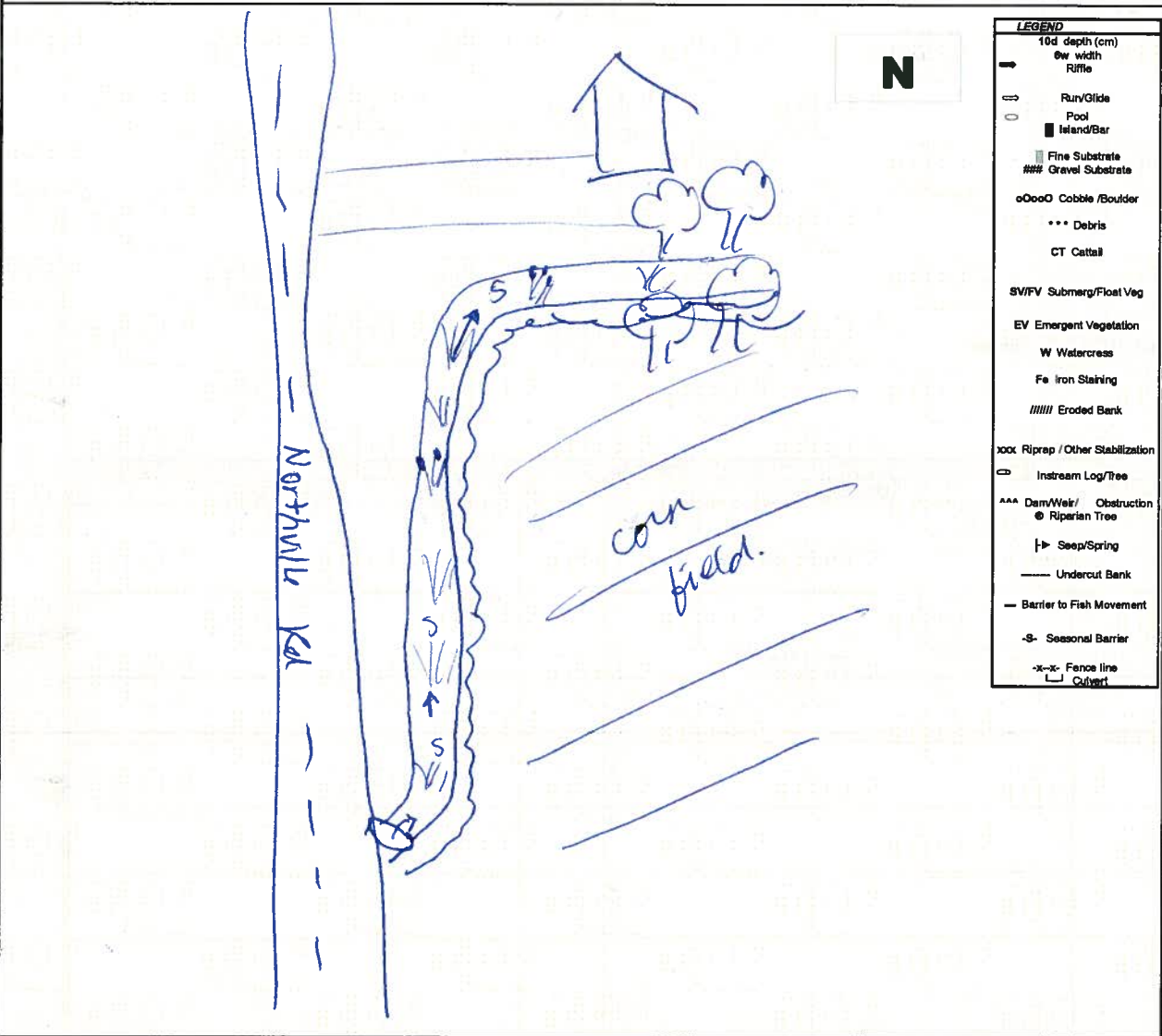
Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JER 1123/1067 Site ID R3A



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 31 2012

Technical QA/QC By: [Signature]

Date: June 11/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# TER 1104 Site ID: R3D
 Date: May 23/12 Start time: 8:00 End Time: 9:45
 Weather Conditions: Cloudy, 11°C Field Crew: C. Boros, J. EPP
 Field Notes By: C. Boros

Site Location

Bog Line, east of Northville

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

Easting: 429418 Northing: 4783680 Description: R3JER1104S
 Easting: 429377 Northing: 4782792 Description: R3JER3689 → end point
 Easting: 429392 Northing: 4783561 Description: R3JER1104 wg
 Easting: _____ Northing: _____ Description: _____

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

Description: - various crop fields on east side
- pond + aptawaton and crop on west side

Description: appears to be pond + tile drain fed
as some areas were dry channel → for stretches
at a time

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

tile drain inputs observed - some 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): 12.48 AT (°C): 15°C
 pH: 5.48 Cond (µs/cm): 634
 D.O. (mg/L) 11.61
 Water Clarity: Clear Turbid
 Water Colour: n/a

Notes: Wg taken before pond

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling water
 Other Speedwell

Details: Large mats from road to
end of pond area -

Water Bodies Assessment Field Collection Form

Stream Morphology															
Site Length (m): 600+m		Bank Stability:													
Channel Dimensions - for wetted areas		<table style="width:100%; text-align: center;"> <tr> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank <input checked="" type="checkbox"/></td> <td>→ <input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank <input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank <input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Right Bank <input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Mean Wetted Width (m): 1.5	Mean Wetted Depth (m): 0.2	Description: well vegetated but very sandy banks causing some stumping													
Mean Bankfull Width (m): 2.2	Mean Bankfull Depth (m): 0.4														
Mean Top of Bank Width (m): 2.9	Mean Top of Bank Depth (m): 2.														
Flow Description: (high or low flow conditions, stagnant, etc) no flow observed															
Habitat															
Substrate (<=>)		Morphological Structure (%)													
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Description sa > gr, si, cl.	<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td>100</td> </tr> </table>	Pool	Riffle	Run	Flat				100	Notes: straight channel				
Pool	Riffle	Run	Flat												
			100												
Instream Cover (%) 90															
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.) waterweeds, pondweed, grasses > water speedwell, algae-attached > algae-bloom, hydrilla															
Canopy Cover (% closed cover):			Types of Cover (% cover)												
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees	10	Shrubs	75	Man-made structures									
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses	10	Herbaceous	5	Other									
60-30% <input checked="" type="checkbox"/>															
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%															
Notes: (vegetation species, types of structures) dogwood, hawthorn, some jewelweed, raspberry, willow															
Riparian Vegetation															
Width and Description of riparian vegetation:			Riparian Vegetation												
LB - 1m - meadow			RB - 1m - meadow												
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 10												
Description of Overhanging Vegetation: shrubs overhanging but not densely covering watercourse															
Obstructions to Fish Passage															
None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input checked="" type="checkbox"/>												
Description of Barrier: some stretches are dry channel															
Height of Barrier (m)			GPS Coordinates: throughout.												

Water Bodies Assessment Field Collection Form

AECOM

Date: May 23 / 12

Land Parcel/Site ID: JER 1104
R3D

Page 3 of 4

Other General Comments Regarding the Study Area:

Channelized, straight watercourse that is artificially fed by tile drain and dug out adjacent pond. Dense mats of pond weed + watercress from road to pond areas but then non-existent after - only grasses + algae. Instream cover only aquatic veg, and canopy cover shrubs dominated. Areas of channel dry.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 1b	sheet at road culvert		
2-7	moving south to pond - channel overview		
8-9	at pond area		
10-13	just after pond - dry		
14	adjacent farm fields		
15-18	dry channel		
19-21	wet area - tile drain		
22-23	end of site		

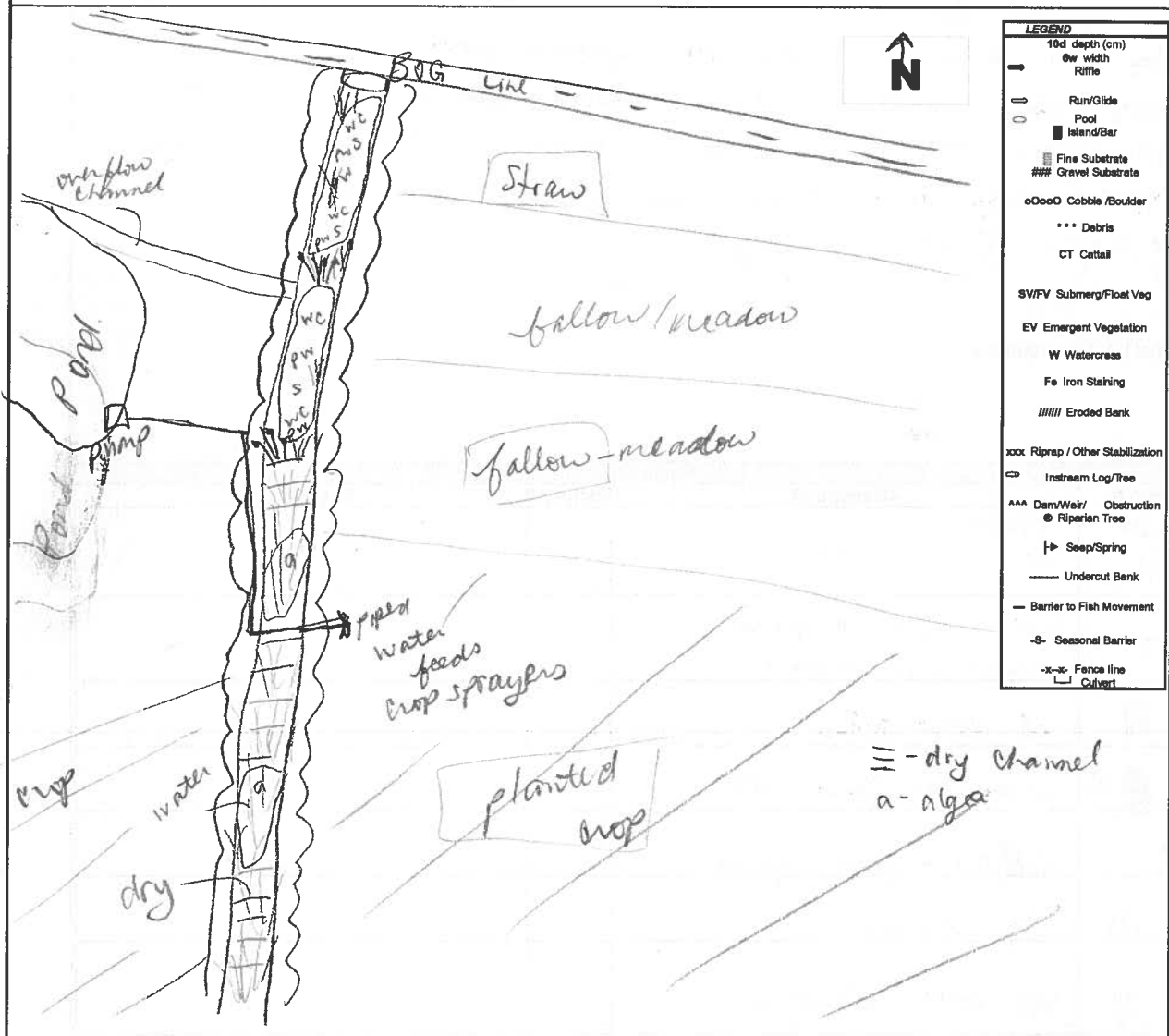
Water Bodies Assessment Field Collection Form

AECOM

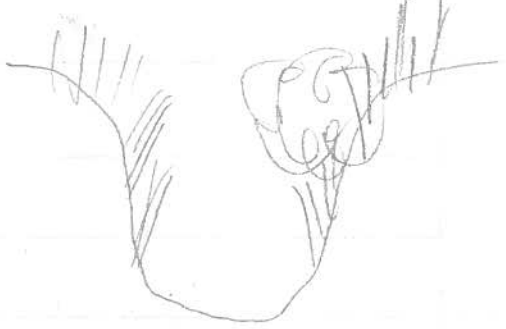
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JCR1104 Site ID RSD



Horizontal View of Channel



Initial QA/QC By: L Bentley Date: May 30, 2012 Technical QA/QC By: Justin Date: June 11/12

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>JER3689</u> Site ID: <u>R3 D</u>
Date: <u>May 23 / 17</u>	Start time: <u>9:20 am</u>	End Time: <u>9:30 am</u>	
Weather Conditions: <u>Sunny 14°C</u>		Field Crew: <u>C. Barros, J. Epp</u>	
		Field Notes By: <u>J. Epp</u>	
Site Location			
<u>South of Bog Line, East of Northville.</u>			
<u>West of Gordon, East of SHTer</u>			
<u>ASA adjacent property</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>429377</u>	Northing: <u>4782792</u>	Description: <u>R3JER3689</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other <input type="checkbox"/>		Description: <u>Appears to have been channelized recently, based on aerial image.</u>	
Description: <u>Agricultural land - row crops</u>			
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>Tile drains. could not see if it was flowing.</u>			
Is any portion of the water body underground or not as mapped? <u>Y / N</u>			
If Yes describe: _____			
GPS Coordinate: Easting - _____	Northing - _____	Description - _____	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>Flat - agricultural land</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): _____	AT (°C): <u>ASA</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: _____	Cond (s/cm): _____	Iron Staining <input type="checkbox"/>	None seen <input checked="" type="checkbox"/>
D.O. (mg/L) _____		Bubbling <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Clarity: Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	Other <input type="checkbox"/>	_____ <input type="checkbox"/>
Water Colour: <u>No colour</u>		Details: _____	
Notes: <u>ASA, could not take water quality.</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>100</u>			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> </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): <u>0.75</u>	Mean Wetted Depth (m): <u>ASA</u>	Description: <u>Well vegetated banks with no signs of erosion.</u>																		
Mean Bankfull Width (m): <u>1</u>	Mean Bankfull Depth (m): <u>ASA</u>																			
Mean Top of Bank Width (m): <u>4</u>	Mean Top of Bank Depth (m): <u>4.5</u>																			
Flow Description: (high or low flow conditions, stagnant, etc) <u>Stagnant - no flow seen</u>																				
Habitat																				
Substrate (< = >)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>Sa >>> gravel</u>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td align="center">100</td> </tr> </table>			Pool	Riffle	Run	Flat				100							
Pool	Riffle	Run	Flat																	
			100																	
Notes: <u>No visible flow.</u>																				
Instream Cover (%) <u>60</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	/	/	/	60		Average Depth: <u>/</u> (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>floating algae, grasses</u>																				
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>70</u>	Man-made structures												
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<u>25</u>	Herbaceous		Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <u>Willow sp, Red osier dogwood, grasses</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - <u>1.5 m</u>			RB - <u>1.5 m</u>																	
Overhanging Vegetation Present <u>(Y) N</u>			% Overhanging Vegetation: <u>5%</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:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

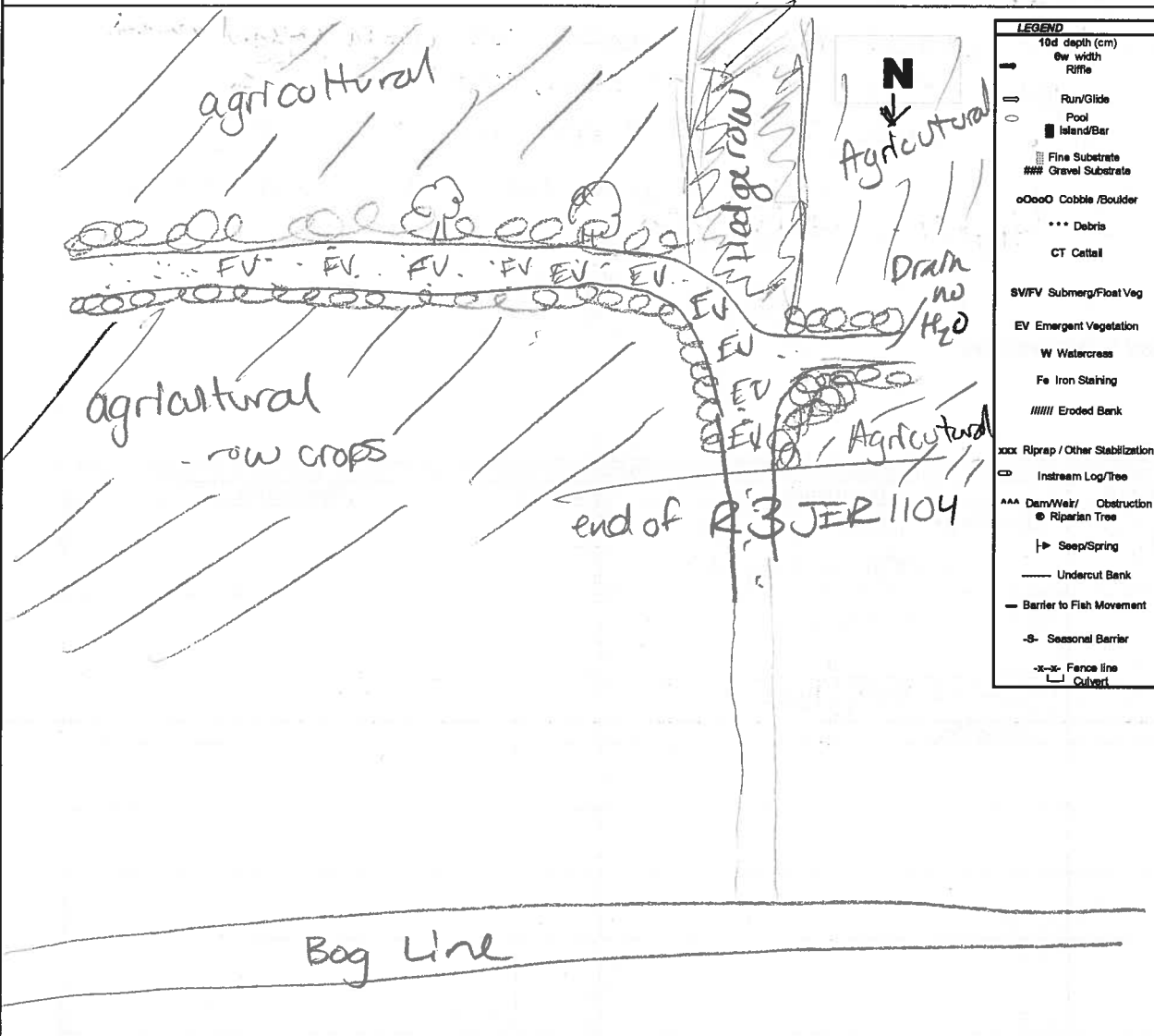
Bluewater

Land Parcel#

JER 3689

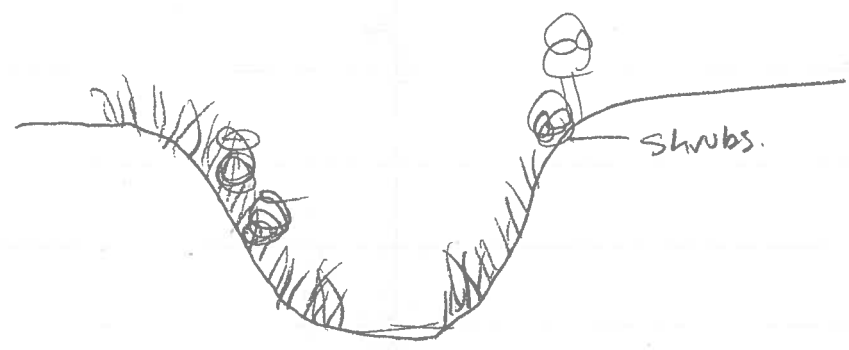
Site ID

R3D



LEGEND	
10d depth (cm)	→
8w width	→
Riffle	→
Run/Glide	→
Pool	○
Island/Bar	■
Fine Substrate	□
Gravel Substrate	##
Cobble/Boulder	o o o o
Debris	***
Cat tail	CT
Submerg/Float Veg	SWFV
Emergent Vegetation	EV
Watercress	W
Iron Staining	Fe
Eroded Bank	
Riprap / Other Stabilization	xxx
Instream Log/Tree	⊠
Dam/Weir / Obstruction	AAA
Riparian Tree	⊙
Seep/Spring	⊥
Undercut Bank	—
Barrier to Fish Movement	—
Seasonal Barrier	-S-
Fence line	-x-x-
Culvert	⊥

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: Nov 30, 2012

Technical QA/QC By: [Signature]

Date: June 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# DER-5618 Site ID: R3 D

Date: May 23/12 Start time: 8:00 am End Time: 8:40 am

Weather Conditions: Cloudy 10°C Field Crew: C. Boros, J. Epp
Field Notes By: J. Epp

Site Location

East of Northville, North of Bog Line Roadside Survey

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

Easting: 429431 Northing: 4783690 Description: R3

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

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

Description: Row Crops to the west and East

Type of Watercourse

- Intermittent
- Permanent
- Ephemeral
- Channelized
- Natural Channel

Description: _____

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

None seen

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

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

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

Flat agricultural land.

In-Situ Water Quality

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

Water Colour: _____

Notes: None taken, ASA, could not see water.

Ground Water and Seepage Indicators

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

Details:

None seen ASA.

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m):				Bank Stability:		
Channel Dimensions <i>ASA</i>		<i>ASA</i>		Stable	Slightly unstable	Moderately unstable
Mean Wetted Width (m):		Mean Wetted Depth (m):		Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):		Mean Bankfull Depth (m):		Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>3.5</i>	Mean Top of Bank Depth (m):		Description: <i>well vegetated banks, no signs of erosion.</i>		
Flow Description: (high or low flow conditions, stagnant, etc)						
<i>ASA could not see water.</i>						
Habitat						
Substrate (< = >)				Morphological Structure (%)		
Bo - Boulder	<i>ASA could not see bottom</i>			Pool	Riffle	Run
Co - Cobble						
Gr - Gravel						
Sa - Sand						
Si - Silt						
Cl - Clay						
MK-Muck						
DT- Detritus						
Notes:				<i>ASA</i>		
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
			<i>ASA</i>			Average Depth: _____
						(% Cover)
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)						
<i>ASA - some cattails, grasses.</i>						
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	Shrubs <i>100</i>	Man-made structures
60-30%	<input type="checkbox"/>			Grasses	Herbaceous	Other
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures)						
<i>Red oster dogwood,</i>						
Riparian Vegetation						
Width and Description of riparian vegetation:	LB - <i>1.5 m</i>				RB - <i>1.5 m</i>	
Overhanging Vegetation Present <input checked="" type="checkbox"/>	% Overhanging Vegetation: <i>5%</i>					
Description of Overhanging Vegetation: <i>grasses, unknown shrub.</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

Stream Morphology															
Site Length (m): 100m		Bank Stability:													
Channel Dimensions		<table style="width: 100%; text-align: center;"> <tr> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <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>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	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): 1.5m	Mean Wetted Depth (m): 0.20m	Description: vegetated													
Mean Bankfull Width (m): 2.0m	Mean Bankfull Depth (m): 0.40m														
Mean Top of Bank Width (m): 4.5m	Mean Top of Bank Depth (m): 1.8m														
Flow Description: (high or low flow conditions, stagnant, etc) Low flow															
Substrate (<=>)		Habitat													
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Description Silt MK	<table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td>NA</td> <td>100</td> </tr> </table> Notes: all flat - v. straight		Morphological Structure (%)				Pool	Riffle	Run	Flat			NA	100
Morphological Structure (%)															
Pool	Riffle	Run	Flat												
		NA	100												
Instream Cover (%)															
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks									
				95		Average Depth: (% Cover)									
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%															
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) 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)															
Riparian Vegetation															
Width and Description of riparian vegetation: LB - < 1m corn			RB - < 1m corn												
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: 30%												
Description of Overhanging Vegetation: willow & dogwood shrubs, grasses															
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: none obs.															
Height of Barrier (m)			GPS Coordinates:												

Water Bodies Assessment Field Collection Form

AECOM

Date: May 16/12

Land Parcel/Site ID: R322-
JER 1047/3072

Page 3 of 4

Other General Comments Regarding the Study Area:

- channelized drain flowing b/w two agricultural fields.
- emergent grasses, watercress & algae predominant.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1	Sheet		
2	overview facing S		
3	facing N		
4	facing S		
5	channelized bank		
6	H ₂ O chem location		
7	RTHA nest location		
8	ag-veg (watercress)		
9	culvert @ north limit		
10	view on 3072		
11	facing S from 3072		

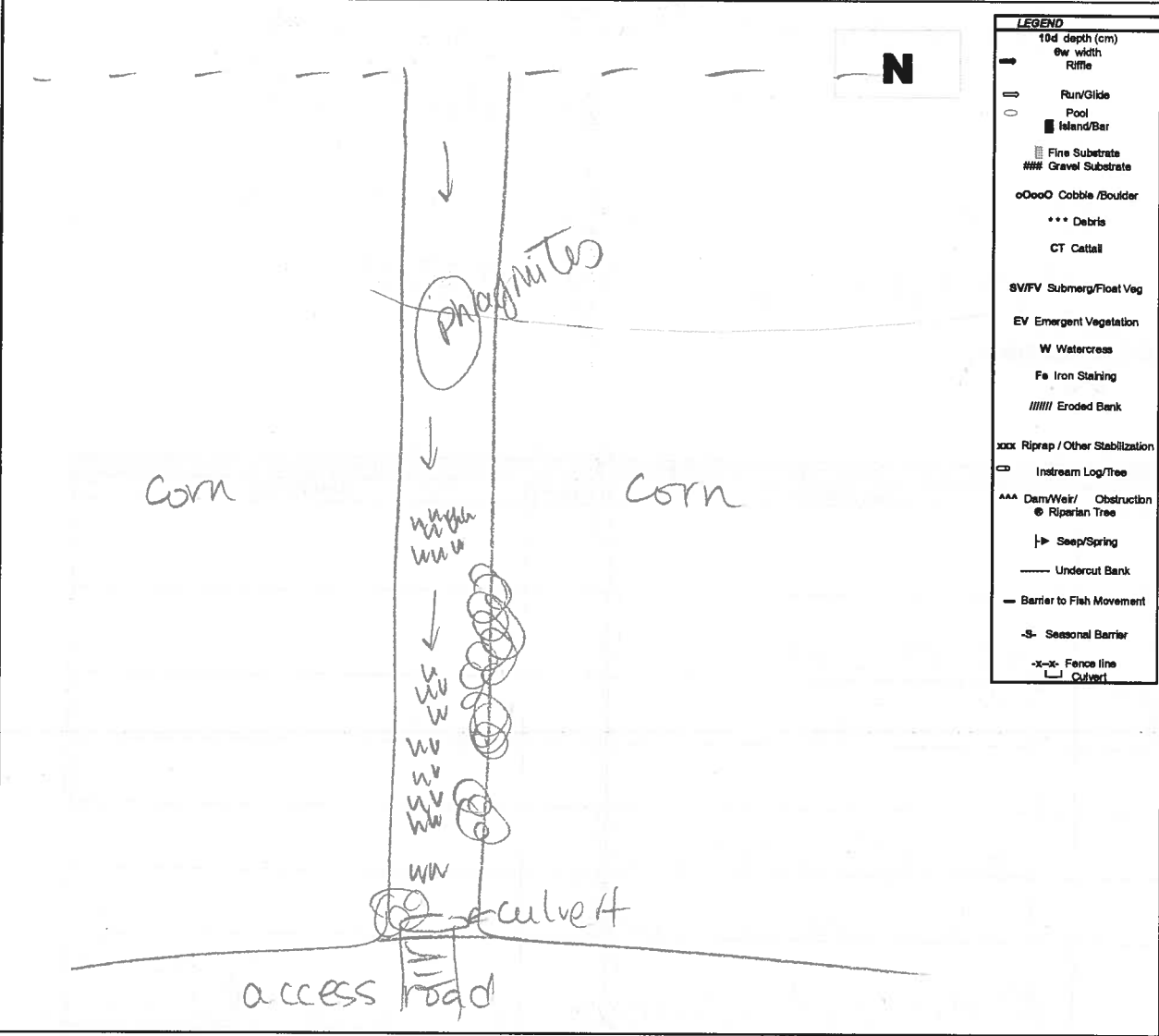
Water Bodies Assessment Field Collection Form

AECOM

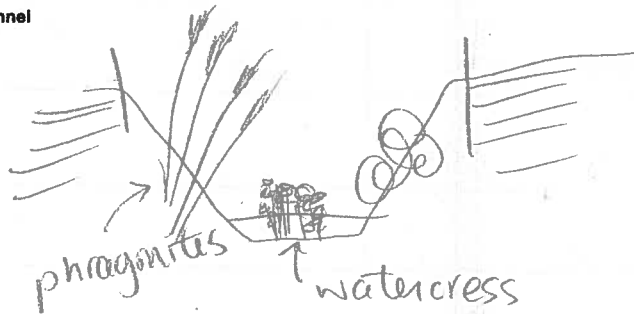
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JR1047/3072 Site ID R3.22-JR1047/3072



Horizontal View of Channel



Initial QA/QC By: [Signature] Date: May 22, 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# TKR3505 Site ID: R3.38
 Date: May 14/12 Start time: 17:50 End Time: 18:05
 Weather Conditions: Sunny, 18°C Field Crew: C. Boros, A. Arsenault
 Field Notes By: C. Boros

Site Location

Thompson Cr. west of Gordon Rd

Roadside Survey

UTM Coordinates (continue on page 3 if necessary)

Easting: 0430081 Northing: 4778015 Description: culvert roadside
 Easting: Northing: Description:
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Land Use

Type of Watercourse

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

Description: crop fields - corn Description: straight

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

tile drains flow

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

GPS Coordinate: Easting - Northing - Description -

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

flat

In-Situ Water Quality

Ground Water and Seepage Indicators

WT (°C):	AT (°C):	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>/</u>	Cond (s/cm): <u>/</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L)		Bubbling <input type="checkbox"/>	
Water Clarity: Clear <input type="checkbox"/> Turbid <input type="checkbox"/>		Other <input type="checkbox"/>	

Water Colour: could not assess
 Notes:

Water Bodies Assessment Field Collection Form

Stream Morphology							
Site Length (m): <u>30 m</u>				Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): <u>0.6</u>	Mean Wetted Depth (m): <u>~0.15</u>		Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): <u>0.9</u>	Mean Bankfull Depth (m): <u>~0.45</u>		Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	Mean Top of Bank Depth (m): <u>2</u>		Description: <u>well vegetated</u>				
Flow Description: (high or low flow conditions, stagnant, etc) <u>slow flow</u>							
Habitat							
Substrate (< = >)				Morphological Structure (%)			
Bo - Boulder	Description		Pool	Riffle	Run	Flat	
Co - Cobble	<u>By culvert</u> <u>co >> cl, si</u>		/	/	/	100	
Gr - Gravel			Notes: <u>straight</u>				
Sa - Sand							
Si - Silt							
Cl - Clay							
MK - Muck							
DT - Detritus							
Instream Cover (%) <u>30</u>							
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks	
/	/	/	15	15	/	Average Depth: _____ (% Cover) _____	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%							
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>grasses, algae</u>							
Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs <u>10</u>	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <u>90</u>	Herbaceous	Other	
60-30%	<input type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%							
Notes: (vegetation species, types of structures) <u>grasses</u>							
Riparian Vegetation							
Width of riparian vegetation: <u>0.5m - grasses</u>							
Description of vegetation community surrounding 30 m from watercourse: <u>Corn crop fields</u>							
Obstructions to Fish Passage							
No Obstructions	<input type="checkbox"/>	Man-Made	<input checked="" type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>
Description of Barrier: <u>parked (2), gated</u>							
Height of Barrier (m) <u>0.5, 0.20</u>				GPS Coordinates: <u>0430081 4770015</u> <u>roadside</u>			

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Study Area:

Jericho

Goshen

Bluewater

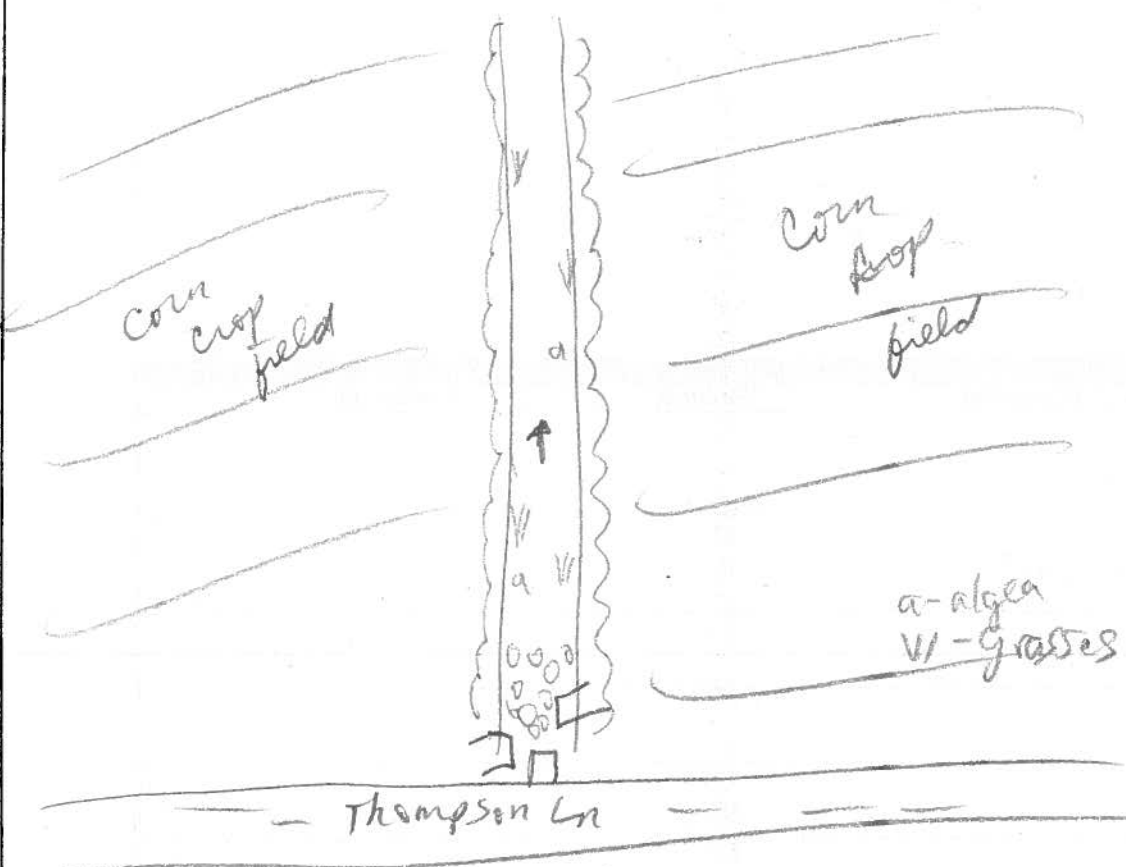
Land Parcel# JER 3505

Site ID

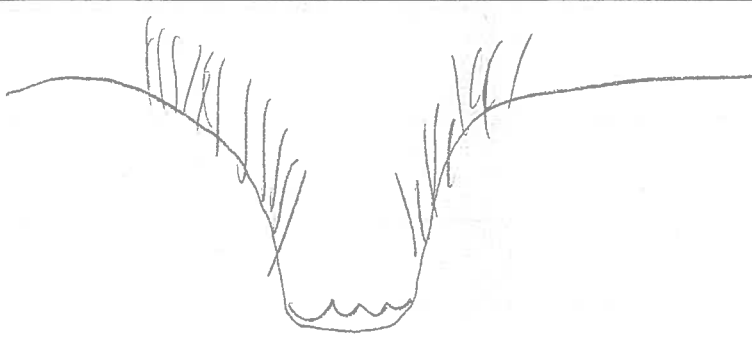
123.38

N

LEGEND	
→	10d depth (cm) 6w 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	Dem/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: C. Bentley

Date: May 22, 2012

Technical QA/QC By: [Signature]

Date: May 29, 2012

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

AECOM

Page 1 of 2

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3275 Site ID: R3.62-JER3275
 Date: May 11/12 Start time: 10:51 AM End Time: 10:56 AM

Weather Conditions: sunny, 21°C Field Crew: S. Lohnes C Harding
 Field Notes By: S. Lohnes

Site Location

east of Arkona, south of Thomson + Ridge.

UTM Co-ordinates

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

Surrounding Landuse

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

Ground Water and Seepage Indicators

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

Description:

Details:

Feature Description

Is the mapped water body any of the below:

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

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

no defined channel, ploughed through

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>Tile Drain</u>		
<u>2-3</u>	<u>American Toad</u>		
<u>4</u>	<u>looking south</u>		

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

AECOM

Date: May 11/12

Land Parcel/Site ID: R3.62-JER3275

Page 2 of 2

Site Sketch

N



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

Sketcher 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 Parcel# 3276 Site ID: R3.62-JER3276
 Date: May 11/12 Start time: 10:57 AM End Time: 11:03 AM

Weather Conditions: sunny, 21°C Field Crew: S. Lohnes C. Harding
 Field Notes By: S. Lohnes

Site Location

east of Arkona Rd, south of Elginfield

UTM Co-ordinates

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

Surrounding Land Use

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)

no channel, ploughed through

Photo log

Picture #	Description	Picture #	Description
<u>1</u>	<u>Tile drain</u>		
<u>2-3</u>	<u>American Toad</u>		
<u>4</u>	<u>looking South</u>		

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

AECOM

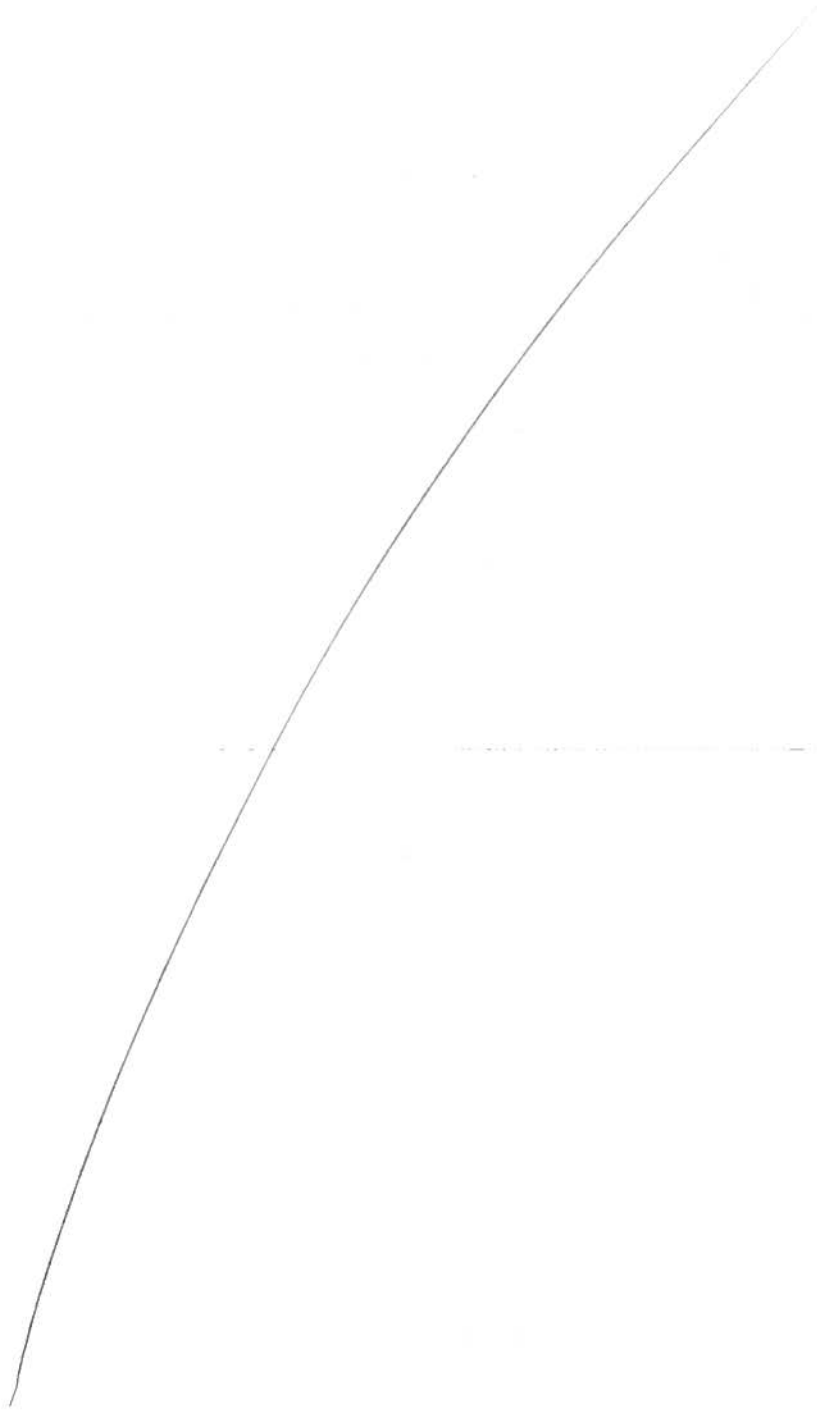
Date: May 11/12

Land Parcel/Site ID: R3.02-JER3276

Page 2 of 2

Site Sketch

N



Initial QA/QC: Liberty May 11/2012

Sketch for 11/12

R3B

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER9166 Site ID: R3-JER9166
 Date: MAY 11/22 Start time: 0942 AM End Time: 10:00 AM

Weather Conditions: Sunny 16°C Field Crew: S. LOHNES C. HARDWY
 Field Notes By: S. LOHNES

Site Location

WEST OF ARKONA, ~~west~~^{South} of Thompson + Ridge.

Roadside survey

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

Easting: 0432316 Northing: 4777527 Description: ASA location
 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: forest patch + meadow/pasture beyond.

Description: natural channel

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

none visible.

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)

valley slopes to watercourse.

In-Situ Water Quality

WT (°C): AT (°C): 16°C
 pH: Cond (s/cm):
 D.O. (mg/L):
 Water Clarity: Clear Turbid

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Water Colour: ASA

Details: none visible

Notes:

Water Bodies Assessment Field Collection Form

Stream Morphology																		
Site Length (m): <u>50m</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>6.0m</u>	Mean Wetted Depth (m): <u>0.3m</u>	Description: <u>forest banks.</u>																
Mean Bankfull Width (m): <u>ASA</u>	Mean Bankfull Depth (m): <u>ASA</u>																	
Mean Top of Bank Width (m): <u>ASA</u>	Mean Top of Bank Depth (m): <u>ASA</u>																	
Flow Description: (high or low flow conditions, stagnant, etc) <u>moderate flow.</u>																		
Habitat																		
Substrate (<=>)		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Description <u>unknown</u> <u>ASA.</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></td> <td>100</td> <td></td> </tr> </table>		Pool	Riffle	Run	Flat			100								
Pool	Riffle	Run	Flat															
		100																
		Notes: <u>runs visible.</u>																
Instream Cover (%)																		
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None													
	<u>5</u>																	
					Average Depth: (% Cover)													
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																		
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>unable to ID from roadside.</u>																		
Canopy Cover (% closed cover):			Types of Cover (% cover)															
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees <u>100.</u>	Shrubs _____													
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____													
60-30%	<input type="checkbox"/>				Man-made structures _____													
Other _____																		
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																		
Notes: (vegetation species, types of structures) <u>willow, staghorn sumac, poplar - mature forest as riparian.</u>																		
Riparian Vegetation																		
Width of riparian vegetation: <u>R u/s 30m. L u/s ~ 25m</u>																		
Description of vegetation community surrounding 30 m from watercourse: <u>forest - deciduous</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 11 / 12

Land Parcel/Site ID: ²³³ 5029166

Page 3 of 4

Other General Comments Regarding the Study Area:

- water course flows from deciduous forest under Arkona Rd.
- riparian community exists as valley forest with dense understory shrubs + herb-species.
- some in-stream woody debris observed 10m ups from culverts.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1	sheet		
2	overview		
3	adjacent valley		
4	looking south		
5	facing west		

Water Bodies Assessment Field Collection Form

R3B

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Bluewater

Land Parcel#

RR9166

Site ID

R3 RR9166

N →

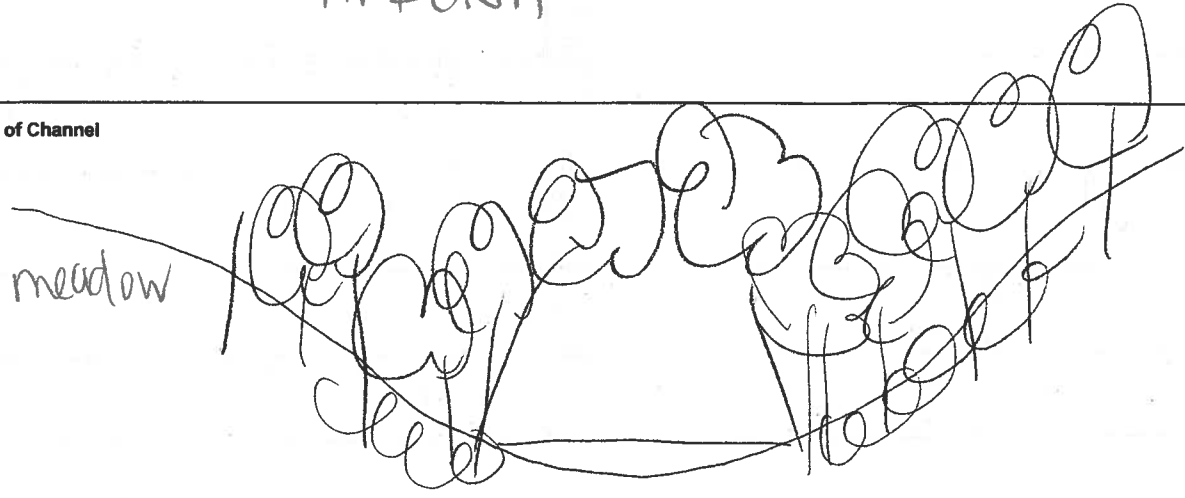
LEGEND	
→	10d depth (cm)
⇌	0w width
⇌	Riffle
⇌	Run/Glide
○	Pool
■	Island/Bar
▨	Fine Substrate
###	Gravel Substrate
oOooO	Cobble/Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercress
Fe	Iron Staining
	Eroded Bank
xxx	Riprap / Other Stabilization
⊠	Instream Log/Tree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

Meadow/
pasture



ARKONA

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 16, 2012

Technical QA/QC By: [Signature]

Date: July 10/12

Water Bodies Assessment Field Collection Form

PCN: ... FISMS
 JER 3271, 3544, 3542
 3273, 3274,
 ...

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3544 Site ID: R3B
 Date: June 7/12 Start time: 11:00 End Time: 11:50
 Weather Conditions: Sunny 20°C Field Crew: C. Barros, S. Darciche
 Field Notes By: C. Barros

Site Location

Arkona Rd., north of Thompson

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

Easting: 432286 Northing: 4778442 Description: R3, start
 Easting: 432275 Northing: 4778387 Description: R3 seep
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

deciduous forest

Description:

meandering

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

none observed

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

GPS Coordinate: Easting - Northing - Description -

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

in small valley

In-Situ Water Quality

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

Water Colour: n/a

Notes: wq taken further south on reach

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling Water
 Other Spotted weed

Details:

small clumps in first 75m

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>150m</u>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center">Stable</td> <td align="center">Slightly unstable</td> <td align="center">Moderately unstable</td> <td align="center">Unstable</td> </tr> <tr> <td>Left Bank</td> <td align="center"><input type="checkbox"/></td> <td align="center"><input checked="" 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 type="checkbox"/></td> <td align="center"><input checked="" 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 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>1.8</u>	Mean Wetted Depth (m): <u>0.15</u>	Description: <u>some erosion</u>																		
Mean Bankfull Width (m): <u>3.5</u>	Mean Bankfull Depth (m): <u>0.95</u>																			
Mean Top of Bank Width (m): <u>4.75</u>	Mean Top of Bank Depth (m): <u>1.60</u>	Flow Description: (high or low flow conditions, stagnant, etc)																		
Habitat																				
Substrate (<=>)		Morphological Structure (%)																		
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td align="center"><u>30</u></td> <td align="center"><u>10</u></td> <td align="center">30</td> <td align="center">30</td> </tr> </table>				Pool	Riffle	Run	Flat	<u>30</u>	<u>10</u>	30	30							
Pool	Riffle	Run	Flat																	
<u>30</u>	<u>10</u>	30	30																	
<u>Sa = Si = Cl = Gr > Co > Bo</u>		Notes: <u>30 30</u> <u>rifle, run, pool sequence</u>																		
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
	<u>10</u>	<u>5</u>	<u>5</u>	<u>15</u>		Average Depth: <u>0.25</u> (% Cover) <u>20%</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<u>Algae pond weed</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	<u>45</u>	Shrubs	<u>5</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>Populus, Ash,</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			Description of riparian vegetation:																	
LB - <u>>10</u> <u>plants forest</u>			RB - <u>>10</u> <u>plants forest</u>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N			% Overhanging Vegetation: <u>2</u>																	
Description of Overhanging Vegetation: <u>Dog weed</u>																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

Part of JER3271 / 3273/3274 / 85A2 /
 JER 3544
 R3B

AECOM

Date: June 7 / 12

Land Parcel/Site ID:

Page 3 of 4

Other General Comments Regarding the Study Area:

- green frogs observed
 Natural meandering watercourse that has riffle, run, pool sequences. It runs through a mature deciduous forest (high canopy cover). Mix of instream cover.

ASA JER 3271 - could not see stream from road.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1459	overview from road		
1460-64	channel overview		
1465-66	seepage watercourse		
1467-70	channel overview		
1471	looking at JER 3271		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

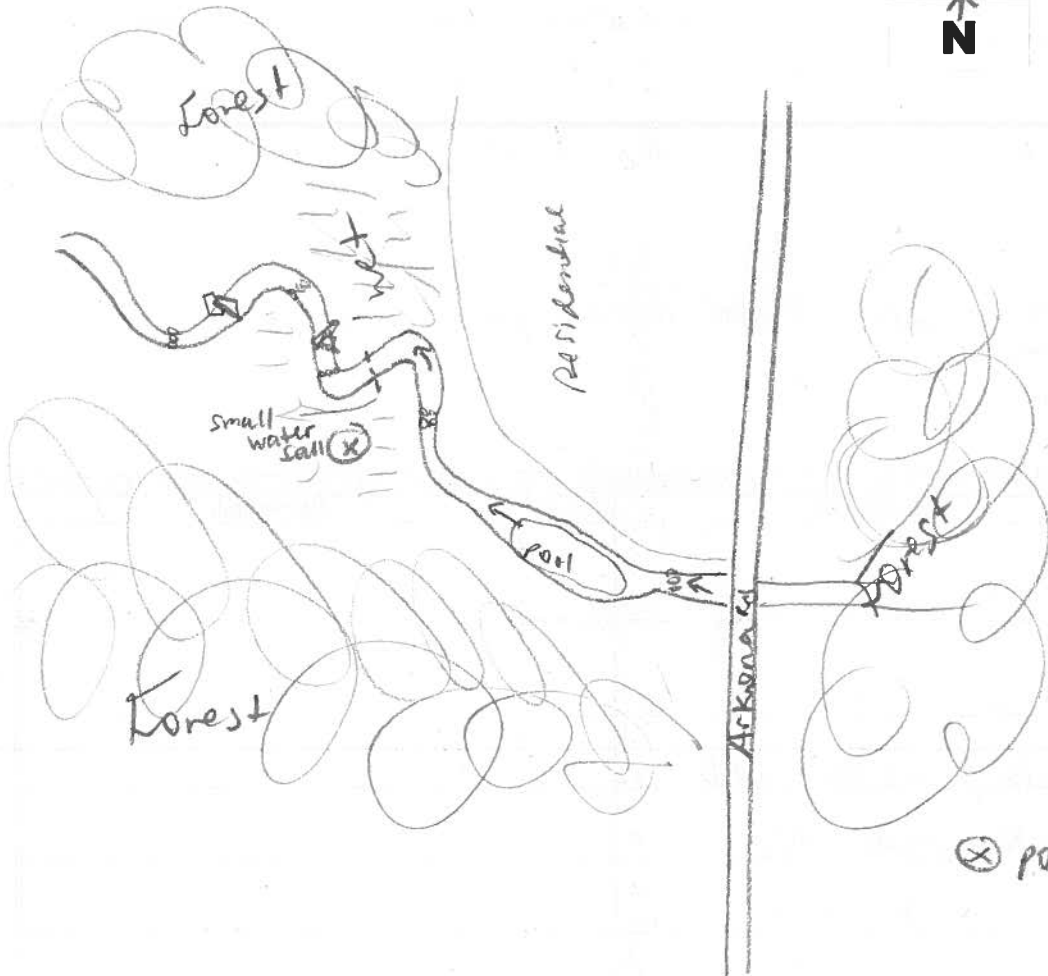
Bluewater

Land Parcel#

JER 3544

Site ID

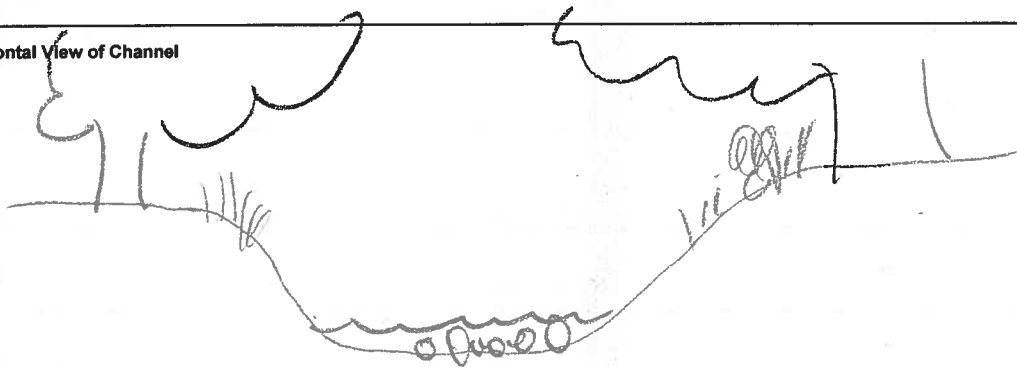
R3B



LEGEND

- 10d depth (cm)
- 8w width
- Riffle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- ### Gravel Substrate
- oOooO Cobble/Boulder
- *** Debris
- CT Cattail
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercress
- Fe Iron Staining
- ///// Eroded Bank
- xxx Riprap / Other Stabilization
- ☐ Instream Log/Tree
- *** 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:

June 13/12

Technical QA/QC By:

J. Baker

Date:

Oct 2/12

Water Bodies Assessment Field Collection Form

R3B

AECOM		Page 1 of 4	
General Information			
Study Area: <u>Jericho</u>	<u>Goshen</u>	<u>Bluewater</u>	Land Parcel# <u>JER 3272 / 3271</u> Site ID: <u>R3 north</u>
Date: <u>June 7/12</u>	Start time: <u>12:10</u>	End Time: <u>12:40</u>	
Weather Conditions: <u>Sunny, 20°C</u>		Field Crew: <u>C. Barros, S. Parache</u> Field Notes By: <u>C. Barros + S. Parache</u>	
Site Location			
<u>Elginfield Rd, East of Arkena Rd.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>432538</u>	Northing: <u>477881</u>	Description: <u>R3J3278WB</u>	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse Residential <input type="checkbox"/> Meadow <input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Wetland <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Livestock <input type="checkbox"/> Other <input type="checkbox"/>		Type of Watercourse Intermittent <input type="checkbox"/> Channelized <input checked="" type="checkbox"/> Permanent <input checked="" type="checkbox"/> Natural Channel <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	
Description: <u>meadow immediately adjacent to road; then forest</u>		Description: <u>hard to determine roadside - channelized + natural</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>None observed</u>			
Is any portion of the water body underground or not as mapped? 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)			
<u>sl. hilly.</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>16.4</u>	AT (°C): <u>24.5</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>7.99</u>	Cond μ s/cm: <u>582</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) <u>4.44</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>brown</u>		Details:	
Notes: <u>pool area, water depth 0.45m.</u>			

ASA
3271

Water Bodies Assessment Field Collection Form

Stream Morphology								
Site Length (m): <i>100m</i>			Bank Stability:					
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable		
Mean Wetted Width (m):	<i>3</i>	Mean Wetted Depth (m):	<i>0.45</i>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	<i>4</i>	Mean Bankfull Depth (m):	<i>0.95</i>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	<i>4.5</i>	Mean Top of Bank Depth (m):	<i>1</i>	Description: <i>vegetated</i>				
Flow Description: (high or low flow conditions, stagnant, etc) <i>no observable flow</i>								
Habitat								
Substrate (< = >)			Morphological Structure (%)					
Bo - Boulder	Description		Pool	Riffle	Run	Flat		
Co - Cobble	<i>si = cl = sa</i>					<i>100</i>		
Gr - Gravel			Notes: <i>no flow</i>					
Sa - Sand								
Si - Silt								
Cl - Clay								
MK - Muck								
DT - Detritus								
Instream Cover (%)								
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks		
				<i>25</i>		Average Depth: (% Cover)		
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%								
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <i>pondweed at culverts → hard to assess whole reach due to depth + turbidity</i>								
Canopy Cover (% closed cover):								
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Types of Cover (% cover)				
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Trees <i>20</i>	Shrubs <i>70</i>	Man-made structures		
60-30%	<input type="checkbox"/>			Grasses	Herbaceous <i>10</i>	Other		
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%								
Notes: (vegetation species, types of structures) <i>willow, hawthorn, buckthorn, dogwood</i>								
Riparian Vegetation								
Width and Description of riparian vegetation:			Width and Description of riparian vegetation:					
LB - <i>> 10m</i>			RB - <i>> 10m</i>					
Overhanging Vegetation Present <input checked="" type="checkbox"/> N			% Overhanging Vegetation: <i>3</i>					
Description of Overhanging Vegetation: <i>dogwood + willow overhanging but not entire stream width</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:					

R3B

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

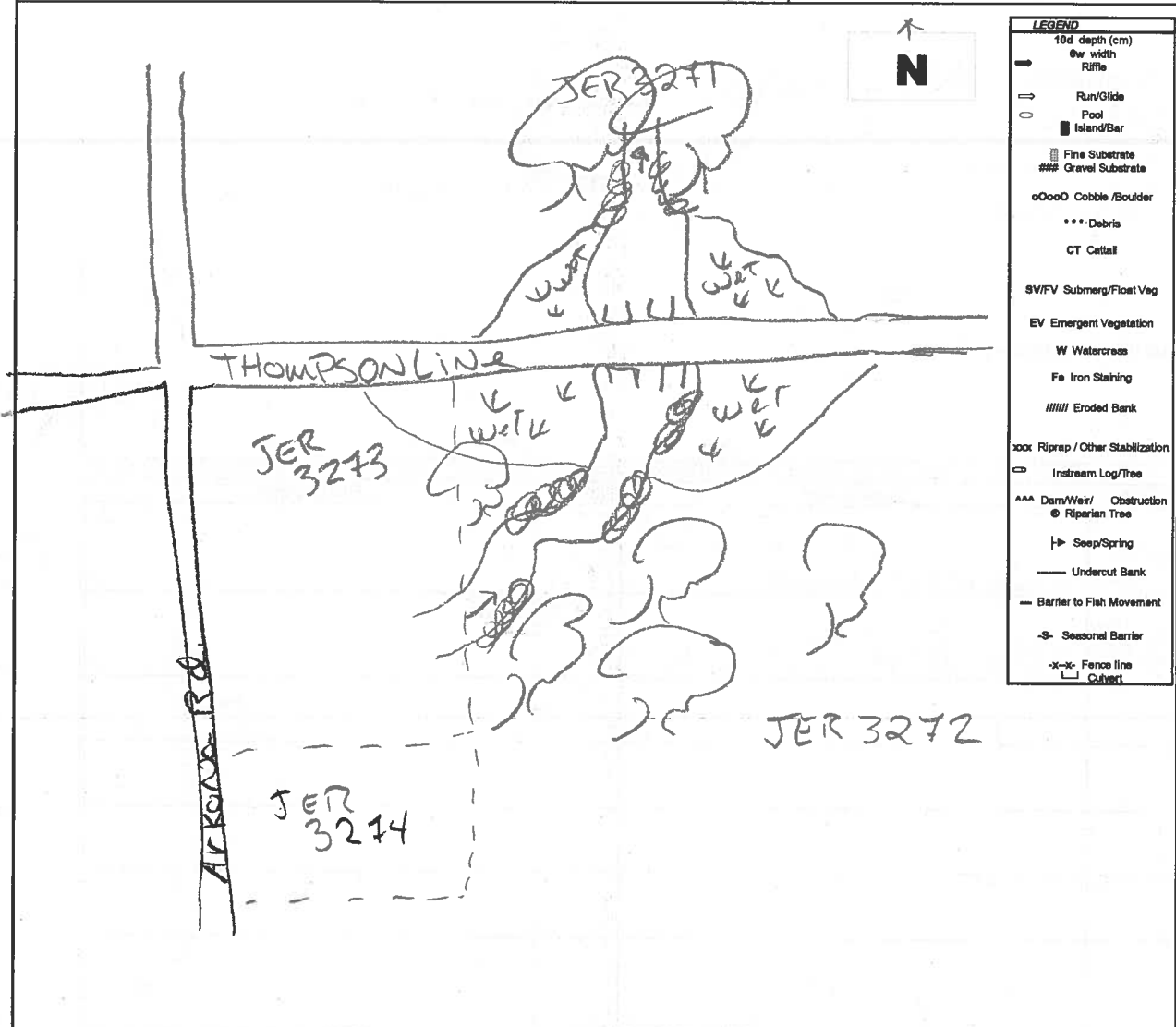
Bluewater

Land Parcel#

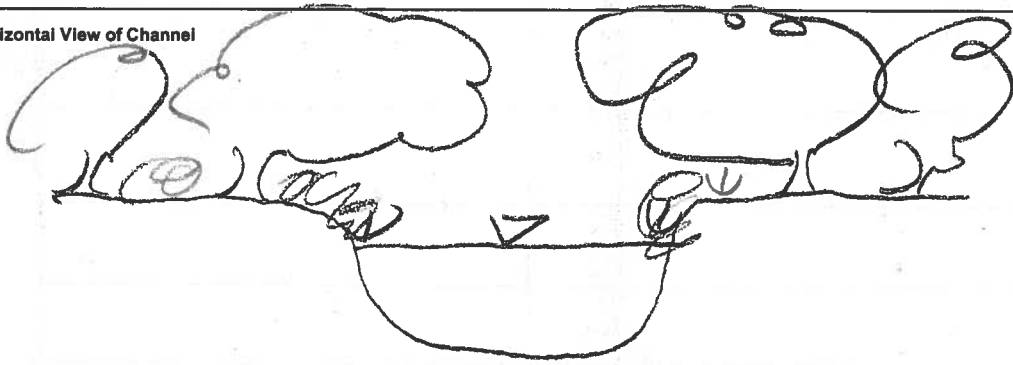
JER 3272 / 3271

Site ID

R3 north



Horizontal View of Channel



Initial QA/QC By:

C Bentley

Date: June 13, 2012

Technical QA/QC By:

J. Walker

Date: Oct 2/12

R3B

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 3272 Site ID: R3 south

Date: June 7/12 Start time: 12:50 End Time: 1:45

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

Site Location

Arkona Rd, South of Enginfield.

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

Easting: 432443 Northing: 4777632 Description: R3, Arkona

Easting: 432414 Northing: 4777540 Description: R3, Ark. Wg

Easting: _____ Northing: _____ Description: _____

Easting: _____ Northing: _____ Description: _____

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

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

none observed.

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

If Yes describe: _____

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

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

in a small valley.

In-Situ Water Quality

WT (°C): 16.03 AT (°C): 23°C
 pH: 7.11 Cond (µs/cm): 425
 D.O. (mg/L) 8.78
 Water Clarity: Clear Turbid
 Water Colour: n/a
 Notes: sl. turbid in pools
wg taken immediately down of
riffle

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other _____
 Details: sporadic plants found bank
side