



Samsung Renewable Energy Inc. and

Pattern Energy

6B Water Body Site Investigation Report

For

South Kent Wind Project

SOUTH KENT WIND PROJECT Water Body Site Investigation Report

Prepared for: Hatch Ltd. 4342 Queen Street, Suite 500 Niagara Falls, Ontario Canada L2E 7J7

Project No. 1184

Date: May 2012



SOUTH KENT WIND PROJECT Water Body Site Investigation Report

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Report submitted on May 1, 2012

Art- (fh-

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Water Body Site Investigation Report – Summary of Revisions from Layout 012 to Layout 020

Revisions to the Water Body Site Investigation Report were required based on modifications to the layout for the South Kent Wind Project (Layout 012 to Layout 020). These modifications included the removal of 6 proposed turbines, relocations of 39 proposed turbines (between 3m to 354m of their original locations), as well as changes to infrastructure, including access roads and cabling.

Revisions to the Site Investigation Report from Layout 012 to Layout 020 include:

- Twelve seepage areas were identified within the Project Area (compared to the eight seepage areas that were identified in Layout 012)
- Twenty waterbody observations from 2010 were no longer within the Project Area
- A total of 24 additional waterbody observations were made in 2011
- A number of Project components have changed distances from waterbodies, including the following:
 - There are 31 waterbody sections within 120m of an access road in Layout 020 (compared to 9 waterbody sections within 120m of an access road in Layout 012)
 - There are 145 waterbody sections within 120m of cabling in Layout 020 (compared to 102 waterbody sections within 120m of cabling in Layout 012)
 - There are 26 waterbody sections within 120m of an access road/cabling in Layout 020 (compared to 38 waterbody sections within 120m of an access road/cabling in Layout 012)
 - There are 3 waterbody sections crossing an access road in Layout 020 (compared to 9 waterbody sections crossing an access road in Layout 012)
 - There are 189 waterbody sections crossing cabling in Layout 020 (compared to 171 waterbody sections crossing cabling in Layout 012)
 - There are 73 waterbody sections crossing an access road/cabling in Layout 020 (compared to 69 waterbody sections crossing an access road/cabling in Layout 012)
 - There are 51 different turbines within 120m of waterbody sections (compared to 45 different turbines in Layout 012)
 - There are 54 locations where turbines are within 120m of waterbody sections (compared to 52 locations in Layout 012)
 - There are 14 waterbodies within 30m of the turbine Project location (compared to 19 waterbodies in Layout 012)
- All references to overhead and underground cabling were removed from the report, and were replaced with the word 'cabling' to allow for some flexibility during the construction phase of this Project

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1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was retained in September 2010 by Hatch Ltd. ("Hatch"), on behalf of Samsung Renewable Energy Inc. and Pattern Energy (the "Proponent") to conduct a records review in accordance with the Renewable Energy Approval (REA) regulations for a proposed wind energy generating facility in the Regional Municipality of Chatham-Kent, Ontario. This assessment includes a detailed review of available background information from a variety of sources, including Ministry of Natural Resources (MNR), Lower Thames Valley Conservation Authority (LTVCA), municipal files, existing biological studies, and other available online or published resources.

The proposed South Kent Wind Project ('the Project") is located in the southern half of the Regional Municipality of Chatham-Kent between Highway 401 and the shoreline of Lake Erie. This wind energy generating facility is proposed to be 270 MW in size, consisting of a total of 124 operational wind turbines, as well as supporting infrastructure, including access roads and buried and/or overhead collection/transmission lines. The collection/transmission system will include an approximately 34 km, 230 kV transmission line and two (2) substations to enable step-up of the voltage from 34.5 kV to 230 kV to connect to Chatham Switching Station (SS).

In accordance with the Renewable Energy Approval (REA) Regulation, NRSI has conducted a thorough records review of available background resources to identify any potentially significant natural features within 120 m of proposed development activities. This includes areas within 120 m of turbines (measured from blade tip), access roads, cabling (which includes distribution lines), and substations, collectively referred to as Project components.

As identified in the Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals* Under *Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act (EPA)*, the 'Project location', includes all development activities proposed to occur on land or in air. In order to ensure all areas within 120 m of the Project location were reviewed for the presence of water bodies, NRSI biologists have examined the 'Project area', which includes all water bodies within 120 m of the Project location. The Project is located in southwestern Ontario primarily between Highway 401 and Lake Erie and approximately between the towns of Tilbury and Ridgetown to the west and east respectively.

The Project is located primarily within areas of active agricultural practices, including rotational crops of corn and soy beans. Other land uses, including hayfields and agricultural pasture, are also expected to be present within the general Project area. Fragmented woodlands, hedgerows, and small wetland pockets are characteristic of this area of Ontario, and are expected to be occasionally present throughout the Project area.

The Project location, including the 120 m Project area surrounding Project components, as required by the REA Regulation, is identified in Figure 1-1, 1-2, and 1-3. These figures include all historical water bodies and appear as they do in the *Water Body Records* Review Report (NRSI 2012a). Any changes in water body presence or location, based on the site investigation, are shown in Section7.2 - Site Investigation Results: Water Body Observation Summaries.



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2.0 REA Requirements

The REA Regulation identifies the requirements for the development of renewable energy projects on Ontario. In accordance with the REA Regulation, the Project is classified as a Class 4 wind facility, and is required to complete a REA submission.

Section 31 (1) subject to subsection (2) of the REA Regulation requires proponents of Class 4 wind projects to undertake a water site investigation for the purpose of determining:

- (a) whether the results of the analysis summarized in the report prepared under subsection 30(2) are correct or require correction, and identifying any required corrections;
- (b) whether any additional water bodies exist, other than those identified in the records review;
- (c) the boundaries, located within 120 m of the Project location, of any water body that was identified in the records review or the site investigation; and
- (d) the distance from the Project location to the boundaries determined under clause (c).

The REA Regulation has specific requirements if designated lake trout lakes are present within 300 m of the Project location.

A water body is defined in Section 1.1 of the REA Regulation to include a lake, a permanent stream, an intermittent stream or a seepage area, but does not include:

- a) grassed spillway,
- b) temporary channels for surface drainage, such as furrows or shallow, channels that can be tilled and driven through,
- c) rock chutes and spillways,
- d) roadside ditches that do not contain a permanent or intermittent stream,
- e) temporarily ponded areas that are normally farmed,
- f) dugout ponds, or
- g) artificial bodies of water intended for storage treatment or recirculation of runoff from farm animal yards, manure storage facilities and sites and outdoor confinement areas;

Subsection (3) of Section 31 of the REA Regulation requires the proponent to prepare a report setting out the following:

- A summary of any corrections to the report prepared under subsection 30 (2) and the determinations made as a result of conducting the site investigation under subsection (1).
- 2. Information relating to each water body identified in the records review and in the site investigation, including the type of water body, plant and animal composition and the ecosystem of the land and water investigated.
- 3. A map showing,
 - i. The boundaries mentioned in clause (1) (c) or (2) (c) and (d),
 - ii. The location and type of each water body identified in relation to the Project location, and
 - iii. The distances mentioned in clause (1) (d) or (2) (e).
- 4. The dates and times of the beginning and completion of the site investigation.
- 5. The duration of the site investigation.
- 6. The weather conditions during the site investigation.
- 7. A summary of methods used to make observations for the purpose of the site investigation.
- 8. The name and qualifications of any person conducting the site investigation.
- 9. Field notes kept by the person conducting the site investigation.

This Water Body Site Investigation Report has been prepared to meet these requirements.

3.0 Staff Roles

The requirements of the REA process indicate that the name and qualifications of all staff participating in the site investigation be identified. As a result, the qualifications and roles of all staff participating in the completion of the Project have been outlined in the following sections.

3.1 Andrew G. Ryckman, B.Sc.

Andrew is a Terrestrial and Wetland Biologist with 7 years of environmental experience. He routinely manages the natural heritage aspects of renewable energy projects, with specific expertise relating to bats and herpetofauna. Andrew is certified in Ecological Land Classification (2010), and has successfully completed a Bat Conservation International (BCI) Acoustic Monitoring Workshop (2008).

Andrew's role for the Project was to act as the project manager, overseeing all aspects of the Water Body Assessment, including both field work and reporting. He assisted with the preparation and final review of the reports, but relied on aquatic resource specialists to complete the site investigations and most of the reporting for this Project.

3.2 Tara Lessard, B.Sc.

Tara is a Terrestrial and Wetland Biologist with more than 4 years of experience working in the environmental field. During her consulting experience, Tara has conducted bird and bat assessments, amphibian studies, and other fauna assessments throughout Ontario. Tara has participated in field investigations and reporting for wind power projects in Ontario and New Brunswick.

Tara's role for the Project was to act as the project manager, overseeing all aspects of the Water Body Assessment, including both field work and reporting. She assisted with the preparation and final review of the reports, but relied on aquatic resource specialists to complete the site investigations and most of the reporting for this Project.

3.3 Deanna Calhoun, B.Sc.

Deanna is an Aquatic Biologist with 6 years of experience in environment characterization, 4 years of which have been in environmental consulting. She

specializes in aquatic habitat assessment, fish community assessment, and field collection methods for fish and benthic invertebrates. Deanna is certified in the Ontario Stream Assessment Protocol (OSAP), Ontario Benthic Biomonitoring Network (OBBN), Ministry of Transportation (MTO) / Department of Fisheries and Oceans (DFO) / Ontario Ministry of Natural Resources (OMNR) Fisheries Protocol Training, and Royal Ontario Museum Fish Identification. Deanna regularly contributes to reports and routinely reviews scientific literature in support of projects.

Deanna assisted with some of the site specific field investigations, as well as completing the 2011 revisions to the Draft Water Body Records Review, Site Investigation and Impact Assessment reports. She also assisted with background information collection and review, mapping, and data analysis.

3.4 Gina MacVeigh, F.W.T., E.T.

Gina is an Aquatic Biologist with more than 5 years of work experience in the environmental field. Her areas of expertise are fish habitat surveys, habitat mapping, and fish community assessments, but she also has extensive knowledge and experience with benthic invertebrate surveys and species identification. Gina has been certified to the level two fish identification (2010) under the Ontario Stream Assessment protocol, and has also obtained her Ontario Benthic Biomonitoring Network Certificate (2009). She has also completed the Fish and Species at Risk Identification courses through the Royal Ontario Museum (2009).

Gina's role for the Project was to prepare the original Water Site Investigation Report and to provide input to the additional water reports. Gina also completed the 2012 revisions to the Water Records Review, Site Investigation, and Impact Assessment reports.

3.5 Steve P. G. Burgin, F.W.T. B.Sc.

Steve is a recent graduate from Trent University with a B.Sc. in Biology with honours and currently works as an Aquatic Biologist. Previous contract positions have provided him with more than 3 years of practical work experience in the environmental field. His areas of expertise include fish habitat surveys, habitat mapping, and fish community assessments, but he also has experience with benthic invertebrate surveys and species identification.

Steve's role for the Project was to prepare the Water Records Review and to provide input to the additional water reports.

3.6 Valerie Evans, B.Sc. E.M.T.

Valerie is an Aquatic Biologist with 7 years experience in the environmental field. She has a degree in Agricultural and Environmental Science with a major in Environmental Biology and an Ecosystem Management Technician Diploma from Fleming College. She has sampled a wide variety of ecosystems across Canada including aquatic streams and rivers in Ontario. Furthermore she has been certified in the Ontario Stream Assessment Protocol (OSAP), Ontario Benthic Biomonitoring Network (OBBN), Royal Ontario Museum Fish Identification Course and has written a number of reports including a shoreline restoration plan.

Valerie's role for the Project was to collect aquatic habitat field data and compile 2011 and 2010 observations followed by preparing the June 2011 Water Site Investigation Report.

3.7 Ian Reimenschneider, B.Sc. F.W.T.

Ian recently graduated from Trent University with an Honours B.Sc. in Biology and has also graduated from the Fish and Wildlife Technology program at Fleming College. Now an Aquatic Biologist, Ian has been working with and studying fish for the past 6 years, 3 of which as a fisheries technician with the MNR and DFO. He specializes in the biology of freshwater fishes, fish habitat, and fish community assessments. Additionally, he possesses experience with benthic invertebrate surveys and species identification.

Ian conducted the site specific field investigations of the aquatic features surrounding proposed turbine locations and roadside transmission line cabling.

3.8 Siobhan Murray, F.W.T.

Siobhan is an Aquatic Biologist with more than 3 years of practical work experience in the environmental field. During these 3 years, she specialized in fish, fish habitat, and

benthic invertebrate monitoring using the Ontario Stream Assessment Protocol and the Ontario Benthos Biomonitoring Protocol. She obtained her Ontario Benthic Biomonitoring Network Certificate in 2009 and her Ecological Land Classification certificate in 2010.

Siobhan conducted the site specific field investigations of the aquatic features surrounding proposed turbine locations and roadside transmission line cabling.

3.9 Carolyn T. Knapper, E.M.T., F.W.T.

Carolyn is an Aquatic Biologist who recently graduated from the Fish and Wildlife Technician program at Fleming College. Her field experience also includes some terrestrial work as she also completed a diploma in Ecosystems Management which brought her to Costa Rica to study reptiles and amphibians. Carolyn is returning to Fleming this fall to complete the Fish and Wildlife Technologist program, and plans to complete her degree in Biology at Trent University after that.

Carolyn's role in the Project included helping to collect some of the field data, and compiling this data for reporting. She also helped complete the Records Review for the July report submission.

3.10 Blair Baldwin, B.Sc.

Blair is an Aquatic Biologist who recently graduated from the University of Guelph with an Honours B. Sc. in Marine and Freshwater Biology. His areas of experience include fish habitat surveys, habitat mapping, fish community assessments, and benthic invertebrate surveys.

Blair's role in the Project included summarizing field notes and measuring distances to project infrastructure.

3.11 Pamela Tucciarone

Pamela graduated from the University of Toronto in a Biology Specialist program. She has more than 2 years of practical work experience, focusing on urban forestry, insect identification, and insect pest management. During this time period, she specialized in detecting the presence of the emerald ash borer and delineating the extent of its

infestation. Pamela is a certified arborist (2011) and has participated in field investigations and reporting for several REA solar and wind power projects in southern and northern Ontario.

Pamela's role in the Project included collecting field data for the site investigation report.

3.12 Shawn MacDonald, B.A. GIS-AS

Shawn has more than 3 years' experience in renewable energy mapping, spatial analysis and asset management systems. As a Geographic Information Systems (GIS) Analyst Shawn specializes in projects relating to wind, solar and hydroelectric power. Shawn has a wide range of project and field experience using GIS, GPS, AutoCAD and other technologies throughout all stages of a renewable energy project. This experience is not limited to renewable energy alone as Shawn has been involved in a number of projects relating to terrestrial and aquatic habitat mapping, environmental restoration and spatial/3D analysis.

Shawn's role in the Project was the primary GIS Analyst. He collected and reviewed all available background mapping resources and was the primary contact of the GIS department for the Project.

3.13 Gerry Schaus, B.A. GIS-AS

Gerry has over 4 years' experience in the renewable energy sector and regularly does mapping for wind, solar and hydroelectric projects. This work includes mapping of natural features, vegetation communities, and aquatic habitats, terrestrial monitoring, constraints and proposed turbine layouts. Gerry has also completed a number of receptor surveys for proposed wind projects using Trimble GPS and a laser offset to accurately gather building points without ever needing to step on private property. Additionally, Gerry has significant experience working with AutoCAD and (AutoCAD) Map3D. This expertise allows for the easy integration of CAD plans with GIS layers or vice versa.

Gerry's role in the Project was as GIS technician. He reviewed and collected all available background mapping resources to compile into Project mapping.

4.0 Summary of Results of Records Review

In accordance with REA Regulation, NRSI biologists have conducted a comprehensive records review of all water bodies within the Project area (120 m of Project components). The record review began in September 2010 upon reviewing the first Project layouts and has subsequently been revised to align with the current Project layout as of January 2012. Table 1, below, from the *Water Body Records Review Report (NRSI, 2012a)* summarizes the number of water body observation locations within the Project area. These locations dictated the locations of the water body observation points conducted for this site investigation report.

Criteria	Yes/No	Result
i. In a water body	Yes	Based on available DFO mapping, a total of 297 project components were found to intersect with a water body. Based on mapping provided by the LTVCA, a total of 273 project components cross a water body
ii. Within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity	No	No Project components are found within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity.
iii. Within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity	No	No Project components are found within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity.
iv. Within 120 m of the average annual high water mark of a permanent or intermittent stream	Yes	The South Kent Wind Project is located within 120 m of the average annual high water mark of 216 permanent and intermittent watercourses (refer to Appendix II). The majority of watercourses that fall within this 120 m boundary occur as linear agricultural drains which parallel roads and fields; and facilitate drainage for agricultural practices. The vast majority of these drains have been classified as Class-C and Class-F drains (DFO 2010). However there are several larger watercourses which actively drain water north of the Project Area

Table 1. Summary of Water Body Records Review

		into the Thames River, or south into Rondeau Bay and Lake Erie. Many of these larger drains have been classified as E-Class and C-Class.
iv. Within 120 m of a seepage area	No	No Project components are found within 120 m of any seepage areas.

5.0 Site Investigation Methodology

Comprehensive site investigations to document the water bodies of the Project area were undertaken in accordance with the REA Regulation and the requirements of the MNR. These site-specific field investigations focused on habitat characteristics and aquatic resources. The result of this site investigation will be used to identify water body locations around Project components requiring mitigation which will be addressed in the Environmental Impact Study. Although REA Regulations allow water bodies within 120 m of Project components in compliance with mitigation measures, no water body is permitted within 30 m from a turbine blade tip.

A summary of the site investigation methods employed for this document is discussed below in sections 5.1 and 5.2.

5.1 Aquatic Habitat Mapping

NRSI initially reviewed aerial imagery and base mapping as part of the Records Review in order to identify the presence and proximity of aquatic features or water bodies within 120 m of all Project components including 120 m from blade turbine tips, access roads, and cabling. Figure 2-1 is the key map for the project area which is further broken down into more figures to show the observation point. In order to accurately identify these water bodies a 120 m buffer was added around all Project components and can be seen in Figure 2-3 through to Figure 2-10. Figure 2-2 was removed from the mapping as layouts changed. Preliminary site investigations began on September 8th, 2010 and were conducted through roadside observations at proposed development locations to verify water body information collected during the Records Review. Site-specific investigations were also completed in 2011 by biologists on foot.

NRSI Biologists developed the following criteria over the course of the field survey (or similar) to guide the collection of aquatic data; basic aquatic habitat assessments were to be conducted for water bodies within 120 m of cabling (including distribution lines) and detailed aquatic habitat assessments were to be conducted for water bodies near all other Project components within 120 m of a water body. All assessments were conducted in accordance with Section 1.1 of the REA Regulation.

Basic aquatic habitat characterization included identifying: water body name, location, natural corridor width and vegetation types, channel morphology classification and width, instream fish habitat which includes bank and channel vegetation as well as flow conditions. Flow conditions were used to classify the water body; if water was found to be flowing without small pools the stream was classified as a permanent stream. All other streams were classified as intermittent streams.

Detailed aquatic habitat characterization includes a more detailed description of all basic aquatic habitat characterization information. These details include additional information on channel morphology (bank height, slope, stability), channel substrate, instream habitat cover, wetted width and cross section as well as water temperature and a site drawing.

In compliance with the REA Regulation requirements each water body observation summary found in section 7.1 contains the date which the observation was made. The time taken to complete all detailed aquatic habitat assessments is recorded on each field note found in Appendix I and all basic habitat assessments took approximately 20 minutes.

All assessments are supported by habitat mapping and field notes (Appendix I).

5.2 Site Investigation Information

Table 2 below provides the staff names, investigation dates, and weather conditions for each site investigation day conducted by NRSI staff. Refer to Section 3.0, Staff Roles for the qualifications of each NRSI Biologist.

		Weather Conditions			
Observer(s)	Date	Temp. (℃)	Beaufort Wind Speed	Cloud Cover (%)	Precipitation
Deanna Calhoun & Siobhan Murray	8-Sep-10	20	4	90	None (overcast)
	9-Sep-10	20	3	10-75	None (sunny)
	10-Sep-10	20	3	70	None (sunny)
	13-Sep-10	28	2	5	None (sunny)
	14-Sep-10	17	1	0	None (sunny)
Siobhan Murray	15-Sep-10	17	2	0	None (sunny)
	16-Sep-10	18	3	100	None (overcast)
	17-Sep-10	12	1	50	None (sunny)
Siobhan Murray	21-Sep-10	24	2	0	None (sunny)
	22-Sep-10	18	0	100	Rain
	23-Sep-10	21	2	0	None (sunny)
	5-Oct-10	13	1	100	Light Rain
Siobhan Murray	6-Oct-10	15	1	10	None (sunny)
	7-Oct-10	17	2	0	None (sunny)
0: 11 M	21-Oct-10	11	3	90	None (overcast)
Slobhan Murray	22-Oct-10	3	1	0	None (sunny)
	27-Oct-10	11	3	0	None (sunny)
Siobhan Murray	28-Oct-10	7	4	100	None (overcast)
	29-Oct-10	5	3	100	None (overcast)
	16-Nov-10	10	2	100	Light Rain
Siobhan Murray	17-Nov-10	11	4	0-80	None (overcast)
	18-Nov-10	7	2	80	None (overcast)
Deanna Calhoun	13-Apr-11	10	4-5	15	None
& Valerie Evans	14-Apr-11	7	2-3	90	None(Overcast)

Table 2. Site Investigation Details Summary

		Weather Conditions			
Observer(s)	Date	Temp. (℃)	Beaufort Wind Speed	Cloud Cover (%)	Precipitation
	19-Apr-11	2	4-5	100	None
& Valerie Evans	20-Apr-11	4	3	100	Some Rain
	21-Apr-11	6	4-5	80	Intermittent Rain
	27-Apr-11	10	6-7	100	None
Deanna Calhoun	28-Apr-11	10	7-8	100	Rain
	29-Apr-11	12	2-3	100	None
Valerie Evans & Ian Riemenschneider	27-Apr-11	17	4-6	100	Heavy Rain
	28-Apr-11	14	6-7	90	None
	29-Apr-11	12	2-3	100	None
Valerie Evans & Carolyn Knapper	15-Jun-11	22	2	85	None
Pam Tucciarone	29-Jun-11	19	2	20	None (Sunny)
Gina MacVeigh	4-Oct-11	10	1-2	0	None
Gina MacVeigh	5-Oct-11	10	1	5	None
Gina MacVeigh	6-Oct-11	16	1	0	None
Steve Burgin	10-Nov-11	8	3	10	None

6.0 Aquatic Resources

In accordance with the REA Regulation, water bodies within and around the Project area were reviewed by NRSI Biologists. The types of water bodies within the Project area, included lakes, streams, and seepage areas are defined in detail below.

6.1 Lakes

The definition of a water body as defined by the REA Regulation does not include "temporarily ponded areas that are normally farmed, dugout ponds, or artificial bodies of water intended for storage, treatment or recirculation of runoff from farm animal yards, manure storage facilities and sites and outdoor confinement areas" (O. Reg 359/09).

A review of available background information and detailed site investigation has revealed that no lakes are present within the Project. Several small ponds, created for agricultural purposes, were identified throughout the Project area, however since these features are not considered water bodies, they have not been discussed in detail in this report.

6.2 Lake Trout Lakes

The REA Regulation defines Lake Trout (*Salvelinus namaycush*) Lakes as "a lake that has been designated by the Ministry of Natural Resources for Lake Trout management, as set out in records maintained by and available from that Ministry" (O. Reg 359/09).

NRSI biologists have reviewed available background information, including the Inland Ontario Lakes Designated for Lake Trout Management (OMNR 2006), and have confirmed that no Lake Trout Lakes are present within the Aylmer District MNR. Therefore, no Lake Trout lakes are present within the Project area.

6.3 Permanent or Intermittent Streams

REA Regulation defines a Permanent Stream as "a stream that continually flows in an average year" (O. Reg. 359/09) and it defines Intermittent Stream "as a natural or artificial channel, other than a dam, that carries water intermittently and does not have established vegetation within the bed of the channel, except vegetation dominated by

plant communities that require or prefer the continuous presence of water or continuously saturated soils for their survival" (O. Reg. 359/09).

Both permanent and intermittent streams were identified through the review of background information and by NRSI biologists during the site investigations of the features within 120m of the Project area. All water bodies observed within this Project area are considered to be permanent or intermittent streams and are summarized in Site Investigation Results: Section 7.

6.4 Seepage Areas

Seepage areas are defined with the REA Regulation as "a site of emergence of groundwater where the water table is present at the ground surface, including a spring" (O. Reg. 359/09). No seepages were identified in the Records Review but a total of twelve (12) sites were identified to occur within the Project area during the site investigation. Details of these water bodies can be found in Table 11 below with site-specific information provided in subsection 7.2 of this report.

7.0 Site Investigation around Project Components

Over the course of the site investigations, 349 Water Body Observations were completed (152 from 2010 and 197 from 2011). These observations were taken at locations identified by the Records Review and include all water bodies within 120 m of all Project components and were assessed as being: adjacent to or crossing a Project component. None of the documented water bodies are found within 30 m of a turbine location. A total of 13 water bodies were documented within 30m of the project location, including measurements from access road, cabling, and the extent of blade sweep area surrounding the turbine location.

Section 7 contains all water body observation: figures (Subsection 7.1) summaries (Subsection 7.2) and summary tables (Subsection 7.3) and has been organized according to figure number. Figure 2-1 displays the extent of the entire Project overlain with the boundaries covered in more detail by each additional figure (Figures 2-3 to 2-10). Figure 2-2 will not appear in this report as it no longer exists due to Project layout changes made between 2010 and 2011. Figure 2-2 was excluded and all other Figure names will remain the same to maintain consistency with field notes. An additional Figure, Figure 2-6a, appears in this report as a result of the latest project layout. It was named 2-6a to avoid alterations to the map references in the field notes.

The last subsection, Subsection 7.4, found in Section 7 details the results of the water bodies containing groundwater seepage areas. Field notes are included in Appendix I.


















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7.1 Site Investigation Results: Water Body Observation Summaries

Water Body Observations found on Figure 2-3: 15 Observations (2 from 2010, 13 from 2011)

1. WB-B5

Water body 'WB-B5' was identified as Eight Creek Drain and was observed where it crosses under Port Road. The natural corridor measured 10m, channel width was 1 m, and the high water mark was 2 m. Vegetation consisted of grass and herbaceous vegetation within the vicinity. The channel was vegetated with cattail and was dry on September 16th, 2010 and was therefore classified as an intermittent stream.

East (9 m) of observation point 'WB-B5' Eighth Creek Drain crosses the proposed cabling. Further south Eight Creek Drain comes within 71 m of proposed turbine P070. Eighth Creek then continues into the Project area of proposed turbine P087 which will be discussed in observation point 'WB-C5'.

2. WB-C5

Water body 'WB-C5' was identified as Eight Creek Drain and was observed where it crosses under Middle Line. The natural corridor measures 10 m, channel width is 1 m, and the high water mark is 1 m. Grass and herbaceous plants are present within the corridor and along the banks. When observed on September 16th, 2010 the channel was dry and lined and was therefore classified as an intermittent stream.

To the north of observation point 'WB-C5' Eight Creek Drain comes within 61 m of proposed turbine P087 and 113 m from its associated access road and cabling.

3. CAB048

Water body 'CAB048" was identified as Eighth Creek Drain and was observed on the south side of Middle Line (Victoria Street), parallel to the road and approximately 1.625 km west of Hickey Road. The natural corridor of the drain at this point measured approximately 5 m in width and consisted of predominantly grass and herbaceous plant species. The channel measured 0.5 m in width, with grass species lining the bank. The

channel contained cattails and Phragmites sp.. The water was clear and flowing on April 29th, 2011 and therefore was classified as a permanent stream.

'CAB048' is located within the Project area and runs 21 m parallel to the cabling for proposed turbine P176.

4. CAB049

Water body 'CAB049' was identified as Eight Creek Drain and was observed on the south side of Middle Line (Victoria Street), parallel to the road and approximately 1.25 km west of Hickey Road. The natural corridor of unnamed drain at this point measured approximately 6 m in width and consisted of grass, herbaceous plants and shrub species. The channel measured 0.5 m in width, with grass, herbaceous species and shrub vegetation growing along the bank and within the channel. The water within the channel was flowing clear on April 29th, 2011 and therefore was classified as a permanent stream.

CAB049 is located within the Project area 20 m from the proposed cabling that runs parallel to Middle Line (Victoria Street).

5. CAB050

Water body 'CAB050' was identified as Eight Creek Drain and was observed on the south side of Middle Line (Victoria Street), parallel to the road and approximately 1.4 km west of Hickey Road. The natural corridor of unnamed drain at this point measured approximately 3 m in width and consisted predominantly of grass and herbaceous plant species. Bank vegetation consisted of grass and herbaceous plant species. The channel was 1 m in width, with Phragmites sp. growing in the channel. The turbid water was flowing on April 29th, 2011 and therefore was classified as a permanent stream.

CAB050 is located within the Project area (19 m away) from the proposed cabling that runs parallel to Middle Line (Victoria Street).

6. CAB051

Water body 'CAB051' was identified as Eighth Drain and was observed on the south side of Middle Line (Victoria Street), parallel to the road and approximately 950 m west of Hickey Road. The natural corridor of unnamed drain at this point measured approximately 6 m in width and consisted of mixed vegetation: grass, herbaceous plants, shrubs, rose sp., juniper and deciduous trees. The channel measured 0.5 m in width, with grass, shrubs and rose bushes lining the bank. Phragmites sp. was growing in the channel and the water was flowing clear on April 29th, 2011 and therefore was classified as a permanent stream.

Water body 'CAB051' is located within the Project area 18 m from the proposed cabling that runs parallel to Middle Line (Victoria Street).

7. CAB052

Water body 'CAB052' was identified as unnamed drain and was observed on the north side of Middle Line (Victoria Street), parallel to the road and approximately 1.5 km east of Haskell Road. The natural corridor of unnamed drain at this point measured approximately 2 m in width and consisted of predominantly grass species. The bank vegetation consisted of grass species. The channel measured 0.5 m in width and was bare of vegetation. There was standing water observed in the channel on April 29th, 2011 and therefore was classified as an intermittent stream.

Water body CAB052 is located within the Project area 15 m from the proposed cabling that runs parallel to Middle Line (Victoria Street).

8. CAB053

Water body 'CAB053' was identified as unnamed ditch and was observed on the north side of Middle Line (Victoria Street), perpendicular to the road and approximately 900 m from Haskell Road. The natural corridor of unnamed ditch at this point measured 6 m in width and consisted of predominantly grass species. The bank vegetation consisted of grass species as well. The channel measured 0.5m in width and channel vegetation consisted of patches of Phragmites sp. amidst bare sections. There was standing water observed in the channel on April 29th, 2011 and therefore was classified as an intermittent stream.

Water body 'CAB053' is located within the Project area 13 m from proposed cabling parallel to Middle Line (Victoria Street).

9. P174A

Water body 'P174A' was identified as unnamed drain that runs perpendicular to the road approximately 500 m west of Hickey Road. Observations were taken 700 m from Gray Line. Land use surrounding this drain is mainly agricultural. The natural corridor of this portion of the drain measured 8 m in width and consisted of grass, herbaceous and shrub species, as well as deciduous and juniper trees that provided very good shade (70%) over the channel. The channel ranged in widths from 1 - 1.75 m with a bank height of 0.1 m. The wetted width of the channel at this section of run was 1.19 m with depths ranging from 3 - 12 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater and boulder. Substrates within the channel consisted of clay, silt, boulder, muck and detritus. The 2 m high top of bank was noted as having good stability with dense vegetation comprised of herbaceous plants, raspberry and deciduous trees. Abundant grass and Phragmites sp. were observed within the channel. Water was flowing and the temperature was 10° C on April 29th, 2011 therefore this water body was classified as a permanent stream.

'P174A' is an unnamed water body located within the Project area that crosses the access road and cabling, as well as coming within 15 m of proposed turbine P174.

10. P174B

This unnamed drain was located south of Middle Line and west of Hickey Road and runs north south. The natural corridor measured 3 m and consisted of grasses, shrubs, juniper, strawberry, raspberry and some sumac. The drain channel was 1 m wide with banks of wild grape, strawberry and sedges and rushes were growing in the channel itself. On June 15th, 2011 no water was seen in the channel therefore this watercourse was classified as an intermittent stream.

This unnamed drain at observation point 'P174B' runs parallel to (17 m) to the access road and cabling for proposed turbine P174.

11-12. P175A/B

Water body 'P175A' was identified as Eight Creek Drain and was observed on the north side, running parallel to Middle Line, 600 m west of Hickey Road. Land use surrounding this drain is primarily agricultural. The natural corridor of this portion of Eight Creek Drain measured 8m in width and consisted of grass species. The channel ranged in widths from 0.25 - 0.5 m with grass and Phragmites sp. stalks abundant within the channel that provided 50% cover on April 29th, 2011 and likely 95% cover during the summer. The wetted width of the channel at this section was 1.7 m with depths ranging from 5 - 10 cm. Instream habitat and cover found within the channel was provided by pools and vegetation. Substrates within the channel consisted of clay, silt, muck, detritus and pebble. The bank height was 0.02 m and the top of bank was 1 m, and abundant grass provided good bank stability. There was standing water observed within the channel on April 29th, 2011 and was therefore classified as an intermittent stream.

Water body 'P175B' was identified as an unnamed drain and was observed on the south side of Middle Line, perpendicular to the road and approximately 600 m from Hickey Road. The natural corridor of unnamed drain at this point measured 8 m in width and consisted of mixed vegetation: grass and herbaceous plant species, deciduous trees and shrubs, and juniper. The channel measured 1 m in width with grass and herbaceous species, deciduous tree and shrub species lining the banks. The channel vegetation consisted of grass and Phragmites sp. Water appeared to be flowing within the channel on April 29th, 2011 and was therefore classified as a permanent stream.

'P175A' is located 17 m from the proposed cabling parallel to Middle Line between Hickey and Haskell Roads.

'P175B' is located within the Project area as it crosses the access road and cabling for proposed turbine P175.

13-15. P176A/B/C

Water body 'P176A' was identified as Eight Creek Drain and was observed on the south side of, and running parallel to, Middle Line, approximately 600m east of Haskell Road. Water temperature for Eight Creek Drain was 9.5°C on April 29th, 2011. Land use

surrounding this drain is for agricultural and municipal road purposes. The natural corridor of this portion of Eight Creek Drain measured 12 m in width and consisted of grass species, herbaceous plants including wild carrot, plantain, teasel, dandelion, and juniper. The channel width remained relatively uniform at 2 m and had a high water mark of 1.25 m. The wetted width of the channel at this section was 1.67 m with depths ranging from 12 – 24 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, cobble and vegetation including abundant Phragmites sp. and grass species. Substrates within the channel consisted of clay, silt, gravel, pebble, cobble and muck. The 2.5 m high top of bank was noted as having poor stability with sparse vegetation comprised of grass and herbaceous species. Within the channel was noted to be turbid and flowing and was therefore classified as a permanent stream.

Water body 'P176B' was identified as unnamed drain and was observed on the north side of, and running parallel to, Middle Line. The natural corridor of unnamed drain at this point measured approximately 9 m in width and consisted of predominantly of grass and a dense cedar hedgerow. The channel measured 1m in width, and leaves and Phragmites sp. lined the channel. Bank vegetation consisted primarily of grass species. There appeared to be standing water within the channel on April 29th, 2011 and was therefore classified as an intermittent stream.

Water body 'P176C' was identified as unnamed drain and was observed on the south side of Middle Line, perpendicular to the road and approximately 750 m from Haskell Road. Water temperature for this drain was 9°C on April 29th, 2011. Land use surrounding this drain is primarily agricultural. The natural corridor of this portion of unnamed drain measured 5 m in width and consisted predominantly of grass species. At the time of observation no shade was provided by the grass, however summer growth would likely provide approximately 75% canopy over the drain. The channel ranged in width from 0.1 - 0.75 m and had a bank height of 0.08 m. The top of bank was 1.5 m above water surface and bank vegetation consisted of grass species. The bank was fairly stable with the right bank eroded where it intersected the field. The wetted width of the channel at this section was 0.12 m with depths ranging from 1 - 6 cm. Instream habitat and cover found within the channel was provided by pools and abundant grass

species. Substrates within the channel consisted of clay, silt, muck, detritus and pebble. The water within the channel appeared to be flowing north on April 29th, 2011 and was therefore classified as a permanent stream.

P176A is located within the Project area as it crosses the access road and cabling leading to proposed turbine P176 as well as running alongside (20 m) the proposed cabling along Middle Line.

P176B is located within the Project area 9 m from proposed cabling that runs parallel to Middle Line.

P176C is located within the Project area. It crosses the access road and the cabling to turbine P176 and is 22 m from the cabling running along Middle line.

Water Body Observations Found in Figure 2-4 41 water body observations (15 from 2010, 26 from 2011)

1. WB-A5

Water body 'A5' was identified as a roadside ditch and was observed along Pollard Line. It was observed to have a natural corridor that measured 2.5 m and a channel width of 0.5 m. Vegetation was predominantly grass species. The ditch was dry when viewed on September 16th, 2010.

Observation point 'WB-A5' has been identified as a intermittent and crosses the proposed cabling.

2. WB-AR8

Water body 'AR8' was identified as Patrick Drain and was observed where it intersects Branch Drain at Rosedale Line. Patrick Drain consists of natural meanders, and continues from northwest to east. 'Branch' drain is a ditch located along the south side of Rosedale Line. The natural corridor of Patrick Drain measured 8 m in width and consisted of grass and herbaceous species, including goldenrods and teasel, as well as scattered trees. The channel measured 1 m in width and had a high water mark of 1 m, with bank vegetation of grass and herbaceous species, including goldenrods and teasel. Vegetation in the channel consists of cattails, and the channel was dry when observed on November 16, 2010.

From this location Patrick Drain (a water body) follows southeast towards proposed turbine P082 and will be addressed at observation point 'WB-E4'. Furthermore Branch Drain follows 12 m adjacent to the cabling on Rosedale Line.

3. WB-AR12

Water body 'WB-AR12' was identified as the intersection of an unnamed drain and King and Whittle Drain and was observed along Davidson Road. The unnamed drain continues from southwest to northeast, ending at King and Whittle Drain on the west side of Davidson Road. The natural corridor measured 10 m in width and consisted of grass species and mixed trees. The channel measured 0.75 m in width and had a high water mark of 1 m, with bank vegetation of grasses and herbaceous species, including goldenrods, as well as mixed shrubs. There was no vegetation in the channel, and the channel contained a small amount of rain runoff when the drain was observed on November 16, 2010.

At this location, King and Whittle Drain is a water body that falls within the Project area and is located 10 m from the cabling associated with proposed turbine P116.

4. WB-AR23

Water body 'WB-AR23' was identified as the intersection of an unnamed drain and McDougall Drain West Branch on Valetta Road. The unnamed drain runs west to east, crossing Valetta Road. McDougall Drain West Branch runs north-south along the east side of Valetta Road. The natural corridor of the unnamed drain measured 7 m in width and consisted of grasses, herbaceous species (including goldenrods), shrubs, and trees. The channel measured 0.75 m in width and had a high water mark of 1 m, with bank vegetation of grasses and herbaceous species, including goldenrods. The channel on the east side of Valetta Road was bare of vegetation, while the west side was overgrown with grasses and trees. Both Unnamed Drain and McDougall Drain West Branch were dry when observed on November 16th, 2010.

Both drains are water bodies occurring within the Project area at observation point 'WB-AR23'. The unnamed drain crosses cabling and follows alongside the access road and cabling (at a distance of 22 m) to proposed turbine P124. McDougall Drain West Branch comes within 7 m of the access road and proposed cabling but is situated on the east side of Valetta Road.

5. WB-C7

Water body 'WB-C7' was identified as King & Whittle Drain and was observed along Davidson Road in this section, and Gagner Drain which runs perpendicular. The natural corridor was 12 m wide and had vegetation consisting of grass species. The channel width ranged from 0.5 to 1 m, with a bank height of 5 m, and a high water mark of 2.5 m. Herbaceous plants and grass species composed the bank vegetation. Standing water with algae was present within the channel when observed on September 23rd, 2010. Gagner Drain had similar conditions and was dry when observed on September 23rd, 2010. At observation point 'WB-C7' King & Whittle Drain is a water body located within the Project area crossing the access road of proposed turbine P116 and coming within 6 m from the cabling running along Davidson Road. It is also within 62 m of proposed turbine P116. At this same location, Gagner Drain is located within the Project area and is 58 m from the access road and 6 m from the cabling which runs parallel to Davidson Road.

6. WB-D8

Water body 'WB-D8' was identified as Gagner Drain and was observed where it crosses the access road and cabling at Graham Drain Extension. The observation point was located between Gary Line and Middle Line, to the west of Oak Road. The natural corridor was 0.5 m, channel width was 0.25 m, and the high water mark was 0.15 m. No vegetation was present along the banks, corridor, or within the channel. A few pockets of standing water were present along the drain when viewed on October 22nd, 2010.

The reach connecting Graham Drain and Gagner Drain had similar conditions and was dry when observed on October 22nd, 2010.

The unnamed intermittent reach connecting Graham Drain and Gagner Drain crosses and runs parallel to the access road, and is 21 m from proposed turbine P132. The reach also crosses cabling.

Graham Extension Drain at observation point 'WB-D8' is a water body within the Project area. It crosses the access road and cabling running east west and comes within 10 m of the access road and cabling leading to proposed turbine P132.

7. WB-E4

Water body 'WB-E4' was identified as Patrick Drain and was observed where it crosses Coatsworth Road to the south of Concession Road 7. The natural corridor measured 10 m, channel width was 1.5 m, and the high water mark was 1 m. Herbaceous plants, grass and trees composed the vegetation within the vicinity. The channel was bare and dry when observed on September 15th, 2010. Patrick Drain is a water body within the Project area and crosses the cabling for proposed turbine P082. Further upstream to the east it does not fall within the boundary of proposed turbine P081.

8. WB-F4

Water body 'WB-F4' was identified as Branch/7th Concession Road Drain and was observed where it crosses under the access road and cabling for proposed turbine P081. The natural corridor measured 5 m, channel width was 0.5 m, and the high water mark was at 0.5 m. Grass species composed the majority of the vegetation along the corridor, banks, and along the channel. The channel was dry on September 15th, 2010 and was therefore classified as intermittent.

Branch Drain is a water body that lies within the Project area and crosses the cabling as well as the access road to proposed turbine P081. Southeast of the observation point, an unnamed drain is located 7 m from the access road and cabling and 91 m from proposed turbine P081. Branch Drain at this location also crosses the access road and cabling for proposed turbine P080, which is located on the north side of Rosedale Line.

9. WB-G4

Water body 'G4' was identified as South Middle Road Drain and was observed where it crosses the cabling for proposed turbine P080 and P154. The natural corridor for this area measured 7 m, channel width was 1 m, and the high water mark was 0.5 m. Grass was the predominant vegetation within the corridor and along the banks. Cattails were growing in the channel and it was dry when viewed on September 15, 2010.

South Middle Road Drain is a water body that lies within the Project area, crosses the cabling for proposed turbines P080 and P154 and comes within 69 m of proposed turbine P080.

10. WB-H4

Water body 'H4' was identified as Ivison Drain and was observed where it meets King & Whittle Drain at Davidson Road. Ivison Drain along this section had a natural corridor that measured 8 m and the vegetation consisted of shrubs, grass, and herbaceous plants. The channel width ranged from 0.5 to 1.5 m, with a bank height of 2 to 5 m, and

a high water mark of 1 m. The bank appeared stable with a high density of herbaceous plant and shrub species. Substrates within the channel included clay, silt, sand, cobble, muck, and detritus. The channel was dry when viewed on September 15, 2010. There is no water feature on the west side of Davidson.

At location 'WB-H4' Ivison Drain is a water body located within the Project area and is located 15 m from the access road and 30 m from the cabling for proposed turbine P079. East of the observation point, Ivison Drain is 20 m from the access road and cabling for proposed turbine P115, as well as 130 m from the turbine itself.

11. WB-I4

Water body 'I4' was identified as Grant Drain and was observed where it crosses the access road for proposed turbine no. P074. Grant Drain runs adjacent to the east side of McKinlay Road. The natural corridor measured 11 m, channel width was 1 m, and the high water mark was 0.5 m. Vegetation within the corridor and along the banks included a variety of grass and herbaceous plants. Phragmites was present with the channel which was dry when observed on September 15, 2010.

Ivison Drain runs east-west, had similar conditions and was dry when observed on September 15, 2010 and was therefore considered to be an intermittent stream.

Grant Drain at location 'WB-I4' is a water body located within Project boundaries. It crosses cabling and access road to proposed turbine P074. Ivison Drain at this location crosses the cabling that runs parallel to Oak Road and continues within 25 m of the access road and 20 m to the cabling for proposed turbine P074. East of the observation point, Ivison Drain comes within 26 m of proposed turbine P074.

12. WB-I6

Water body 'I6' was identified as Graham Extension Drain and was observed where it meets with Graham Drain at McKinlay road to the north of Gore Road. Agricultural fields composed the surrounding area. The natural corridor was 10 m wide and was vegetated through grass and herbaceous plants. Channel width was 1 m, bank height 3, and high water mark 2 m. Bank stability appeared good with a high density of herbaceous and grass species. Muck, sand, silt, and clay made up the channel substrates throughout

this section. The channel was bare of any vegetation and dry when viewed on September 22, 2010.

Graham extension Drain is a water body located within the Project area and it crosses cabling at Oak Road, as well as runs 5 m parallel to the cabling for proposed turbine P132.

13. WB-R6

Water body 'R6' was identified as 7th Concession Road Drain and was observed along Rosedale Line to the northeast of Ella Street south. The natural corridor measured 4 m, channel width was 1 m, and the high water mark was 0.5 m. Herbaceous plants and grass species composed the vegetation within the corridor and along the banks. Phragmites was found within the channel which was dry when visited on September 22, 2010.

Northeast of the observation point, 7th Concession Road Drain is located within Project boundaries and crosses the access road and cabling for proposed turbine P122, an extension of this drain runs 21 m adjacent to the access road and cabling, as well as within 26 m of proposed turbine P122.

14. WB-V4

Water body 'V4 was identified as Unnamed Drain A and was observed where it meets with Morris Line. The natural corridor measured 3 m, channel width was 0.5 m, and the high water mark was 0.5 m. Vegetation along the corridor was composed of a mixture of trees and shrubs. The bank had little vegetation consisting of grass species and the channel was bare. Unnamed Drain A was dry when viewed on September 16, 2010.

Unnamed Drain A at observation point WB-V4 is a water body located within the site area and is 10 m from the cabling along Morris Line. Further northwest it comes within 66 m from proposed turbine P071.

15. WB-W4

Water body 'W4' was identified as Jessop Drain and was observed where it crosses under Morris Line. The natural corridor throughout this section measured 7 m, channel width was 1 m, and the high water mark was 1 m. Vegetation included herbaceous plants, trees, and a variety of grass species. The channel vegetation was limited to sections of grass species and was dry on September 16, 2010.

Jessop Drain is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P073. At the observation point, Jessop Drain also crosses the cabling that runs parallel to Morris Line. It also runs 23 m adjacent to the access road, 6 m from cabling and is within 31 m from the proposed turbine P072.

16-17. CAB045A/B

Water body 'CAB045A' was identified as an unnamed drain and was observed along the north side of Morris Line approximately 400 m from the intersection of Pollard Line. The natural corridor of McHardy Drain at this point measured approximately 3 m in width and consisted predominantly of grass species. The channel measured 1 m in width and vegetation was absent from the watercourse bed. Bank vegetation consisted of grass species. The water was flowing clear during observation on April 28, 2011.

Water body 'CAB045B' was identified as unnamed roadside ditch and was observed along the south side of Morris Line approximately 400 m from the intersection of Pollard Line. The natural corridor of unnamed roadside ditch was 3 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and vegetation was comprised of grass along the bank and within the channel. Clear, standing water was observed within the channel on April 28, 2011.

CAB045A lies within the Project area and crosses the cabling and access road for proposed turbine P072 and P071. CAB045B, the unnamed roadside ditch, crosses the access road and cabling for proposed turbine P073.

18. CAB047

Water body 'CAB047' was identified as McLeod Drain and was observed along Pollard Line at the junction of Oak Road, McKinlay Road and Pollard Line. The natural corridor of McLeod Drain at this location measured approximately 7 m in width and consisted of predominantly of grass species. The channel measured 1.5 m in width, with a dredged

bare channel. Bank vegetation consisted of grasses and the turbid water was flowing northwest on April 28, 2011.

At location 'CAB047' McLeod Drain is a water body located within the Project area and crosses the cabling that runs parallel to McKinley Road.

19. CAB080

Water body observation 'CAB080' was identified as Graham Drain and runs beside the south side of Middle line at the junction of Oak Road. The natural corridor of this drain is less than 6 m and vegetated with grass, grape vines and herbs. The channel is approximately 2 m and vegetated with grasses and bare soil while the banks have grass and herbs and vines. A slow flow was visible on June 15th, 2011.

Graham Drain is a water body located within the Project area as it crosses the cabling parallel to Middle Line and runs 13 m parallel to proposed cabling along Oak Road.

20. CAB081

Water body observation 'CAB081' was identified as Grant Drain as it runs alongside Oak Road N of Middle Line. The natural corridor is less than 5 m wide and like the banks is vegetated with grass and herbs. The channel width is approximately 1 m and is vegetated with a number of grass species as well as some cattail. The channel had no visible water on June 15th, 2011.

Grant Drain is a water body located within the Project area as it runs 3 m to cabling parallel to Oak Road. Grant Drain, just south of the observation point also crosses the cabling that runs parallel to Middle Line.

21. CAB082

Water body observation 'CAB082' was an Unnamed drain E of Oak Road and running NW into Grant Drain. It has a natural corridor of less than 4 m and like the banks was vegetated with grass and herbs. The channel was approximately 1m wide and vegetated with rushes and cattail. There was no water present on June 15th, 2011.

Unnamed Drain E at 'CAB082' is located within the Project area as it crosses cabling running alongside Oak Road.

22. P075A

Water body 'P075A' was identified as McLeod Drain and was observed mid-field between Middle and Gray Lines and runs south to north. Water temperature for McLeod Creek was 8.5° on April 29th, 2011. Land use surr ounding this drain is primarily agricultural. The natural corridor of this portion of McLeod Creek measured approximately 25 m in width and consisted of deciduous trees, including willow species, grass, and vine and berry species. Canopy cover was absent over the creek at this location. The channel ranged in widths from 1.25 - 4 m and had a high water mark of 4.5 m above the observed water level. The wetted width of the channel at this section was 2.85 m with depths ranging from 43 to 65 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, woody debris, vegetation and boulder. Substrates within the channel consist of clay, silt, muck, detritus and boulder. The 5 m high bank was noted as having fair stability with erosion evident in outside bends which had been reinforced by boulder and concrete slabs. Bank vegetation included sparse grass and vines. The turbid water within the channel flowed north on April 29th, 2011.

McLeod Drain is a water body located within the Project area and crosses the access road and cabling associated with proposed turbine P075 at observation 'P075A'. McLeod Drain also comes within 69 m of proposed turbine P075 itself.

23. P075B

Water body 'P075B' was identified as unnamed drain and was observed 10 m – 30 m west of Baptiste Creek, between Middle and Gray Lines. The water temperature for unnamed drain was 9°C on April 29th, 2011. Land us e surrounding this drain is primarily agriculture. The natural corridor of unnamed drain at this point measured 4 m in width and consisted of grass and herbaceous species. The channel measured 1.5 – 2.3 m in width with dense phragmites stalks lining the channel to provide approximately 75% shade once grown. Currently no canopy is providing cover to the drain. The wetted width of the channel at this section was 2.15 m with depths ranging from 4 – 15 cm. Instream habitat and cover found within the channel was provided by pools, riffles,

backwater, woody debris, vegetation, boulder and cobble. Substrates within the channel consisted of clay, detritus, silt, gravel, pebble, muck, sand, cobble and boulder. The 0.5 m high bank was noted as having poor, dredged bare bank stability with sparse grass and herbaceous species. The slightly turbid water was flowing east swiftly within the channel toward Baptiste Creek.

This unnamed drain is a water body observed at 'P075B' and is located within the Project area. It runs 18 m adjacent to the access road and cabling which connects proposed turbine P077 to P075 and P132.

24. P075C

Water body 'P075C' was identified as an unnamed drain and was observed midfield between Middle and Gray Lines. The natural corridor of unnamed drain at this point measured approximately 5 m in width and consisted of predominantly grass species. The dredged channel measured 1 m in width and the sparse bank vegetation consisted of grass species. The channel was found to have turbid water flowing north on April 29th, 2011.

This unnamed drain is a water body located within the Project area and is located >120 m from proposed turbine P132. This water body crosses the cabling and access road leading to proposed turbine P132.

25. P078A

Water body 'P078A' was identified as Powell Drain and was observed along Middle Line approximately 1.4 km east of Davidson Road. Water temperature for Powell Drain was 10°C on April 28, 2011. Land use surrounding this drain is used primarily for agricultural and municipal road purposes. The natural corridor of Powell Drain at this point measured approximately 12 m in width and consisted of predominately grass species. The channel measured 2 m in width and had a high water mark of 2 m. Dense bank vegetation consisted of grasses and herbaceous plants that provided little canopy during the April 28, 2011 observation. It is expected that full summer vegetation, including Phragmites, would provide approximately 75% shade. The channel had been recently dredged with Phragmites stalks and grass abundant within the channel. The channel ranged in widths from 1.75 - 2.5 m and had a high water mark of 2 m. The wetted width of the channel at this location was 1.85 m with depths ranging from 10 – 35 cm. Instream habitat and cover found within the channel was provided by pools and vegetation. Substrates within the channel consisted of clay, muck, detritus and silt. The 2 m high bank was noted as having fair stability with some areas of erosion and bank vegetation consisting of grass and herbaceous plant species. Within the channel the turbid water was flowing southeast on April 28, 2011.

Powell Drain was observed at 'P078A' and is a water body located within the Project area. It crosses the access road for proposed turbine P078 and comes within 15 m from the cabling that runs parallel to Middle Line and 15 m from the cabling and access road for proposed turbine P150.

26. P078B

Water body 'P078B' was identified as Gagner Drain and was observed midfield between Middle and Gray Lines. The natural corridor of Gagner Drain at this point measured 2 m in width and consisted of grass and wheat species. The channel measured 0.5 - 1 m in width. The wetted width of the channel at this location was 0.9 m with depths ranging from 1 - 3 cm. Instream habitat and cover found within the channel was provided by pools and vegetation, such as abundant grass and wheat species. Substrates within the channel consisted of clay, silt, muck and detritus. The 0.15 m high bank vegetation consisted of grass and wheat species and the bank was noted as having fair stability with areas of erosion evident. Within the channel there was slightly turbid, standing water on April 28, 2011.

Gagner drain was observed at 'P078B' and is a water body located within the Project area. It is 45 m adjacent to the access road, which is >120 m to proposed turbine P078.

27. P078C

Water body 'P078C' was identified as unnamed ditch and was observed approximately 370 m south of Middle Line, east of Davidson Road. The natural corridor of unnamed ditch at this point measured approximately 2 m in width and consisted of grass and wheat species. The channel measured 1 m in width. Bank and channel vegetation consisted of wheat and grass species. Standing water was observed in the channel on April 28, 2011.

This unnamed ditch was observed at 'P078C' and is a water body located within the Project area. It is a ditch running 17 m adjacent to the proposed access road for proposed turbines P078, P077, P075 and P132.

28. P082A

Water body 'P082A' was identified as Burgess Drain and crosses the access road and cabling leading to proposed turbine P082 SW of Coatsworth Road between Rosedale Line and Hornick Line. This drain is surrounded by agriculture predominantly corn and has a natural vegetation corridor approximately 10 m wide consisting of small trees such as locust, a few shrubs and a lot of grass and herbs as well as some wild grape. The riparian zone was 8 m wide consisting of shrubs including dogwood, herbs, grass and poison ivy. There was no canopy resulting in 0% shade. The channel width was approximately 3.0 m wide with instream vegetation of sedges, rushes a pondweed and two aquatic herbs. Instream substrates consisted of 55% clay, 15% detritus, 10% muck, 10% sand, 5% pebble and 5% gravel. Instream vegetation and cobble may serve as habitat cover. Banks measured 1.5 m high with vegetation of 50% herbs, 20% shrubs (dogwood), 20% grass, 5% treed and 5% bare soil. Bank stability was fair due to pockets of eroding bare soil. The drain was fairly clear, had a uniform flow to the NW, a temperature of 17°C and a wetted width of 3.0 m with depths of 6, 12, 17, 16 and 12 cm in cross section. All observations and measurements for this site were taken on June 15th, 2011.

Burgess Drain was observed at 'P082A' and is a water body located within the Project area. It crosses the access road and cabling for proposed turbine P082.

29. P082B

Water body 'P082B' was identified as Carless Drain and is located S of Rosedale Line and W of Coatsworth Road. The natural corridor was less than 10m consisting of small trees, a few shrubs and lots of herbs. The drain width is approximately 3m with banks vegetated with herbs, dogwood and vines. The channel vegetation consists of a pondweed, rushes and some algae. The flow was to the N and very slow. All observations made for this site were done on June 15th 2011. Carless Drain is a water body observed at 'P082B' and is located within the Project area. It is 51 m away from proposed turbine P082 and 100 m away from the access road and cabling.

30. P082C

Water body 'P082C' is an unnamed drain running perpendicular to Coatsworth Road south of Rosedale Line and parallel to the access road for proposed turbine P082. The natural corridor is approximately 3 m and is vegetated with grass, grape vine, herbs including American vetch and poison ivy. The channel is approximately 1 m with banks of grass, vines and poison ivy. Instream vegetation consisted of grasses such as Phragmites that appears to have been cut the previous year and some poison ivy. On June 15th 2011 a few standing pools were observed. Water is expected to flow into Burgess Drain at high water levels.

Unnamed water body 'P082C' lies within the Project area and runs parallel to the access road and cabling at a distance of 23 m and 16 m respectively in addition to 100 m from proposed turbine P082.

31. P150B

Water body 'P150B' was identified as Ivison Drain and was observed near the location of the proposed turbine P150 midway between Pollard and Middle Lines. The natural corridor of Ivison Drain at this point measured 7 m in width and consisted predominately of grass species. The channel measured 0.5 m in width and bank vegetation consisted of grass species. The channel contained grass and algae in the standing water observed on April 28, 2011.

Ivison Drain is a water body observed at 'P150B' and is located within the Project area. It is found 7 m from the access road, 18 m from the cabling, and 40 m from proposed turbine P150. Immediately to the west of the observation point, Ivison Drain crosses the cabling that connects proposed turbines P115, P150, and P113.

32. AHY005

The water body observed at 'AHY005' was identified as South Middle Road Drain and flows along the south side of Gore Road. The natural corridor extends no further than

the road side ditch and is made up primarily of terrestrial grasses, herbaceous plants and Phragmites sp. The land use surrounding this drain is primarily agricultural. Though water was observed within South Middle Road Drain it appeared to be tile fed and showed no flow on October 4th, 2011. As flow was found further downstream past King & Whittle Road, this drain has been classified as an intermittent water course.

South Middle Road Drain at this location comes within 7 m of the proposed cabling that runs parallel to Gore Road.

33. AHY006

Water body 'AHY006' was identified as South Middle Road Drain and was observed at the intersection between Ella Street and Gore Road. King & Whittle Drain intersects South Middle Road Drain at this location. The natural corridor of South Middle Road Drain at this point extended no further than 5 m and was vegetated with herbaceous plants and terrestrial grasses. The channel throughout this section ranged from 0.5 to 2.5 m, with a bank height of 2m. The land use surrounding this drain is primarily agricultural. The South Middle Road Drain was found to be flowing on October 4th, 2011 with highly turbid water with an approximate depth of 0.4m.

South Middle Road Drain at this location runs 7 m adjacent to the cabling alongside Gore Road. King & Whittle Drain at this location crosses the cabling that runs parallel to Gore Road.

34. AHY007

The water body 'AHY-007' was identified to be Norval Davis Drain and was observed at the intersection, between Gore Road and Davidson Road, where it joins with South Middle Road Drain through a 4.5 m culvert. The land use surrounding this drain is primarily agricultural and tile drains were noted to be flowing into the drain. The natural corridor measured approximately 6 m and was vegetated by terrestrial grasses, cattails and Phragmites sp. The channel throughout this section measured 0.75 m and was found to be flowing on October 4th, 2011 with a water temperature of 14°C.

Norval Davis Drain at this observation point is located within the Project area and is 9 m adjacent to the cabling alongside Gore Road. Norval Davis Drain also crosses the cabling at Davidson Road.

35. AHY008

Water body 'AHY008' was identified as an unnamed drain located perpendicular to Davidson road, on the west side. It was found to be flowing on October 4th, 2011 with a water temperature of 14°C. It flowed under Davidso n road at the observation point through a 0.5 m round culvert, connecting it to Norval Davis Drain, which runs parallel to Davidson Road on the east side. The natural corridor of this unnamed drain at this point measured 3.25 m in width and consisted predominately of grass species and Phragmites sp. The channel measured 1 m in width and was completely lined with Phragmites sp.

This unnamed drain at 'AHY008' crosses the cabling that runs parallel to Davidson Road.

36. AHY009

Water body 'AHY009' was identified as McLeod Drain and was observed where it crosses Middle Line, between Davidson Road and Oak Road, through 2.6 m wide box culverts. The natural corridor at this point extended approximately 30 m in width and consisted of maple, poplar, dogwood, elm, and herbaceous plants. The land use surrounding this drain is primarily agricultural. The channel measured approximately 12 m in width with a wetted width of approximately 8 m and max depth of 1 m. In stream habitat and cover found within the channel was provided by pools, riffles, woody debris, and vegetation. The substrates within the channel consisted primarily of muck, silt, and sand with deposits of gravel. The 1-6 m bank showed fair stability and bank vegetation consisted of terrestrial grasses, shrubs, and herbaceous vegetation, which provided 30% shade to the channel. In stream vegetation was made up of terrestrial grasses. McLeod Drain was found to be flowing on October 4th, 2011 with a water temperature of 14°C and evidence of high spring flows on bank side vegetation (i.e. high detritus line). Graham Drain and Powell Drain were also observed at this location, as they drain into McLeod Drain. Both Graham and Powell were flowing when observed. Graham Drain is located on the south side of Middle Line and to the east of McLeod Drain. Powell Drain

is also located on the south side of Middle Line, but is found to the west of McLeod Drain.

At observation point 'AHY009' McLeod drain crosses proposed cabling along Middle line. Graham Drain and Powell Drain at this location run alongside Middle Line, 7 m from the cabling.

37. AHY010

Water body 'AHY010' was identified as an unnamed drain that intersects with the east branch of Graham Drain. The unnamed drain is found running perpendicular to the south side of Middle Line, to the west of Sharp Road and empties into Graham Drain at the observation point. The land use surrounding this drain is primarily agricultural. The unknown drain had a 3-4 m natural corridor consisting mainly of grass species. The unnamed drain was straight and the 0.75 m channel was lined with terrestrial grass species. Pockets of water were found within the channel on October 4th, 2011 with a water temperature of 15°C.

At observation point AHY010, this unnamed drain comes with 5 m of the cabling that runs parallel to Middle Line. Graham Drain at this location also runs parallel to Middle Line, 20 m adjacent to the cabling.

38. AHY011

Water body 'AHY011' was identified as the Valetta Road Drain and was observed along the east side of Valetta Road between Middle Line and Pollard Line. The natural corridor of Valetta Road Drain at this point measured approximately 7 m in width and consisted of goldenrod, aster species, and other herbaceous plant species. The land use surrounding this drain is primarily agricultural. The ditch was lined with terrestrial grasses and there was no defined channel present. This water body was found to have flowing water on October 4th, 2011, but may be as a result of recent precipitation.

At observation point 'AHY011', Valetta Road Drain runs 10 m adjacent to the cabling that are alongside Valetta Road.

39. AHY012

Water body 'AHY012' was identified as an unnamed drainage ditch and was observed running parallel to the north side of Pollard Line. This ditch was completely lined with grasses and had no defined channel. The land use surrounding this ditch is primarily agricultural. This ditch was found to be flowing on October 4th, 2011 but all water present may be a result of recent precipitation.

At this observation point, this grassed ditch runs 5 m parallel to cabling, which follows alongside Pollard Line.

40. AHY013

Water body 'AHY013' was identified as Ross Norry Drain and was observed along Gleeson Line, to the northeast of McKinlay Road. The land use surrounding this drain was classified as mainly agricultural. The natural corridor for Ross Norry Drain at this location was approximately 10 m in width and was vegetated predominantly by shrubs and terrestrial grasses which provided 65% shade over the channel. The channel measured 3.5 m in width, with a wetted width of 1.5-2 m, and a depth of approximately 0.25 m. Instream habitat within the channel was provided by pools, vegetation, and the culvert at the road crossing. The substrates within the channel were found to be primarily muck and detritus, with deposits of sand, silt, and clay. The 2-2.5 m bank showed moderate stability and was covered in a combination of terrestrial grasses and herbaceous plants. In stream vegetation was made up of terrestrial grasses. Ross Norry Drain was found to be flowing on October 4th, 2011 with a water temperature of 14 $^{\circ}$ C.

Another unknown drain was found at this observation point and it ran parallel to Gleeson Line. The unknown drain was found to be flowing when observed on October 4th, 2011. The unknown drain had a 10 m natural corridor comprised of grasses, herbaceous vegetation, and shrub species. The channel was grass lined and the bank was 1.5-2 m.

Ross Norry Drain at observation point 'AHY013' crosses the proposed cabling that runs parallel to Gleeson Line. The unknown drain at this observation point runs 17 m, adjacent to the cabling along Gleeson Line.

41. AHY014

Water body 'AHY014' was identified as Jessop Drain and was observed perpendicular to Gleeson Line. The land use surrounding Jessop Drain is primarily agricultural. The natural corridor for this drain is approximately 10 m in width and was vegetated predominantly by deciduous trees, shrubs (including dogwood), and herbaceous plants. The channel measured 3 m in width, with a wetted width of 0.75 to 1.5 m. Instream habitat was provided through pools, riffles, vegetation, and the culvert at the road crossing. The substrates within the channel were found to be primarily muck with deposits of detritus, silt, sand, gravel, and pebble. The bank was 1-2 m at the observation point and appeared to be moderately stable. The bank vegetation consisted of a variety of grass species and herbaceous plants and provided 60% shade to the channel. In stream vegetation consisted of terrestrial grasses and cattail. Jessop Drain was found to be flowing on October 4th, 2011 with high turbidity and a water temperature of 15°C.

An unknown drain is also located at this observation point and runs parallel to south side of Gleeson Line. This unknown drain is a roadside ditch which was lined with cattails. The unknown drain was wet, most likely due to the recent rain, and drained into Jessop Drain.

At observation point 'AHY014' Jessop Drain intersects with the proposed cabling along Gleeson Line and continues south to travel through the project area surrounding P072. The unknown drain is located 20 m from the proposed cabling that runs parallel to Gleeson Line.

Water Body Observations Found on Figure 2-5 45 water body observations (15 from 2010, 30 from 2011)

1. WB-AR14

Water body 'AR14' was identified as Government Drain # 1 and was observed where it crosses cabling at Cooper Road between Port Road and Finn Line. Land use surrounding this drain is agricultural and residential. The natural corridor measured 25 m in width and consisted of grasses and herbaceous species, including goldenrods, as well as mixed shrubs and trees which provided 25% shade over the channel. The channel ranged in widths from 0.5 to 4 m, averaging 1.5 m, and had a high water mark of 2.5 m. The wetted width of the channel at this section was 1.68 m with depths ranging from 3 to 12 cm. Water was turbid at the time of site investigation on November 16, 2010. The channel contained filamentous algae, and the 5 m high bank contained grasses and herbaceous species, including goldenrods. The bank appeared stable. Substrates within the channel consisted of clay, silt, sand, gravel, pebbles, cobbles, muck, and detritus. In-stream habitat consisted of pools, riffles, backwaters, undercut banks, and woody debris. Although no cyprinids were observed, this stream appears to contain good fish habitat.

Government Drain # 1 was observed at 'WB-AR14' and is a water body located within the Project area. It comes within 80 m of the access road and 83 m from cabling for proposed turbine P069. Furthermore an unnamed intermittent drain branches off of Government Drain # 1 and comes within 35 m from the access road and 15 m from cabling for proposed turbine P069.

2-3. WB-AR15A/B

Water body 'WB-AR15A' was identified as Government Drain #1 and was observed where it crosses Girard Line. Land use surrounding this drain is agricultural. The natural corridor measured 25 m in width and consisted of grasses and herbaceous species, including goldenrods, as well as mixed shrubs and trees that provided 15% shade over the channel. The channel ranged in widths from 0.5 to 4.5 m, averaging 1 m, and had a high water mark of 2 m. The wetted width of the channel at this section was 1.17 m with depths ranging from 4 to 15 cm. Water was turbid at the time of site investigation on November 16th, 2010. The channel contained filamentous algae, and

the 3.5 m high bank contained grasses and herbaceous species, including goldenrods. The bank appeared stable. Substrates within the channel consisted of clay, silt, sand, gravel, pebbles, cobbles, muck, and detritus. In-stream habitat consisted of pools, riffles, backwaters, undercut banks, woody debris, vegetation, and cobbles. Cyprinids were observed within this water body, and raccoon and great blue heron tracks were also observed along the banks.

Observation point 'WB-AR15B' was identified as Pollard Drain and was observed alongside Girard Line southwest of Cooper Road. The natural corridor was less than 25 m and consisted of mixed trees and shrubs, goldenrod, grass and herbs. The channel of this drain was approximately 1 m with banks vegetated with grass and goldenrod. The channel was flowing northeast and contained filamentous algae. All observations for this site were made on November 16th 2010.

Government Drain #1 'WB-AR15B' is within the Project area and crosses the cabling leading to proposed turbine P070. Pollard Drain is also a water body located within the Project area at 'WB-AR15B' and crosses the cabling along Port Road. East of the observation point Pollard Drain continues to run 5 m parallel to the cabling alongside Port Road.

4. WB-AR26

Water body 'AR26' was identified as Finn and Cooper Drain and was observed where it crosses the 7th Line West. This drain runs south to north. At the observation point Webb Drain, which runs east to west criss-crosses Finn and Cooper Drain. Land use surrounding this drain is agricultural. The natural corridor of Finn and Cooper Drain measured 15 m in width and consisted of grasses and mixed shrubs that provided 5% shade over the channel. The channel ranged in widths from 0.5 to 3.5 m, and had a high water mark of 2.5 m. The wetted width of the channel at this section was 1.98 m with depths ranging from 11 to 20 cm. Water was turbid at the time of site investigation on November 16, 2010, and flows north. The channel did not contain any vegetation, and the 4 m high bank contained grasses and herbaceous species, including goldenrods and teasel. The bank appeared stable. Substrates within the channel consisted of clay, silt, sand, gravel, pebbles, cobbles, muck, and detritus. In-stream habitat consisted of pools, riffles, backwaters, undercut banks, woody debris, and cobbles. Although

cyprinids were not observed, this drain appears to have good habitat. An eastern cottontail was observed within this drain.

Finn Cooper Drain and Webb Drain were both observed at 'WB-AR26' and are both water bodies located within the Project area. Finn Cooper Drain crosses the cabling at the junction of Drake Road and 7th Line. Southeast of the observation point, Finn and Cooper Drain also crosses the cabling that runs along the rail way tracks. Webb Drain at the observation point crosses the cabling beside 7th Line.

5. WB-D5

Water body 'WB-D5' was identified as Deary Drain and was observed where it crosses 6th Line West, to the northeast of Merlin Road. The natural corridor measured 10 m, channel width was 1 m, and the high water mark was 2 m. Vegetation for the corridor and banks consisted of grass, herbaceous plants and a few trees. The channel had grass and cattail species present and was dry when viewed on September 16, 2010.

Deary Drain was observed at 'WB-D5' and is a water body located within the Project area as it crosses the cabling which runs parallel to 6th Line West.

6. WB-E5

Water body 'E5' was identified as Rice Drain and was observed where it crosses the access road and cabling for proposed turbine P067. The natural corridor measured 6 m, channel width was 1.5 m, and the high water mark was 1 m. Vegetation along the corridor was a grass and tree mixture. The banks were vegetated with herbaceous plants, grass, and a tree and shrub mixture. The channel was bare with sections of grass and herbaceous plants and was dry on September 16, 2010.

Rice Drain was observed at 'WB-E5' and is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P067 as well as running 6 m alongside the cabling along 6th Line. Rice Drain at this observation point is also located 20 m from the cabling and access road for proposed turbine P099.

7. WB-H5

Water body 'WB-H5' was identified as Deary Drain and was observed where it crosses 7th Line West. The natural corridor measured 8 m, channel width was 1.5 m, and the high water mark was 1 m. Vegetation was composed of grass and herbaceous plants. The channel was vegetated with grass species and was dry when viewed on September 16, 2010.

Deary Drain was observed at 'WB-H5' and is a water body located within the Project area. It crosses the cabling which runs parallel to 7th Line West and comes within 45 m of the access road and cabling for proposed turbine P068. North of the observation point, Newham Drain connects to Deary Drain. Newham Drain is located within the Project area and comes within 68 m to proposed turbine P068.

8. WB-L7

Water body 'L7' was identified as Mazan Drain and is located along Gleeson Line W of Cooper Road. The natural corridor measured 5 m, channel width was 1 m, and the high water mark was at 1 m. Grass, herbaceous plants and tree species composed the vegetation within the vicinity. The surrounding area was being used mainly for agriculture purposes. The channel was bare of vegetation and turbid standing water was present when observed on October 6, 2010.

Mazan Drain was observed at 'WB-L7' and is a water body located within the Project area and comes within 1 m of the cabling which runs alongside Gleeson Road.

9. WB-M7

Water body 'WB-M7' was identified as Mazan Drain and was observed along Gleeson Drive to the northeast of Sloan Road. The natural corridor through this section measure 5 m, channel width was 1 m, and the high water mark was 0.5 m. Grass species were the dominant vegetation within the corridor, along the banks, and lining the channel. The channel was dry when viewed on October 6, 2010.

Mazan Drain was observed at 'WB-M7' and is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P125. It is also 5 m from the cabling that runs parallel to Gleeson Line at this observation point.

10. WB-S6

Water body 'WB-S6' was identified as Gardner Drain and was observed between Morris and Finn Line on Cooper Road. The natural corridor measured 3 m, channel width 0.5 m, and the high water mark 0.5 m. Grass was the predominant vegetation present within the channel and along the corridor and banks. The channel was dry when observed on September 22, 2010.

Gardener Drain was observed at 'WB-S6' and is a water body located within the Project area as it runs 15 m alongside the cabling on Cooper Road.

11. WB-U4

Water body 'WB-U4' was identified as McDougall Drain and was observed where it crosses Morris Line. Water temperature within the channel was 19°C on September 16, 2010. The natural corridor measured 18 m with vegetation consisting of a mixture of trees, grass, and herbaceous plants. The channel width ranged from 0.5 to 2 m, with a bank height of 4 m, and a high water mark of 1 m. Bank stability was good throughout the section with vegetation made up of herbaceous plants and grass species. Substrates within the channel included clay, silt, sand, cobble, muck, and detritus. The channel was dry of the north side and had standing water on the south side beside the culvert on Morris Line.

McDougall Drain was observed at 'WB-U4' and is a water body located within the Project area as it crosses the cabling alongside Morris Line.

12. WB-U6

Water body 'WB-U6' was identified as Cooper-Stevenson Drain and was observed along Port Road. The natural corridor measured 10 m and was vegetated with tree and grass species, including honey locust, maples, and bur oak. The channel width was 1.5 m, bank height was 3 m, and the high water mark was at 2 m. Herbaceous plants, trees, and grass species composed the vegetation along the banks. Substrates within the channel included clay, silt, sand, cobble, and lots of detritus. Standing water was present within the channel when viewed on September 22, 2010. Lewis Drain was observed at the same location and ran south perpendicular to the road. Cooper Stevenson Drain was observed at 'WB-U6' and is a water body within the Project area running 10 m parallel to the cabling. Lewis Drain is a second water body at this observation point and crosses the proposed cabling.

13-15. CAB034A/B/C

Water body 'CAB034A' was identified as Shadd Drain and was observed on the southeast side of 7th Line West. The natural corridor of Shadd Drain at this point measured 7 m in width and consisted of grass and herbaceous species. The bank vegetation was comprised of grass and herbaceous plant species. The channel measured 1.5 m in width with algae clumps. The water was observed to be turbid and flowing northeast on April 28, 2011.

Water body 'CAB034B' was identified as unnamed roadside ditch and was observed on the northwest side of 7th Line West. The natural corridor of the unnamed ditch at this point measured 4m in width and consisted predominantly of grass species. The bank vegetation was comprised of grass species. The channel was bare of vegetation and dry on April 28, 2011.

Water body 'CAB034C' was identified as unnamed roadside ditch and was observed on both sides of Wellwood Road. The natural corridor of the unnamed ditch at this point measured 4 m in width and consisted of grass on the southwest and grass and herbaceous plants on the northwest side. The channels measured 0.5 m in width and appeared to be flowing on April 28, 2011. The southwest channel contained grass species and the northeast channel contained phragmites.

Shadd Drain was observed at 'CAB034A' and is located within the Project area 10 m adjacent to the proposed cabling that runs parallel to 7th Line West. CAB034B is located within the Project area 13 m adjacent the proposed cabling that runs parallel to 7th Line West. CAB034C is located within the Project area as it crosses and runs 15 m adjacent to the proposed cabling that runs parallel to Wellwood Road. Northeast of the observation point, Shadd Drain crosses the cabling that runs along the rail way tracks and comes within 14 m of the access road and cabling associated with proposed turbine P066. The unnamed ditch 'CAB034B' also crosses the cabling that runs along the rail

way tracks and crosses the cabling and access road associated with proposed turbine P066.

16-17. CAB035A/B

Water body 'CAB035A' was identified as Shadd Drain and was observed running parallel to the southeast side of 7TH Line West approximately 1.125 km east of Merlin Road. The natural corridor of Shadd Drain at this point measured 8 m in width and consisted of grasses and herbaceous plant species. The channel measured 1.5 m and the bank vegetation consisted of grass and herbaceous plant species. The channel measured 2.5 m and the bank vegetation consisted of grass and herbaceous plant species. The channel species. The channel contained clumps of phragmites and appeared to be turbid and flowing on April 28, 2011.

Water body 'CAB035B' was identified as unnamed roadside ditch and was observed running parallel along the northwest side of 7th Line West. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and contained in-channel vegetation of grass, isolated watercress patches (Armoracia sp.) and bare sections of substrate. The bank was bare of vegetation. Clear, standing water was observed within the channel on April 28, 2011.

Shadd Drain was observed at 'CAB035A' and is a water body located within the Project area 3 m adjacent to the proposed cabling that runs parallel to 7th Line West. Observation 'CAB035B' is an unnamed water body located within the Project area and runs 17 m adjacent to the proposed cabling that runs parallel to 7th Line West. This unnamed water body has been identified as a seepage area due to the presence of watercress (Armoracia sp.). West of 'CAB035B' the unnamed roadside ditch crosses proposed cabling.

18-19. CAB036A/B

Water body 'CAB036A' was identified as unnamed roadside ditch and was observed on the northwest side of 8th Line, approximately 375 m west of Wellwood Road. The natural corridor of unnamed roadside ditch at this point measured approximately 5 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width with bank and channel vegetation consisting of grass species. There was clear, standing water observed within the channel on April 28, 2011. Water body 'CAB036B' was identified as unnamed drain and was observed running parallel along the southeast side of 8th Line, approximately 375 m west of Wellwood Road. The natural corridor of unnamed drain at this point measured 8 m in width and consisted of grass and herbaceous species. The channel measured 1.5 m in width with channel vegetation comprised of phragmites. Bank vegetation consisted of grass and herbaceous species. The turbid water was observed flowing northeast within the channel on April 28, 2011.

Observation point 'CAB036A' and 'CAB036B' are both unnamed water bodies located within the Project area and the both cross the cabling at the junction of 8th Line and Wellwood Road.

20-22. CAB038A/B/C

Water body 'CAB038A' was identified as Cooper-Stevenson Drain and was observed running parallel on the southeast side of Port Road. The natural corridor of Cooper-Stevenson Drain at this point measured approximately 4 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width and contained grass species. Bank vegetation was comprised of grass species. Water appeared clear and flowing on April 28, 2011.

Water body 'CAB038B' was identified as unnamed roadside ditch and was observed running parallel on the northwest side of Port Road. The natural corridor of unnamed ditch at this point measured approximately 0.5 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and contained grass species. Bank vegetation was comprised of grass species. The water within the channel appeared to be clear and standing on April 28, 2011.

Water body 'CAB038C' was identified as Mancell Drain and was observed along the southwest side of Merlin Road between 8th Line and Port Road. The natural corridor of Mancell Drain at this point measured 8 m in width and consisted predominantly of grass species. The channel measured 1.5 m in width and was bare of vegetation. Bank vegetation was comprised of grass and herbaceous plant species, including teasel. The water was observed to be flowing on April 28, 2011.

Cooper Stevenson Drain was observed at 'CAB038A' as water body and is located within the Project area adjacent (17 m) to proposed cabling that runs parallel to Port Road. 'CAB038B' was a water body observation on an unnamed drain located within the Project area adjacent (12 m) to proposed cabling that runs parallel to Port Road. It also crosses the proposed cabling that runs along Merlin Road. Mancell Drain was observed at 'CAB038C' and is a water body located within the Project area as it crosses (at Port Road) and runs directly adjacent (3 m) to proposed cabling that runs parallel to Merlin Road. There was no water feature observed along the northeast side of Merlin Road.

23. CAB039

Water body 'CAB039' was identified as Beattie Drain and was observed running parallel to, and on the southeast side of, 6th Line. The natural corridor of Beattie Drain at this point measured 5 m in width and consisted of mixed vegetation: tree, shrub, grass and herbaceous plant species. The channel measured 2 m in width and was bare of vegetation. Bank vegetation was mixed: grass, herbaceous plants, shrub, and tree species. The water within the channel appeared to be flowing northeast on April 28, 2011.

Beattie Drain was observed at 'CAB039' and is a water body located within the Project area adjacent (12 m) to the proposed cabling that runs parallel to 6th Line.

24. CAB040

Water body 'CAB040' was identified as Mancell Drain and was observed running parallel to, and on the southwest side of, Merlin Road. The natural corridor of Mancell Drain at this point measured approximately 14 m in width and consisted predominantly of grass species. The channel measured 2 m in width and contained algae clumps, corn husks and duckweed. Bank vegetation was comprised predominantly by grass species. The water within the channel appeared turbid and flowing on April 28, 2011.

Mancell Drain was observed at 'CAB040'. This water body is located within the Project area and runs adjacent (2 m) to the proposed cabling along Merlin Road where it eventually crosses the cabling at 6th Line W.

25-26. CAB044A/B

Water body 'CAB044A' was identified as McHardy Drain and was observed along the southeast side of Morris Line. The natural corridor of McHardy Drain at this point measured approximately 6 m in width and consisted predominantly of grass species and Queen Anne's Lace. The channel measured 1.5 m in width and contained Phragmites. Bank vegetation was comprised of grass species and Queen Anne's Lace. Water was observed to be flowing and turbid on April 28, 2011.

Water body 'CAB044B' was identified as unnamed roadside ditch and was observed parallel, and on the northwest side of Morris Line. The natural corridor of unnamed roadside ditch measured approximately 3 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width and was bare of vegetation. Bank vegetation was comprised of grass species. There were pockets of standing water within the channel on April 28, 2011.

McHardy Drain at observation point 'CAB044A' is no longer within the Project area. McHardy Drain further west on Morris Line is within the Project area and crosses the cabling at Cooper Road. McHardy Drain is also 2 m from the proposed cabling that runs parallel to Morris Line. The unnamed water body at 'CAB044B' is also no longer within the Project area but further west it crosses cabling and travels adjacent to cabling at a distance of 10 m from the cabling alongside Morris Line.

27. P064

Water body 'P064' was identified as unnamed roadside ditch and was observed parallel to, and along the northwest side of, 7th Line West. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width and contained grass species and bare patches. Bank vegetation consisted of grass species. The channel was dry on April 28, 2011.

This unnamed water body was observed at 'P064' and is located within the Project area and crosses the access road and cabling leading to proposed turbine P064 and P148.
28. P095A

Water body 'P095A' was identified as Gardner drain and was observed parallel to Cooper Road. The natural corridor of Gardner drain at this point measured approximately 5 m in width and consisted of predominantly grass species. The channel measured 1 m in width and contained grass. Bank vegetation was comprised of grass. The channel was found to contain turbid flowing water on April 28, 2011.

Gardener Drain was observed at 'P095A' and is a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P095.

29. P095B

Water body 'P095B' was identified as unnamed drain and was observed perpendicular to Cooper Road, approximately 650 m south of Morris Line. The natural corridor of unnamed drain measured approximately 2 m in width and consisted of grass and herbaceous plant species. The channel measured 0.5 m in width and contained grass. The channel was observed to contain clear flowing water on April 28, 2011.

This unnamed drain was observed at 'P095B' and is a water body located within the Project area and is 37 m from the proposed access road and 27 m from cabling within >120 m of the proposed turbine P095.

30. P126

Water body 'P126' was identified as Mazan Drain and was observed to be perpendicular to, and located on the southeast side of, Gleeson Line. Water temperature for Mazan Drain was 10°C on April 28, 2011. Land use surrounding this drain is agricultural and municipal road. The natural corridor of Mazan Drain at this point measured approximately 8 m in width and consisted of predominantly grass species. No vegetative cover provided shade over the drain. The channel ranged in widths from 0.75 m – 1 m. Bank height was 1m with top of bank at 3 m and poor bank stability from sparse grass. The wetted width of the channel at this section was 1.0 m with depths ranging from 5 – 8 cm. Instream habitat and cover found within the channel was provided by sparse grass. Substrates within the channel consisted of clay, muck, silt, detritus, sand and gravel. Within the channel was noted as turbid and flowing on April 28, 2011.

Mazan Drain was observed at 'P126' and is a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P126. At the observation point it also runs 10 m alongside the cabling adjacent to Gleeson Road.

31. P148

Water body 'P148' was identified as Linnen Drain and was observed midfield between 6th and 7th Lines, approximately 400 m from the confluence with Finn and Cooper Drain. Water temperature for Linnen Drain was 11°C on April 28, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Linnen Drain measured 18 m in width and consisted of mixed vegetation: deciduous trees and shrubs, grass, herbaceous plants, hawthorn, rose and berry species. On April 28, 2011 poor canopy cover was provided by deciduous trees and shrubs; however it is expected when leaves have grown to provide over 80% shade over the channel. The channel ranged in width from 1.25 – 2 m. Bank height was 0.1 m with top of bank reaching 3 m. The wetted width of the channel at this section was 1.85 m with depths ranging from 3 - 10 cm. Instream habitat and cover found within the channel was provided by pools and woody debris. Substrates within the channel consisted of clay, muck, silt and detritus. Bank stability was noted as fair with low to moderate mixed vegetation of deciduous trees and shrubs, herbaceous plants and moss. No instream vegetation was noted within the channel. Turbid standing water was observed within the channel on April 28, 2011.

Linnen Drain was observed at 'P148' and is a water body located within the Project area as it crosses and then runs 30 m adjacent to the proposed access road and 15 m cabling. Northeast of the observation point, Linnen Drain comes within 85 m to proposed turbine P148.

32. P161

Water body 'P161' was identified as Skipper Drain and was observed on the southeast side of Gleeson Line. Water temperature for Skipper Drain was 10oC on April 28, 2011. Land use surrounding this drain is for agricultural and municipal road purposes. The natural corridor of this portion of Skipper Drain measured 7 m in width and consisted of grass and herbaceous plant species. No shade was provided by any vegetation over

the drain. The channel ranged in width from 1 - 1.5 m with moderate abundance of grass and Phragmites. The wetted width of the channel at this section was 1.6 m with depths ranging from 16 - 21 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater and vegetation. Substrates within the channel consisted of clay, muck, silt, sand, detritus and gravel. Bank height was 0.15 m and the top of bank was 2.5 m high. Bank stability was observed to be good with dense vegetation of grass and herbaceous species. Within the channel the water was noted as turbid and flowing northeast.

Skipper Drain was observed at 'P161' and is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P161. It also flows within 10 m of the cabling which runs parallel to Gleeson Line.

33. AHY015

Water body 'AHY015' was identified as Unnamed A Drain and was observed where it runs parallel to the rail way, and intersect with Gleeson Line, to the west of Sloan Road. This water body was found to have a natural vegetation corridor of 8 m and was vegetated by terrestrial grasses, cattails, and Phragmites. The land use surrounding this drain was primarily agricultural. The drain was also found to have no defined channel and had no water present on October 4th, 2011.

Unnamed A Drain at the observation point 'AHY015' crosses the proposed cabling which runs parallel to Gleeson Line.

34. AHY016

Water body 'AHY016' was identified as Sinclair Drain and was observed where it intersects with Gleeson Line at Sloan Road. The natural corridor extended 6-8 m and was vegetated with terrestrial grasses. The channel had a width of 0.5-0.75 m and was lined with terrestrial grasses, and cattails. The land use surrounding this drain is primarily agricultural. Sinclair drain at this location was found to have a water temperature of 14°C when observed on October 4 th, 2011. Sinclair Drain intersects the proposed cabling along Gleeson Line and continues south along Sloan Road toward Morris Line.

Sinclair Drain at observation point 'AHY016' intersects the proposed cabling at Gleeson Line

35. AHY017

Water body 'AHY017' was identified as Skipper Drain and was observed running parallel to Gleeson Line on the south side of the road. The surrounding land use within this area is primarily agricultural. The natural corridor at this point was approximately 6 m is width and was vegetated by numerous grass species (including goldenrod and asters) and herbaceous plants. Skipper Drain at this location had a channel width of 0.75-1 m which was lined with grass and other terrestrial plants. On October 4th, 2011 AHY-017 was found to have flowing water with a water temperature of 16°C.

Skipper Drain at observation point 'AHY017' runs 14 m from the cabling which runs parallel to Gleeson Line.

36. AHY018

Water body 'AHY018' was identified as Government Drain #1 and was observed at the intersection of Gleeson Line and Merlin Road. Government Drain #1 at this location runs parallel to Merlin Road on the south side of the road. The land use surrounding this area is primarily agricultural with a few residences. The natural corridor at the observation point is approximately 10 m in width and was vegetated with grass, herbaceous plants (including goldenrod and asters), and Phragmites. The channel measured 8-12 m in width and instream habitat was provided through pools, vegetation, boulders, and cobble. The substrates within the channel were found to be primarily muck and sand, with deposits of clay, silt, gravel, pebble, cobble, and boulder. The bank at this point was 6-10 m in height and had a fair stability with some signs of erosion. The bank was heavily vegetated with terrestrial grasses and herbaceous plants which provided 10% of shade along the edges of the channel. Instream vegetation was limited to terrestrial grasses along the edges. Government Drain 1 was found to be flowing with high turbidity on October 4th, 2011 and had a water temperature of 14°C. Fish s pecies were noticed at the time of the survey but due to the high turbidly the species were unable to be identified.

Government Drain #1 at observation point 'AHY018' is within the Project area and crosses the proposed cabling at Gleeson Line. Government Drain #1 runs parallel to Merlin Road and is 10 m from the proposed cabling.

37-39. AHY019A/B/C

Water body 'AHY019A' was identified as Government Drain 1 and was observed along the south side of Merlin Road approximately 500 m south of 5th Line. The land use surrounding this area was primarily agricultural. The natural corridor of Government Drain 1 at this location was approximately 10 m in width and consisted of grass species, Phragmites, and herbaceous plants. The channel measured 8-10 m in width and instream habitat was provided through pools, vegetation, boulders, and cobble. The bank appeared moderately stable with a high density of grass and herbaceous plants which provided 20% shade to the channel. Instream habitat was limited and consisted of terrestrial grasses along the edges. On October 4th, 2011 Government Drain 1 was found to be flowing (in a northerly direction) and had a high turbidity. It also had a water temperature of 14°C at the time of sampling.

Water body 'AHY019B' was identified as Mancell Drain and was looked at where it connected with Government Drain 1. The natural corridor for Mancell Drain at this location was approximately 6 m in width and consisted of grass species and herbaceous plants. The banks were approximately 4 m high and appeared stable. The channel measured 0.5-0.75 m in width, was straight, dry, and was lined with grasses and Phragmites when observed on October 4th, 2011.

Water body 'AHY019C' was identified as unnamed drain and was observed perpendicular to Merlin Road. This drain when flowing would empty in Government Drain 1 through a culvert under Merlin Road. The natural corridor of this unnamed drain was approximately 7 m in width and consisted of grass species and herbaceous plants. This drain originates within the agricultural field and is fed through tile drains. The channel was undefined, straight, dry, and lined with grass species and Phragmites when observed on October 4th, 2011.

Government Drain #1 at observation point 'AHY019A' is within the Project area and comes within 21 m of the proposed cabling that runs parallel to Merlin Road. Mancell

Drain at observation point 'AHY019B' is within the Project area and was found to be 21 m of the proposed cabling that runs parallel to Merlin Road. The unnamed drain at observation point 'AHY019C' crosses the proposed cabling that runs parallel to Merlin Road.

40. AHY020

Water body 'AHY020' was identified as Gardiner Drain and was observed along the south side of Cooper Road. The land use surrounding this observation point was found to be primarily agricultural. The natural corridor around Gardiner Drain at this location measured approximately 6 m in width and was heavily vegetated with terrestrial grasses. The channel of Gardiner Drain at this location was 0.25 m in width and was completely lined with grasses. When observed on October 4, 2011, Gardiner Drain at this location had standing pockets of water (no flow was evident) with a water temperature of 16°C. It is believed that the water present is due to the recent rain events and tile drains.

Gardiner Drain at observation point 'AHY020' is within the Project area and comes within 10 m of the proposed cabling that runs parallel to Cooper Road.

41. AHY021

Water body 'AHY021' was identified as Government Drain 1 and was observed where it crosses under Finn Line through a 10 m box culvert. Land use for the surrounding area was found to be primarily agricultural. The natural corridor of Government Drain 1 at this location measured approximately 10 m in width and was vegetated with dogwood, maple, willow, terrestrial grasses, and herbaceous plants. The channel measured approximately 15 m, had a wetted width of 5-8 m, and had instream habitat provided through pools, vegetation, and boulders. Substrate within the channel was comprised of primarily much with deposits of sand, silt, clay, gravel, pebbles, boulder, and detritus. The 4-7 m bank was found to have moderate stability and was covered in a combination of shrubs and herbaceous plants. Instream vegetation was found to be willow sp and provided 55% shade to the channel. On October 4th, 2011 Government Drain 1 was found to be turbid and flowing with a water temperature of 14°C. Fish were observed but due to the turbid waters were unable to be identified.

Government Drain 1 at observation point 'AHY021' is within the Project area and was found to intersect the proposed cabling which runs parallel to Finn Line.

42. AHY022

Water body 'AHY022' was identified as Lewis Drain and was observed where it crossed under Finn Line through a 4 m wide box culvert, approximately 700 m southwest of Merlin Road. The land use surrounding this observation point is primarily agricultural. The natural corridor of Lewis Drain at this observation point measured approximately 10 m in width and was vegetated by different grass and shrub species. The bank height at this location was 3 m, was vegetated by grass, shrubs and herbaceous plants, and provided approximately 65% shade for the channel. The channel ranged from 4-5 m in width, had a wetted width of 0.75-1.5 m, and had instream habitat provided through pools and vegetation. The instream vegetation consisted of terrestrial grass species. Substrates within the channel were found to be primarily muck with deposits of clay, silt, sand, and gravel. The banks were approximately 3 m in height and were found to be moderately stable with a high density of vegetation. Bank vegetation consisted of different grass and herbaceous plant species. Lewis Drain was flowing, the water was highly turbid, and had a water temperature of 14°C when observed on October 4th, 2011.

Lewis Drain at observation point 'AHY022' is located within the Project area and was found to cross the proposed cabling which runs alongside Finn Line.

43. AHY023

Water body 'AHY023' was identified as Mancell Drain and was observed along the southwest side of Merlin Road, between Finn Line and 7th Line West. The surrounding land use is primarily agricultural. The natural corridor of Mancell Drain at this location measured approximately 8 m in width and the vegetation consisted of different grass species and herbaceous plants. The channel measured 1-1.15 m in width and had a depth of 0.25 m. Mancell Drain had a visible flow, was highly turbid, and had a water temperature of 14°C when observed on October 4th, 2011. David Peltier Drain was indicated on mapping to be at this location, running perpendicular to Merlin Road on the northwest side, but upon observation it was nonexistent.

Mancell Drain at observation point 'AHY023' is located within the Project area and is 3 m from the proposed cabling that runs along Merlin Road.

44. AHY024

Water body 'AHY024' was identified as the merger of an unnamed drain with Griffin Drain. These drains were observed along 7th Line W, with Griffin Drain running parallel along the south side of the road, and the unnamed drain running perpendicular. The natural corridor for Griffin Drain was approximately 10 m in width and had vegetation consisting of grass, shrubs, and herbaceous plant species. The channel was approximately 2.0 m in width and contained duckweed sp., milfoil sp., algae sp., and terrestrial grasses. Substrates within the channel were made up primarily of muck and detritus, with deposits of sand. The banks ranged in height from 2-3 m, had moderate stability, and had a high density of vegetation. Bank vegetation was made up of terrestrial grasses, and herbaceous plants. When observed on October 4th, 2011 Griffin Drain had a slight flow, had the smell of stagnant water, and had a water temperature of 16°C.

The unnamed drain which emptied in to Griffin Drain at this location was found to have a natural corridor of 8-10 m which was made up of grass and herbaceous plants. The channel ranged from 0.5-1.0 m in width and was visually flowing at the time of the survey. Tile drains were observed along this unnamed drain but were not flowing at the time of the survey. The channel was lined with grasses and a small pool had formed at the confluence with Griffin Drain. This unnamed drain, when observed on October 4th, 2011 was slightly turbid, had a water temperature of 16°C, and also had the smell of stagnant water.

Griffin Drain and the unnamed drain at the observation 'AHY024' are within the Project area and are located 7 m from the proposed cabling that runs parallel to 7th Line West.

45. AHY025

Water body 'AHY025' was identified as Finn and Cooper Drain and was observed where it crosses under Wellwood Road, between 8th and 9th Line. The land use is the surrounding area is primarily agricultural. The natural corridor for Finn and Cooper Drain at this location was approximately 10 m wide and was made up of deciduous trees,

terrestrial grasses, and herbaceous plants. Bank stability was good, with a high density of grass species, herbaceous plants, and vine species. The channel ranged from 4-5 m in width and had instream habitat provided through pools, vegetation, boulders, and the culvert. The instream vegetation was mainly found around the edges and in clumps within the channel and was made up of terrestrial grasses. Substrates through this section of channel consisted primarily of muck, silt, and sand, with deposits of gravel, pebble, and boulder. On October 4th, 2011 Finn and Cooper Drain was found to be flowing, turbid and had a water temperature of 14° C.

On the northeast side of Wellwood Road, an unnamed drain was observed where it joined to Finn and Cooper Drain. This drain had a natural corridor of 4 m in width and was vegetated with grass, goldenrod species, and herbaceous plants. The channel measured approximately 0.25 m in width and was lined with Phragmites and grass species. Water was present within this unnamed drain when observed on October 4th, 2011.

Finn and Cooper Drain at observation 'AHY025' is within the Project area and crosses the proposed cabling that runs parallel to Wellwood Road. The unnamed drain also observed at 'AHY025' is within the Project area and is 6 m adjacent to the proposed cabling alongside Wellwood Road.

Water Body Observations Found on Figure 2-6 56 Water body observations (31 from 2010 and 25 from 2011)

1. WB- A2

Water body 'WB-A2' was identified as Vsetula drain and was observed along the N side of 10th Line. The observation point is surrounded by agricultural purposes. The natural corridor measured 8 m, channel width was 1 m, and the high water mark was 2 m. Vegetation within the corridor was made up of grass and herbaceous plants. The bank vegetation was composed of various herbaceous species. When observed on September 9, 2010 the channel bed was dry with cattails and grasses present.

At observation 'WB-A2' Vsetula Drain is a water body located within the Project area and runs 15.5 m alongside the proposed cabling adjacent to 10th Line.

2. WB-A7

Water body 'WB-A7' was identified as Lewis Drain and was observed where it crosses under a cement culvert at 10th Line. The natural corridor was 11 m wide with a mixture of tree and grass species composing the vegetation. The channel width was 1 m, with a bank height of 4 m, and a high water mark of 2.5 m. Herbaceous plants, grass and tree species made up the vegetation along the banks. Land use within the area was mainly used for agriculture and residential purposes. Muck, detritus, sand, clay, and silt composed the substrates within the channel. When viewed on September 22, 2010 the channel was mostly dry with pools of standing water on either side of the culvert under 10th Line. Heron and raccoon tracks were also observed along the channel.

Observation point 'WB-A7' on Lewis Drain is located within the Project area. At this location Lewis Drain crosses the cabling which runs alongside 10th Line. Further south this drain is >120 m of proposed turbine P100, and 100 m from proposed turbine P100's access road and cabling.

3. WB-AR27

Water body 'WB-AR27' was identified as Lecoco Drain and was observed where it crosses the 7th Line West. This drain runs south to north. Land use surrounding this drain is agricultural and residential. The natural corridor of Lecoco Drain measured 25 m

in width and consisted of grasses, herbaceous species (including goldenrods and teasel) and mixed shrubs that provided 75% shade over the channel. The channel ranged in widths from 0.5 to 4 m, and had a high water mark of 3.5 m. The wetted width of the channel at this section was 1.28 m with depths ranging from 3 to 15 cm. The water in this drain was flowing slowly northward at the time of site investigation on November 16, 2010. The channel contained small amounts of filamentous algae, and the 4.5 m high bank contained herbaceous species and mixed shrubs and trees. The bank appeared stable. Substrates within the channel consisted of clay, silt, sand, gravel, pebbles, cobbles, and detritus. In-stream habitat consisted of pools, riffles, backwaters, undercut banks, woody debris, vegetation, and cobbles. Cyprinids were observed within this drain.

Lecoco Drain is a water body observed at point 'WB-AR27' and is located within the Project area crossing under the proposed cabling.

4. WB-AR31

Water body 'AR31' was identified as Vsetula Drain and was observed where it intersects with Mummery Drain where it crosses 10th Line. This drain runs northeast to southwest. The natural corridor of Vsetula Drain measured 8 m in width and consisted of grasses. The channel measured 1 m in width and had a high water mark of 1 m as well, with bank vegetation of herbaceous species, including goldenrods and mixed grasses. The channel contained typha and was dry when it was observed on November 17, 2010.

Vestula Drain runs parallel to 10th Line, where it also runs adjacent to the cabling. At this observation point Mummery Drain crosses 10th Line and the cabling and then runs 10 m adjacent to the cabling and access road that lead to turbine P060.

5. WB-AR56

Water body 'WB-AR56' was identified as Chase Drain and was observed NW of 7th Line. The natural corridor of Chase Drain at this point measured approximately 4 m in width and consisted of predominantly grass species. The channel measures 0.25 m in width and had a high water mark of 0.5 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to be dry with and

grown in with grass and herbaceous plants when it was observed on November 18, 2010.

Chase Drain at observation point 'WB-AR56' is located within the Project area. Chase Drain runs 13 m alongside the access road and 15 m along cabling leading to proposed turbine P063 from 7th Line. This drain also crosses cabling parallel to 7th Line. There is another crossing of Chase Drain further N which is discussed in observation 'WB-L'.

6. WB-B2

'WB-B2' was identified as Flook and Hinton Drain and was observed where it crosses under 10th Line. The natural corridor measured 4 m, channel width was 0.5 m, and the high water mark was 0.75 m. Vegetation within the corridor consisted of grass and herbaceous plants. Bank vegetation was dominated by different grass species. When observed on September 9, 2010 the channel bed was bare and dry.

Water body observation 'WB-B2' occurs within the Project area and crosses the cabling at 10th Line. As the Flook and Hinton Drain continues north it runs 20 m adjacent to the access road, 6 m from cabling and 41 m from the proposed turbine P164.

7. WB-B8

Water body observation 'WB-B8' was identified as Lewis Drain and was observed NW of 10th Line and W of Charing Crossing Road. The natural corridor measured 8 m with vegetation composed predominantly of grass species. The channel width was 1 m, with a bank height of 5 m, and a high water mark of 2 m. Herbaceous plants, grass, and maple trees composed the bank vegetation. Substrate within the channel included clay, silt, sand, and muck. Standing water was found in spots when viewed on October 21, 2010 and flowing water was seen on April 27th, 2011.

Water body observation 'WB-B8' on Lewis Drain is located within the Project area and comes within 45 m of proposed turbine P164.

8. WB-J

Water body 'J' was identified as Mummery Drain and was observed at 11th Line, in between Charing Crossing Road and Bloomfield Road. The observation point was

conducted roadside and the surrounding land use was identified as agricultural. The natural corridor was measured at 5 m and consisted of grasses, herbs, and tree species. The channel width was 1.5 m and had a high water mark of 2.5 m. The bank height was 5 m and the bank stability appeared to be good. Vegetation along the banks consisted of herbaceous species. Channel substrates throughout this section were made up of clay, gravel, and muck. The channel was dry and had cattails and grass species present when observed on September 8, 2010.

WB-J is a water body located within the Project area and is within 6 m of proposed cabling that runs along the railway..

9. WB-K

Water body observation 'WB-K' was identified as Flook and Hinton Drain and was observed along 9th line, west of Charing Crossing Road. The natural corridor was measured at 15 m and the vegetation was made up of grasses, goldenrods, and other herbaceous plants. The surrounding area was used mainly for agriculture purposes. The channel width was 1.5 m and had a high water mark of 2.5 m. The bank height was 5 m and the bank stability appeared to be good. Vegetation along the banks was made up of herbs and grasses. Channel substrates were composed of clay, silt, gravel, cobble, and muck. The channel had willow and grass species growing in the bed and was dry when observed on September 8, 2010. Two (2) live muskrats, as well as 10-20 dead freshwater mussels, were seen during this site visit.

Observation 'WB-K' is located within the Project area and crosses the cabling.

10. WB-L

Water body observation 'WB-L' was identified as Chase Drain and was observed where it meets with Sampson Drain. The observation point was located north of 7th Line west and in between AD Shadd Road and Dillon Road. The natural corridor was measured at 10 m and the vegetation consisted of a cedar hedgerow, shrubs, and herbs. The surrounding area was used mainly for agriculture. The channel width throughout this section ranged from 1 to 1.5 m and had a high water mark of 0.5 to 1.5 m. Bank height was 0.3 m and the bank stability was good. Bank vegetation was composed of sumac, grapevine, shrubs, herbs, and grasses. Clay, silt, muck, and grasses made up the

channel substrates throughout this section. The channel was dry when observed on September 9, 2010.

Chase Drain is a water body located within the Project area and at the observation point crosses the cabling and access roads for proposed turbines P121 and P062. South of the observation point, Chase Drain comes within 120 m of proposed turbine P063. Sampson Drain through this area runs 30 m from the cabling and access roads for proposed turbines P121 and P062.

11. WB-M

Water body 'WB-M' was identified as West Drain and was observed along the west side of AD Shadd Road, north of 7th Line. The surrounding area was being used mainly for agriculture. The natural corridor was measured at 7 m and the vegetation consisted of grass, goldenrod, and other herbaceous plants. The channel width throughout this section was 1 m and had a high water mark of 1.5 m. Bank height was 0.5 m and the bank stability was in good condition. The vegetation along the banks was composed mainly of herbaceous species. Substrates within the channel were made up of clay, silt, muck, and detritus. When observed on September 9, 2010, the channel was dry and cattails, phragmites, herbaceous plants, and grasses were growing in the channel bed.

Southeast of the observation point 'WB-M' West Drain is located within the Project area and crosses the cabling at the junction of 7th Line and AD Shadd Road.

12. WB-N

Observation 'WB-N' identified as Carter Drain where it crosses 8th Line between Dillon Road and AD Shadd Road. The natural corridor is 18m and composed of poplar trees, shrubs, goldenrod and herbs. The channel was 2.5 m wide and the banks were vegetated with herbs, goldenrod and willows. The channel contained detritus with some woody debris and was fairly dry with pockets of water on September 8th, 2010.

'WB-N' is a water body within the Project area and crosses the cabling along 8th Line. North of the observation point Carter Drain also crosses the cabling that runs parallel to Dillon Road.

13. WB-N7

Water body 'WB-N7' was identified as Flook & Hinton Drain and was observed N of 9th Line between Bloomfield and Charing Crossing Road. Water temperature was 11°C when taken on October 6, 2010. The natural corridor measured 25 m and the vegetation was composed of predominantly grass species. The channel width was 2.5 m, bank height was 4.5 m, and the high water mark was at 3 m. Wetted width was 2.59 m with depths ranging from 15 to 26 cm. Vegetation along the banks included shrubs, herbaceous plants, and grass species. Substrates within the channel consisted of clay, silt, sand, gravel, and detritus. Instream habitat was provided through pools, backwater, undercut banks and some grassy vegetation. A slight northwest flow was observed in the turbid water.

Flook and Hinton Drain at observation point 'WB-N7' is located within the Project area and crosses the access road and cabling for proposed turbine P097. It also comes within 51 m of this turbine.

14. WB-O

Water body 'WB-O' was identified as Carter Drain and was observed along 9th Line, just east of AD Shadd Road. The natural corridor was 23 m, channel width was 4 m, and the high water mark was 2.5 m. The vegetation along the natural corridor consisted of trees, herbs, and vines. The vegetation along the banks of the channel was made up of tree species and herbaceous plants. The channel bed was bare with a small number of standing pockets of water when observed on September 9, 2010.

Further north of observation point 'WB-O' Carter drain is located within the Project area as it crosses the cabling proposed to run along the railroad.

15. WB-P

Water body 'WB-P' was identified as the confluence of O'Rourke Drain and Sheeler Waddick Drain. The observation point was located at a concrete culvert on 9th Line, east of Dillon Road. The natural corridor width was 8 m, channel width was 1.5 m, and the high water mark was 1.5 m. Grass species made up a significant portion of the vegetation along the corridor with tree species flanking the sides. The vegetation along the banks consisted of shrubs and herbs. The channel bed was mostly bare with patches of grass in some locations. The channel was dry when observed on September 9, 2010.

South of the observation point 'WB-P' O'Rourke Drain is located within the Project area as it crosses the cabling proposed to run along the railway.

16. WB-Q

Water body 'WB-Q' was identified as Doyle Drain and Sheeler Waddick Drain and was observed along 9th Line. The observation point was broken down into 'Qi' and 'Qii' to better represent the aquatic features observed at the site.

'Qi' had a natural corridor width of 10 m, a channel width of 0.5 m, and a high water mark of 2 m. Vegetation along the natural corridor was made up of trees and herbaceous species. Vegetation along the channel banks consisted of shrubs, herbs, and grasses. The channel bed was mainly bare with patches of grass and duckweed noticed. The channel was dry when observed on September 9, 2010.

'Qii' had a natural corridor width of 8 m, a channel width of 1 m, and a high water mark of 1.5 m. The vegetation along the natural corridor consisted of mainly grasses. Bank vegetation was composed of herbaceous species, including goldenrod, and phragmites. The channel bed was bare with cattails growing in places. The channel was dry when observed on September 9, 2010.

Doyle Drain at observation point 'WB-Q' is a water body located within the Project area as it crosses the cabling along 9th Line. Sheeler Waddick Drain is also within the Project area at 'WB-Q' as it runs 20 m adjacent from the cabling along 9th Line.

17. WB-RR24

Water body 'WB-RR24' was identified as Lewis Drain and was observed where it crosses under the railway corridor. Lewis Drain through this section had a slow northerly flow with a water temperature of 9°C on October 28, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 25 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 75% (excellent) shade over the

channel. The channel width was 3 m and had a high water mark of 3 m. The 4 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, cobble, backwater, and woody debris. Substrates within the channel consisted of clay, silt, sand, gravel, cobble, muck, and detritus. The wetted width of the channel at this section was 2.95 m with depths ranging from 7 to 15 cm.

Lewis Drain is a water body at observation point 'WB-RR24' occurs within the Project area and crosses the cabling running along the railway.

18. WB-RR25

Water body 'WB-RR25' was identified as Flook and Hinton Drain and was observed where it crosses under the railway corridor. Flook and Hinton Drain through this section had standing turbid water with a water temperature of 9°C on October 28, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 15 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 20% (poor) shade over the channel. The channel widths ranged from 0.5 - 2 m and had a high water mark of 2.5 m. The 3 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, undercut banks, backwater, and woody debris. Substrates within the channel at this section was 1.42 m with depths ranging from 4 to 12 cm.

Flook and Hinton Drain at observation point 'WB-RR25' is a water body located within the Project area and the cabling along the railway.

19. WB-RR26

Water body 'RR26' was identified as Garnet Russel Drain and was observed where it crosses under the railway corridor. The natural corridor measured 8 m wide and consisted of grass and herbaceous plants (goldenrod). The channel was 1 m in width

and had a high water mark of 2.5 m, with bank vegetation comprised of herbaceous plants. The channel was bare and dry when observed on October 28, 2010.

Garnet Russel Drain at observation point 'WB-RR26' is located within the Project area and crosses the cabling along the railway.

20. WB-RR27

Water body 'WB-RR27' was identified as Miller Drain and was observed where it crosses under the railway corridor. Miller Drain through this section had a slow northerly flow with a water temperature of 9°C on October 28, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 18 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 20% (poor) shade over the channel. The channel width was 1 m and had a high water mark of 2 m. The 3.5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, riffles, undercut banks, backwater, cobble, and woody debris. Substrates within the channel consisted of clay, silt, sand, muck, gravel, cobble, and detritus. The wetted width of the channel at this section was 0.98 m with depths ranging from 2 to 6 cm.

Miller Drain at observation 'WB-RR27' is located within the Project area and crosses the cabling along the railway.

21. WB-RR28

Water body 'WB-RR28' was identified as Horne Drain and was observed where it crosses under the railway corridor. Horne Drain through this section had a slow northerly flow and turbid pools with a water temperature of 9°C on October 28, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 20 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 75% (excellent) shade over the channel. The channel width was 2 m and had a high water mark of 2.5 m. The 3.5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, grass and shrub species. Instream habitat

and cover found within the channel was provided through pools, riffles, undercut banks, backwater, cobble, and woody debris. Substrates within the channel consisted of clay, silt, sand, muck, gravel, cobble, and detritus. The wetted width of the channel at this section was 2.08 m with depths ranging from 2 to 12 cm.

Horne Drain at observation point 'WB-RR28' is located within the Project area and crosses the cabling along the railway.

22. WB-RR29

Water body 'WB-RR29' was identified as Vail Drain and was observed where it crosses under the railway corridor. Vail Drain through this section had a slow northerly flow and black water with a water temperature of 9°C on October 28, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 20 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree species that provided 85% (excellent) shade over the channel. The channel width was 2.5 m and had a high water mark of 2 m. The 3 m high bank was noted as having good stability with vegetation comprised of grass and tree species. Instream habitat and cover found within the channel was provided through pools, undercut banks, backwater, and woody debris. Substrates within the channel at this section was 2.36 m with depths ranging from 4 to 10 cm.

Vail Drain at observation point 'WB-RR29' is located within the Project area and crosses the cabling along the railway.

23. WB-RR30

Water body 'WB-RR30' was identified as Doyle Drain and was observed where it crosses under the railway corridor. The natural corridor measured 25 m wide and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 3 m in width and had a high water mark of 3 m, with bank vegetation comprised of herbaceous plants, and a variety of grass and shrub species. The channel was bare with pockets of standing water when observed on October 28, 2010.

Observation point 'WB-RR30' is located on Doyle Drain and is within the Project area and crosses the proposed cabling the railway.

24. WB-S

Water body 'WB-S' was identified as Government Drain and was observed along the east side of Dillon Road, north of 10th Line. The surrounding area is used mainly for agriculture. The natural corridor measured 15 m and the vegetation consisted of grasses and trees. The channel width was 2 m with a bank height of 3 m. The bank appeared stable with vegetation composed of herbs, grasses, and shrub species. Substrates within the channel were made up of clay, silt, sand, gravel, and muck. When observed on September 9, 2010, the channel bed was bare and dry.

Northwest of observation point 'WB-S' Government Drain is located within the Project area as it crosses the proposed cabling alongside the railway.

25. WB-T

Water body 'WB-T' was identified as Moody and Earley Drain and was observed along 9th Line, east of Bloomfield Road. The natural corridor measured 15 m and it had a channel width of 1 m. Vegetation along the natural corridor was made up of different grass species. The bank vegetation was composed of grasses, herbs, and shrubs. The channel bed was overgrown with grasses and duckweed was present under the bridge. When observed on September 9, 2010, the channel bed was moist and there was standing water under the bridge.

Moody and Earley Drain at observation point 'WB-T' is a water body located within the Project area as it crosses the cabling running along 9th Line.

26. WB-U

Water body 'WB-U' was identified as O'Neil Drain and was observed where the drain crossed under Bloomfield Road, in between 9th and 10th Line. The natural corridor measured 5 m, channel width of 0.5 m, and a high water mark of 1 m. Vegetation within the natural corridor and along the bank was dominated by grass species. The channel bed was bare and dry when observed on September 9, 2010.

Water body observation 'WB-U' is located within the Project area as it crosses the proposed cabling that runs along Bloomfield Road. O'Neil Drain at this location is also 60 m from the access road and cabling for proposed turbine P111.

27. WB-V

Water body 'WB-V' was identified as Miller Drain and was observed where it crosses under a concrete box culvert at 10th Line. The surrounding area was used mainly for agriculture purposes. The observation point was broken down into 'Vi' and 'Vii' to better represent the aquatic features seen.

'Vi' had a natural corridor width of 15 m, a channel width of 1.5 m, and a high water mark of 3.5 m. Vegetation within the corridor consisted of grasses, shrubs, and herbaceous plants. Bank height was 3.5 m with a stable bank and vegetation of herbaceous plants. Channel substrates included clay, silt, cobble, and muck. Instream habitat was provided by pools, undercut banks, boulders, cobble, and algae. When observed on September 9, 2010 standing water was found at one side of the culvert but was dry on the other side.

'Vii' was a ditch along the side of 10th line that emptied into Miller Drain at the observation point. The ditch had a natural corridor width of 4.5 m, a channel width of 1 m, and a high water mark of 2 m. Herbaceous and grass species made up the vegetation within the corridor and banks of the channel. The channel bed was overgrown with grass species and was dry when observed on September 9, 2010.

Miller Drain at observation point 'WB-V' crosses the proposed cabling that runs alongside 10th Line.

28. WB-W

Water body 'WB-W' was identified as Horne Drain and was observed along where it crossed through a concrete box culvert under 10th Line. The surrounding area was being used for agriculture and the railway tracks. Water temperature was 17°C on September 9, 2010. The natural corridor measured 15 m and the vegetation consisted of herbaceous plants, goldenrod species, and willow species. The channel width was 3 m, with a bank height of 0.25 m, and a high water mark of 4 m. The wetted width was

3.5 m at this section with depths ranging from 11 to 24 cm. The water appeared turbid and had no flow, just standing water present. The bank appeared stable with vegetation of herbaceous plants. Substrates within the channel were composed of clay, silt, sand, and muck. Instream cover was provided through pools, undercut banks, woody debris, and cobble.

Observation 'WB-W' is a water body located within the Project area and crosses the proposed cabling along 10th Line.

29. WB-Y

Water body 'WB-Y' was identified as Garnet and Russell Drain and was observed where the tributary crossed under 10th Line, east of Bloomfield Road. The surrounding area was mainly agricultural, with some residential. Water temperature was taken in the standing water present and was found to be 21°C when observed on September 9, 2010. The natural corridor measured 13 m and the vegetation consisted of grass and herbaceous plants. The channel width measured 3 m and the bank height and high water mark was 5 m. Wetted width was 3 m, with depths ranging from 1 to 4 cm. Bank stability appeared good with a high density of herbaceous vegetation. Channel substrates included clay, silt, cobble, and muck. Greater duckweed (Spirodela polyrhiza), along with small pools, undercut banks, woody debris, and cobble provided instream habitat and cover.

Observation 'WB-Y' on Garnet and Russell Drain is located within the Project area as it crosses the cabling along 10th Line.

30. WB-Y6

Water body 'WB-Y6' was identified as O'Rourke Drain and was observed where it crosses under a culvert along 8th Line. When visited on September 22, 2010 standing water was present and had a water temperature of 19°C. The natural corridor was 14 m and was consisted of deciduous and coniferous trees, and a variety of grass species. The channel width measured 1 m and had a high water mark of 3 m. Bank height was 4.5 m and the vegetation included grass and herbaceous plants. Channel substrates were composed of clay, silt, sand, muck, and detritus. Watercress (Armoracia sp.) was

present along the south side of 8th Line. Raccoon tracks and frog species were also observed at this location.

O'Rourke Drain at observation 'WB-Y6' is located within the Project area and crosses the cabling alongside 8th Line. This location has been identified as a seepage area due to the presence of watercress (Armoracia sp.).

31. WB-Z6

Water body 'WB-Z6' was identified as the most southern observation point along O'Rourke Drain. The observation point was located along 10th Line to the east of Dillon Road. The natural corridor measured 8 m, channel width was 1 m, and the high water mark was at 1.5 m. Cedar trees along with other grass and herbaceous plant species composed the vegetation along the banks and within the corridor. Grass and cattail species lined the channel bed, which only had standing water at the culvert along 10th Line when observed on September 22, 2010.

O'Rourke Drain at observation 'WB-Z6' is located within the Project area and runs 20 m from the access road and 5 m from the cabling to proposed turbine P094. North of the observation point, O'Rourke Drain comes within >120 m from proposed turbine P094.

32. CAB029

Water body 'CAB029' was identified as unnamed drain and was observed perpendicular to, and on the southeast side of 10^{th} Line. Water temperature was 6° C on April 20, 2011. Land use surrounding this drain is mixed: municipal road, agricultural field and residence lawn. The natural corridor of this portion of unnamed drain measured 12 m in width and consisted of grass, herbaceous plant, shrub and deciduous trees species. Poor shading by shrub and grass species was evident on April 20, 2011. The channel ranged in width from 1 - 1.5 m and had bank heights ranging from 0.05 on the south bank and 2.5 m on the north bank. Poor bank stability was noted with some grass and shrubs present as bank vegetation. The wetted width for the channel at this section was 2 m and depths ranged from 12 - 23 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, woody debris, boulder and vegetation. Dense patches of watercress (Armoracia sp.) were present within the otherwise bare channel. Substrates within the channel consisted of clay, silt, muck, detritus, boulder and gravel. Water within the channel was recorded as flowing and turbid on April 20, 2011.

'CAB029' is an unnamed water body located within the Project area and crosses the cabling on 10th Line. This location has been identified as a seepage area due to the presence of watercress (Armoracia sp.).

33. CAB030

Water body 'CAB030' was identified as unnamed roadside ditch and was observed parallel to, and on the southeast side of 10th Line, approximately 175 m east of Bloomfield Road. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted of predominantly grass and herbaceous plant species. The channel measured 1 m in width and contained grass and standing water on April 27, 2011. Bank vegetation was comprised of grass and herbaceous plant species.

'CAB030' is located within the Project area which runs 1 m adjacent to the proposed cabling that runs parallel to 10th Line.

34-35. CAB033A/B

Water body 'CAB033A' was identified as Government Drain and was observed parallel to, and on the northeast side of, Dillon Road approximately 250 m north of 8th Line. The natural corridor of Government Drain at this point measured approximately 11 m in width and consisted of mixed vegetation: grass, herbaceous plant, shrub and tree species. The channel measured 4 m in width and contained phragmites. Bank vegetation consisted of grass, herbaceous plant and tree species. The water was flowing northwest on April 27, 2011.

Water body 'CAB033B' was identified as unnamed roadside ditch and was observed parallel to, and on the southwest side of, Dillon Road approximately 250 m north of 8th Line. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width and contained grass species. Bank vegetation was comprised of grass species. Standing water was observed within the channel on April 27, 2011.

'CAB033A' is a water body located within the Project area adjacent (8 m) to the proposed cabling that runs parallel to Dillon Road. 'CAB033B' is also a water body located within the Project area adjacent (5 m) to the proposed cabling that runs parallel to Dillon Road. South of the observation point both the Government Drain and the unnamed ditch cross the proposed cabling at the junction of Dillon Road and 8th Line.

36. CAB083

Observation 'CAB083' was identified as Lecoco Drain and was assessed on 8th Line between Drake Road and AD Shadd Road. The natural corridor of this drain is less than 20 m wide with deciduous trees, shrubs, grass and dense herbs. The channel is approximately 5 m wide with banks vegetated with deciduous tree, some Rhus typhna, grass, herbs and dog strangling vine. The water was flowing to the N and the channel vegetation was comprised of algae, a rush, sedge and a few pondweeds. All observations for this point were made on June 15th, 2011.

North of the observation point 'CAB083' Lecoco Drain is a water body located within the Project area as it crosses the proposed cabling.

37. CAB084

Observation 'CAB084' was identified as Symon Drain and was assessed on 9th Line just SW of Dillon Road. The natural vegetation corridor is less than 15 m wide consisting of deciduous trees, shrubs, some Rhus typhina, grass and herbs. The channel is approximately 4 m wide with banks vegetated similar to the corridor and the channel vegetated with algae and some flooded grass. Water was seen flowing to the NW. All observations for this site were made on June 15th, 2011.

Approximately 100 m north of observation 'CAB084' on Symon Drain there will be a crossing of cabling and therefore this observation is within the Project area.

38. CAB085

Observation 'CAB085' was made on Towl Drain on 9th Line between Bloomfield and Charing Cross Road. This drain has a natural corridor of less than 15 m wide and vegetated with mixed trees, shrubs, wild grape, grass and herbs. The channel was approximately 2 m wide with banks vegetated with grass, herbs and vines. The channel itself was vegetated with some grass and there was a very slow flow seen on June 15th, 2011.

Towl Drain at observation 'CAB085' is a water body located within the Project area as it crosses the cabling on 9th Line.

39. CAB100

Observation 'CAB100' was taken on Price Drain off 7th Line between Dillon and AD Shadd Road. The natural corridor measured approximately 4 m with vegetation of sedges, grass, garlic mustard and raspberry. The channel measured 0.75 m and the bank vegetation consisted of goldenrod and Ash species while the channel contained garlic mustard, raspberry and herbaceous species. On June 29th, 2011 the channel was observed to be dry.

Price Drain is a water body located in the Project area and was observed at 'CAB100' where it crosses the cabling along 7th Line.

40. P060

Water body 'P060' was identified as Mummery Drain and was observed along the southeast side of 10th Line, perpendicular to the road. The natural corridor of Mummery Drain at this point measured approximately 8 m in width and consisted of mixed vegetation: grass, herbaceous plant, shrub and tree species. The channel measured 1.5 m in width and contained phragmites. Bank vegetation consisted of herbaceous plant species. The water observed within the channel was flowing southeast on April 27, 2011. Southeast of this observation point Terrestrial field staff confirmed the presence of water within the channel directly adjacent to proposed turbine P060 on April 4th, 2011.

Mummery Drain at observation point 'P060' is a water body located within the Project area and runs 20 m from the access road and 15 m from the cabling for the proposed turbine P060, and is within 40 m of proposed turbine P060.

41. P065

Water body observation 'P065' was identified as Carter Drain and was observed where it crosses the access road and cabling leading to proposed turbine P065. Terrestrial field staff observed water in the drain between the 4th and 8th of April.

42. P098

Water body 'P098' was identified as a watercourse segment connecting the Doyle and O'Rourke Drains and was observed approximately 400 m southeast of 8th Line. Land use surrounding this drain is primarily agricultural (corn / wheat). The natural corridor of the watercourse segment connecting Doyle and O'Rourke Drains at this point measured approximately 11 m in width and consisted predominantly of grass species. The channel ranged in width from 3 -4 m. Within the channel patches of phragmites were observed on April 27, 2011 to provide little shade, however in full summer growth will likely provide over 75% canopy over the watercourse. The wetted width of the channel at this section was 2.75 m with depths ranging from 18 - 25 cm. Instream habitat and cover found within the channel consisted of clay, silt, muck and detritus. The bank height ranged from 0.4 - 1.5 m and top of bank was 2 m. Bank vegetation was comprised of grass, shrub and rose species. The water within the channel appeared turbid and flowing on April 27, 2011.

P098 is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P098 as well as following 30 m adjacent to the access road and 14 m from cabling.

43. P100A

Water body 'P100A' was identified as unnamed roadside ditch and was observed along the southeast side of 10th Line, parallel to the road and approximately 375 m west of Charring Cross Road. The natural corridor of unnamed roadside ditch at this point measured approximately 3 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and contained grass species. Bank vegetation consisted of grass species. The channel was reported to be dry on April 27, 2011. P100A is a water body located within the Project area and is adjacent 8 m to the proposed cabling that runs along 10th Line.

44. P100B

Water body 'P100B' was identified as Garen and Young Drain and was observed midfield, approximately 375 m west of the Horton Line / Charring Cross Road intersection. Water temperature for Garen and Young Drain was 10°C on April 27, 2011. Land use surrounding this drain is primarily for agricultural purposes (corn and wheat). The natural corridor of Garen and Young Drain at this point measured approximately 6 m in width and consisted of predominantly grass species and sparse tree species. A sparse canopy over the drain was provided by phragmites on April 27, 2011, however it during full growth would likely provide over 75% shade. The channel ranged in widths from 0.3 - 1 m. The wetted width of the channel at this section was 1.16 m with depths ranging from 5 – 21 cm. Instream habitat and cover found within the channel was provided by pools, backwater, and dense patches of phragmites. Substrates within the channel consisted of clay, detritus, silt and muck. Bank height was 0.05 m, high water mark 0.55 m and top of bank was approximately 2 m. Bank stability was good with dense bank vegetation comprised of phragmites and grass and herbaceous plant species, including dandelion and teasel. Isolated areas of bank erosion were noted. The water was reported to be turbid, whitish in colour, and flowing on April 27, 2011.

P100B is a water body located within the Project area positioned 80 m to turbine P100.

45. P111

Water body 'P111' was identified as a tributary to Moody and Earley Drain and was observed midfield approximately 450 m northwest of Bloomfield Road. Water temperature for tributary to Moody and Earley Drain was 12°C on April 27, 2011. Land use surrounding this drain is primarily for agricultural purposes. The natural corridor of tributary to Moody and Earley Drain at this point measured approximately 10 m in width and consisted predominantly of grass species with some sparse deciduous trees. Clumps of Phragmites provided 50% shade over the water body. The channel ranged in width from 2 - 3 m. Bank height was 2.5 m with the high water mark at 1.5 m. Bank stability was good with dense grass and sparse herbaceous plants. There were isolated

areas of erosion noted. The wetted width of the channel at this section was 2.5 m with depths ranging from 16 - 33 cm. Instream habitat and cover found within the channel was provided by pools, backwater and dense clumps of Phragmites. Substrates within the channel consisted of clay, muck, detritus and silt. Within the channel water was noted as turbid and flowing north-northwest on April 27, 2011.

'P111' is a water body located within the Project area and crosses the access road and cabling to proposed turbine P111 and also comes within 18 from this turbine.

46. P149

Water body 'P149' was identified as Moody and Earley Drain and was observed midfield approximately 250 m northeast of Bloomfield Road. Water temperature for Moody and Earley Drain was 10°C on April 27, 2011. Land use surrounding this drain is used primarly for agricultural purposes. The natural corridor of this portion of Moody and Earley Drain measured 12 m in width and consisted of grass, plantain and other herbaceous plant species, several shrub species including red osier dogwood, cedar and sumac. The channel ranged in width from 3.5 - 4 m and contained abundant phragmites that on April 27, 2011 provided poor shade, however summer growth would likely provide over 75% canopy. The wetted width of the channel at this section was 4.1 m with depths ranging from 10 - 25 cm. Instream habitat and cover found within the channel was provided by pools, backwater and vegetation. Substrates within the channel consisted of clay, detritus, silt and muck. Bank height ranged from 2.5 - 3 m, had good bank stability and abundant vegetation including grass, shrub and herbaceous species.

'P149' is a water body located within the Project area and intersects the proposed turbine location for P149. Southwest of this observation point, Vince Doyle Drain is located and is connected to Moody and Earley Drain. Vince Doyle Drain is located within the Project area and crosses the access road and cabling leading to proposed turbine P149.

47. P163

Water body 'P163' was identified as unnamed roadside ditch on the northwest side of Ninth Line. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted of predominantly grass species. The channel measured 1 m in width and contained grass species. Bank vegetation consisted of grass species. The channel was found to be dry on April 27, 2011.

Observation 'P163' is a water body and is located within the Project area and crosses the proposed access road and cabling for proposed turbine P163.

48. AHY026

Water body 'AHY026' was identified as a branch of Keil Drain and was observed perpendicular to 8th Line. At the time of the observation on October 5th, 2011 the water body was found to be non-existent and appears to have been plowed under as all that exists is a soya field.

49. AHY027

Water body 'AHY027' was identified as Waddick Drain and was observed where it crosses under 8th Line through two 8 m wide box culverts. The land use adjacent to the water body is primarily agricultural with a residence on the northwest side of Waddick Drain. The natural corridor extended approximately 15 m and consisted of deciduous trees, grasses, and herbaceous plants. The channel width ranged from 2-5 m, with a pool of approximately 10 m. Substrates within the channel were found to be made up primarily of sand, and gravel, with deposits of silt, pebble, cobble, muck, and detritus. Instream habitat was provided through pools, riffles, vegetation, woody debris, and cobble. The instream vegetation was found to be made up of terrestrial grasses. The bank found to have moderate stability with bank vegetation made up of terrestrial grasses and herbaceous plants. On October 5th, 2011 Waddick Drain was found to be flowing, had a high turbidity, and had a water temperature of 14°C. Tile drains were also observed on both sides of Waddick Drain and one had a slight trickle of water.

Waddick Drain at observation point 'AHY027' is within the Project area and crosses the cabling that runs alongside 8th Line.

50. AHY028

The observation point "AHY-028" was identified as a branch of Rhodes Tile Drain. On October 5th, 2011, Rhodes Tile Drain was a soya field. It was found to be non-existent and will not be discussed further as it does not affect any of the project components.

51. AHY034

Water body 'AHY034' was identified as Symon Drain and was observed where it crosses under 10^{th} Line through a 6 m box culvert. The surrounding land use is primarily agricultural. The natural corridor was approximately 10 m and was made up of cedar, spruce, shrubs, and terrestrial grasses. The channel width was approximately 6-7 m, with a wetted width of 2-6 m, and an average depth of 0.5 m. Instream habitat was provided through pools, vegetation (terrestrial grasses), and boulder. Substrates within the channel consisted of muck, sand, silt, gravel, pebble, and boulder. The 3-5 m bank was found to have a moderate stability with bank vegetation made up of terrestrial grasses, willow species, and other herbaceous plants. On October 5th, 2011 Carter drain was observed to be flowing, had a high turbidity, and had a water temperature of 14°C.

Symon Drain at observation point 'AHY034' is located within the Project area and crosses the proposed cabling that runs alongside 10th Line.

52. AHY035

Water body 'AHY035' was identified as Government Drain and was observed along the east side of Dillon Road, at the junction with 10th Line. The surrounding area is used mainly for agriculture. The natural corridor measured approximately 10 m and the vegetation consisted of grasses, herbaceous plants and deciduous trees. The channel width was 2 m with a bank height of 3 m. The bank appeared stable with vegetation composed of herbs, grasses, and shrub species. Substrates within the channel were made up of clay, silt, sand, gravel, and muck. When observed on October 5, 2011 Government Drain had water present which was flowing and had a high turbidity.

At observation point 'AHY035' Government Drain crosses the cabling that runs along 10th Line, at the intersection with Dillon Road.

53. AHY036

Water body 'AHY036' was identified as Doyle Drain and was observed where it crosses under 10th Line through a 5 m wide box culvert. The surrounding land use is primarily agricultural. The natural corridor measured approximately 10 m and consisted of a variety of shrubs, grasses, Phragmites, and herbaceous plants. The bank was 4-5 m in height, appeared to have moderate stability, and had a high density of vegetation made up of grasses and herbaceous plants. Through the vegetation, approximately 60% of the channel was provided shade. The channel width ranged from 0.75-3 m with an average depth of 0.15 m. Habitat within the channel was provided through pools and vegetation (terrestrial grasses). Substrates within the channel primarily consisted of muck, detritus, and sand, with deposits of silt and gravel. When Doyle Drain was observed on October 5th, 2011 it appeared turbid, had a slow flow, and had a water temperature of 15°C. No fish were observed during the survey.

Doyle Drain at 'AHY036' is located within the Project area and crosses the proposed cabling that runs parallel to 10th Line.

54. AHY037

Water body 'AHY037' was identified as Vail Drain and was observed where it crosses under 10^{th} Line through a 6 m wide box culvert. The surrounding land use was primarily agricultural. The natural corridor measured approximately 10 m in width, was made up of a variety of grasses, shrubs, willow sp., and herbaceous plants, and provided 60% shade to the channel. The banks were heavily vegetated with grasses and herbaceous plants. The channel was straight, measure approximately 1-3 m wide, and had an average depth of 0.45 m. Substrates within the channel consisted of gravel, silt, sand, and muck. When observed on October 5th, 2011 Vail Drain appeared turbid, had a slow flow, and had a water temperature of 14°C.

Vail Drain at observation point 'AHY037' is located within the Project area and crosses the proposed cabling that runs alongside 10th Line.

55. AHY038

Water body 'AHY038' was identified as Ferguson/Laurie Drain and was observed where it crosses under 9th Line through a 4 m wide box culvert. Land use within the

surrounding area is primarily agricultural. The natural corridor measured approximately 10 m and was made up of a variety of grasses and shrubs (including goldenrod). The bank consisted of the same vegetation as the natural corridor and together they provided shade to 10% of the channel. The channel width ranged from 2-4 m in width, with a wetted width of 1-3 m, and an average depth of 0.20 m. Instream habitat was provided through pools and terrestrial grasses. Substrates within the channel primarily consisted of muck, detritus, and sand, with deposits of silt, and gravel. On October 5th, 2011 Ferguson/Laurie Drain was observed to have a water temperature of 15°C, was flowing and the turbid water was starting to clear.

At observation point 'AHY038' Ferguson/Laurie Drain crosses the proposed cabling that runs along 9th Line.

56. AHY041

Water body 'AHY041' was identified as Stenton Drain and was observed parallel to 11th Line, approximately 400 m from Charing Crossing Road. Stenton Drain did not exist at this location and in place was a grass lined roadside ditch. This ditch had no defined channel and no natural corridor. Standing water was observed within the ditch on October 5th, 2011.

'AHY041' is located within the Project area and is found 17 m adjacent to the proposed cabling that run along 11th Line.

Water Body Observations Found on Figure 2-6a 5 Observations (all from 2011)

1. AHY029

Water body 'AHY029' was identified as an unnamed drain running parallel to, and on the north side of Wellwood Road. The natural corridor measures 7-8 m in width and is made up of cedar, maple, oak, terrestrial grasses, and herbaceous plants. The land use surrounding this observation point is primarily agricultural. The channel width ranged from 0.5-1 m and when observed on October 5th, 2011 a few murky pools with a water temperature of 14°C.

At observation point 'AHY029' the unnamed drain is within the Project area and runs 5 m adjacent to the proposed cabling that is along Wellwood Road.

2. AHY030

Water body 'AHY030' was identified as an unnamed drain and was observed where it crosses under 10th Line through an 8 m box culvert. The surrounding land use was found to be primarily agricultural. The natural corridor measured approximately 10 m in width and was made up of deciduous trees, and a variety of grasses and herbaceous plants. The vegetation within the corridor provides shade for 60% of the channel. The channel width ranged from 2-7 m, with a maximum depth of 0.75 m. Habitat provided within the stream consisted of pools, riffles, vegetation, and a few boulders. The vegetation within the channel was found mainly along the edges and was made up of terrestrial grasses. Channel substrates at this location were primarily sand, muck, and detritus, with deposits of silt, gravel, pebble, clay, and boulder. The bank height ranged from 0.5-4 m, appeared to be moderately stable, and had a high density of vegetation including grass species and herbaceous plants. When observed on October 5th, 2011 the unnamed drain had a water temperature of 14°C, was turbid, and had a steady flow. Raccoon prints were also observed along the banks at the time of the survey.

On the southeast side of this unnamed drain is another unnamed drain that runs parallel to 10th line and empties into the large drain. This unnamed drain was flowing at the time of the survey through a 0.25-0.5 m defined channel. The channel was lined with a variety of grass and herbaceous plants. The natural corridor ranged from 10-12 m and

the vegetation consisted of cattail, Phragmites, sumac sp., dogwood, and herbaceous plants.

At observation point 'AHY030' both unnamed drains come within 6 m of the proposed cabling that runs along 10th Line.

3. AHY031

Water body 'AHY031' was identified as an unnamed drain running perpendicular to the south side of 10th Line, between Wellwood Road and Drake Road. The surrounding land use is primarily agricultural within this area. The natural corridor measured approximately 10 m in width and consisted of sumac, maple, elm, ash, and herbaceous plants (including goldenrod) which provides 80% shade to the channel. The channel lacked definition, was lined with a variety of terrestrial grasses and herbaceous plants, had a slow flow, and had a water temperature 14 °C when observed on October 5th, 2011.

At observation point 'AHY031' both unnamed drains come within 5 m of the proposed cabling that runs alongside 10th Line.

4. AHY032

Water body 'AHY032' was identified as a non-existent water body with no natural corridor, defined channel, or water. It was observed on October 5th, 2011.

5. AHY033

Water body 'AHY033' was identified as Carter Drain and was observed where it crosses under 10th Line through a 6 m round culvert. The land use surrounding this drain is primarily agricultural. The natural corridor measured approximately 10 m in width and was made up of maples, poplars, terrestrial grasses, and herbaceous plants, which provided 60% shade to the channel. The channel ranged from 6-7 m in width, with a wetted width of 3-5 m, and depths ranging from 0.25-0.5 m. Habitat within the drain was provided through pools and terrestrial vegetation. Channel substrates consisted primarily of muck with deposits of sand, silt, pebble, and gravel. Bank height ranged from 1-2 m, was fairly stable, and had a good density of vegetation consisting of a variety of grass and herbaceous plant species. When observed on October 5th, 2011 Carter Drain had a water temperature of 14°C, was h ighly turbid, and was found to be flowing.

Carter Drain at observation point 'AHY033' is located within the Project area and crosses the proposed cabling that runs parallel to 10th Line.
Water Body Observations Found on Figure 2-7 81 Observations (47 from 2010, 34 from 2011)

1. WB-A

Water body 'WB-A' was identified as McCorkell Drain and was observed along Fargo Road, north of Horton Line. The natural corridor width was more than 50 m and consisted of deciduous trees and grasses. The channel width was 2 m, with bank vegetation consisting of cedar and aspen trees, herbaceous species and vines. The channel was bare and no water was observed when visited on September 8, 2010 and was therefore classified as an intermittent stream.

'WB-A' is a water body located within the Project area and comes within 10 m of the cabling that runs alongside Fargo Road. North of the observation point, McCorkell Drain crosses the cabling and access road for proposed turbine P162.

2-3. WB-AR33A/B

Water body 'AR33A' was identified as a McGregor Creek tributary and was observed where it crosses Huffman Road. At this point Hedgedus Drain also flows parallel to the road, crossing the tributary. The observation point was broken into two separate components to represent all the aquatic features at this location.

Hedgedus Drain (WB-AR33A) continues from northwest to southeast, falling within the Project area adjacent to the proposed distribution line. The natural corridor measured 8 m wide and consisted of grass. The channel was 1m in width and had a high water mark of 1 m, with bank vegetation of grass and herbaceous species. Within the channel standing rain water was found and overgrown grasses were present when observed on November 17th, 2010 and was therefore classified as an intermittent stream.

WB-AR33B is a tributary to McGregor Creek crossing Huffman Road. This drain intersects with Hedgedus Drain at the observation point and is within the Project area for the proposed distribution line. The natural corridor measured 8 m wide and consisted of grass species and a mixture of trees and shrubs. The channel was 1 m in width and had a high water mark of 1 m, with bank vegetation of grass and herbaceous species, including goldenrods. The vegetation in the channel consisted of typha and there was no water was present when observed on November 17th, 2010 and is therefore classified as an intermittent stream.

'WB-AR33A' and 'B' are both water bodies that fall within the Project area. Hedgedus Drain at this location comes within 8 m of the proposed cabling that runs alongside Huffman Road. McGregor Creek at this location crosses the proposed cabling.

4. WB-AR51

Water body 'WB-AR51' was identified as Unnamed Drain B and was observed where it meets with Corlett Drain and where it crosses Fargo Road. The natural corridor of these Drains measured approximately 10 m in width and consisted of predominantly grass species. The channel measures 0.5 m in width and had a high water mark of 1 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to be dry and grown in with grass and herbaceous plants when observed on November 18th, 2010 and was therefore classified as an intermittent stream.

Unnamed Drain B is a water body and falls within the Project area at this observation point. It crosses the proposed cabling that runs parallel to Fargo Road. Corlett Drain at 'WB-AR51' runs 40 m adjacent to the cabling along Fargo Road.

5. WB-AR52

Water body 'WB-AR52' was identified as Fargo Branch Drain and was observed where it crosses Cundle Line. The natural corridor of Fargo Branch Drain at this point measured approximately 6 m in width and consisted of predominantly grass species. The channel measured 0.5 m in width and had a high water mark of 0.75 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to have standing water with algae and watercress (Armoracia sp.) present on November 18th, 2010 and was therefore classified as an intermittent stream.

Fargo Branch Drain is a water body within the Project area and at the observation point it crosses the proposed cabling that runs along Cundle Line. South of the observation point, between Cundle Line and Drury Line, Fargo branch Drain also crosses additional proposed cabling which runs parallel to Fargo Road and that follow the rail way. Fargo Branch Drain at this location has also been identified as a seepage area due to the presence of watercress (Armoracia sp.).

6. WB-AR55

Water body 'WB-AR55' was identified as Lorne English Drain and was observed along Lagoon Road. The natural corridor of Lorne English Drain at this point measured approximately 5 m in width and consisted of predominantly grass species. The channel measured 1 m in width and had a high water mark of 0.5 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to be dry and grown in with cattails and Phragmites when it was observed on November 18th, 2010 and was therefore classified an intermittent stream

Northeast of the observation point, Lorne English Drain is a water body located in within the Project area and crosses the access road and cabling for proposed turbine P055. South of the observation point, Lorne English Drain crosses the proposed cabling at the junction of Lagoon Road and Horton Line.

7. WB-B

Water body 'WB-B' was identified as Corlett Drain and was observed on the south side of Fargo Road, just south of Horton Line. Corlett Drain continues southeast along the south side of Fargo road. The natural corridor measured 6 m and consisted of grass and herbaceous species. The channel was 1.5 m in width, with bank vegetation of mainly grass species. The vegetation in the channel bed was made up of grasses and cattail species and no water was present when observed on September 8th, 2010 and was therefore classified as an intermittent stream.

Corlett Drain is a water body observed at 'WB-B' and is within the Project area. It comes within 38 m from the proposed cabling on Fargo Road. Northeast of the observation point, Corlett Drain intersects the proposed cabling at the Fargo Road and Horton Line junction.

8. WB-C

Water body 'WB-C' was identified as Unnamed Drain K and was observed along Fargo Road, between Horton Line and Cundle Line. The natural corridor was 7 m and channel width was 2 m. The vegetation along the natural corridor consisted of mixed deciduous and coniferous trees and herbaceous plants, including goldenrod species. The vegetation along the banks of the channel was made up of grasses and the channel bed consisted of grasses and herbaceous species. The channel was dry when observed on September 8th, 2010 and was therefore classified as an intermittent stream.

Unnamed K Drain is a water body observed at 'WB-C' and is located within the Project area. It comes within 10 m from the proposed cabling that run along Fargo Road and also comes within 90 m of proposed turbine P052.

9. WB-D

Water body 'WB-D' was identified as Locke Drain and was observed along Horton Line between Fargo Road and Charing Crossing Road. This observation point was recorded as a drain in an agricultural area. Water temperature was 16°C on September 8, 2010. The natural corridor was measured at 16 m and consisted of grasses, herbs, and a mixture of tree species. The channel width ranged from 1.5 m to 2.5 m with a bank height of 0.75 m. The bank appeared reasonably stable with vegetation of goldenrod, grasses and tree species. Channel substrates throughout this section were made up of silt, sand, gravel, detritus, muck, and clay. Instream habitat and cover were provided through small pools, riffles, backwater, and woody debris, and fish species were observed. The wetted width for this section was 2.5 m with depths ranging from 15 to 28 cm. The water was very turbid, was flowing at a very slow rate and was therefore classified as a permanent stream.

Locke Drain is a water body observed at 'WB-D' and is located within the Project area. It crosses the proposed cabling running parallel to Horton Line.

10. WB-D6

Water body 'WB-D6' was identified as Jackson and Nash Drain and was observed where it crosses under Horton Line. The natural corridor measured 11 m, channel width was 1.5 m, and the high water mark was 2 m. A variety of tree and grass species made up the vegetation along the corridor. Bank vegetation was composed of herbaceous plants, grass, and shrub species. The channel was bare with patches of cattails, was dry when viewed on September 21st, 2010 and was therefore classified as an intermittent stream.

Jackson and Nash Drain is a water body observed at 'WB-D6' and is located within the Project area. It crosses the access road and cabling leading to proposed turbine P052 and runs parallel to the proposed cabling running along Horton Line at a distance of 17 m.

11. WB-D7

Water body 'WB-D7' was identified as Jackson & Nash Drain and was observed along Horton Line. This observation point was located between Fargo Road and Lagoon Road. The natural corridor width was 20 m, channel width was 2 m, and the high water mark was at 2 m. Vegetation with the corridor and along the banks consisted of herbaceous plants and grass species. The channel was bare with turbid standing water located along Horton Line when viewed on September 23rd, 2010 and was therefore classified as an intermittent stream.

Jackson & Nash Drain is a water body observed at 'WB-D7' and is located within the Project area. It is located 2 m from the proposed cabling that runs adjacent to Horton Line. At the junction of Horton Line and Lagoon Road, Jackson & Nash Drain also crosses the proposed cabling.

12. WB-E

Water body 'WB-E' was identified as Locke Drain and was observed on Lagoon Road between Horton Line and Gagner Line, in an agricultural area. Water temperature was 19°C on September 8th, 2010. The natural corridor was measured at 9 m and consisted of grasses. The channel width was 1.5 m and had a high water mark of 4 m. The bank stability appeared to be good with vegetation of grass and herbaceous species. Channel substrates throughout this section were made up of silt, detritus, muck, and clay. Instream habitat and cover were provided through pools and aquatic vegetation. Fish species were observed within the pools. The wetted width for this section was 1.35 m with depths ranging from 10 to 12 cm. The pools had shallow water connections and a slight flow was observed and was therefore classified as an intermittent stream. Locke Drain is a water body observed at 'WB-E' and occurs within the Project area. It crosses cabling and the access road leading to proposed turbine P055. Observation point 'WB-O7' further discusses Locke Drain at P055.

13. WB-E2

Water body 'WB-E2' was identified as Fargo Drain and was observed on Fargo Road, between Cundle Line and Drury Line. The natural corridor measured 8m, channel width was 2 m, and the high water mark was 4 m. Herbaceous and grass species composed the vegetation within the corridor and banks of the channel. When observed on September 10th, 2010 the channel bed was bare and dry therefore being classified as intermittent. North of the observation point, Fargo Drain crosses under the railway tracks and the associated infrastructure.

Fargo Drain is a water body observed at 'WB-E2' that occurs within the Project area and is located within 5 m from the proposed cabling that runs parallel to Fargo Road. Approximately 300 m southeast of this point Fargo Drain crosses the cabling and access road for proposed turbine P053. North of this observation point Fargo Drain crosses the proposed cabling that runs along the rail way tracks.

14. WB-E7

Water body 'WB-E7' was identified as Barfoot Drain and was observed along the north side of Cundle Line, between Charing Crossing and Lagoon Road. The natural corridor measured 12 m, channel width was 1 m, and the high water mark was 1.5 m. Vegetation along the corridor and banks consisted of grass and herbaceous plant species. The channel was vegetated with grass species and standing water in some locations when observed on September 23rd, 2010; it was therefore classified as intermittent.

Barfoot Drain is a water body observed at 'WB-E7' and is located within the Project area as it comes with 80 m from proposed turbine P058.

15-16. WB-F2A/B

Water body 'WB-F2' was identified as Mosey Drain and was observed where it meets with Jackson and Nash Drain. This observation point is located along Horton Line

between Fargo and Communication Road. To better understand the two drains at this location, 'F2' was broken into 'F2A' and 'F2B'.

'F2A' looked at the Jackson and Nash Drain. The natural corridor measured 7 m, channel width was 1 m, and the high water mark was 3 m. Vegetation along the corridor and the channel banks was made up of various herbaceous and grass species. Substrates within this drain consisted of clay and muck. This stream was classified as intermittent as the channel was dominantly bare with patches of grass species and was dry when observed on September 10th, 2010.

'F2B' looked at the Mosey Drain that runs adjacent to Horton Line. The natural corridor measured 7 m, channel width was 1.5 m, and the high water mark was 3 m. Vegetation within the natural corridor was dominantly grass species. The banks of the channel were lined with both herbaceous and grass species. This stream was classified as intermittent as the channel was bare and dry when observed on September 10th, 2010 and grass was starting to sprout in the channel bed.

'WB-F2A' and 'B' are water bodies located within the Project area, with Mosey Drain (WB-F2A) located 9 m from the access road and intersects proposed turbine P044. It crosses the access road and cabling southeast of the observation point. Jackson and Nash Drain (WB-F2B) crosses the access road and cabling for proposed turbine P044 where it meets with Horton Line.

17. WB-F7

Water body 'WB-F7' was identified as Barfoot Drain and was observed where it crosses under Cundle Line, between Erieau Road and Lagoon Road. The natural corridor throughout this section measured 17 m, channel width was 3 m, and the high water mark was 3 m. The vegetation along the natural corridor and within the banks consisted of grass and herbaceous plants, including goldenrod species. Seepage features were indicated by the presence of watercress (Armoracia sp.) located within the channel, which had a slight northerly flow when observed on September 23rd, 2010. Therefore this watercourse was identified as a permanent stream Barfoot Drain is a water body observed at 'WB-F7' and is located within the Project area. It is considered a seepage area (due to the presence of watercress (Armoracia sp.)) and crosses the proposed cabling which runs along the rail way.

18. WB-H

Water body 'WB-H' was identified as Laurie Drain and was observed along Horton Line, east of Charing Crossing Road, south of Lagoon Road. The natural corridor was 12 m and channel width was 1.5 m. The vegetation along the natural corridor consisted of grass species. The vegetation along the banks of the channel and in the channel was dominated by grasses and herbaceous species. The channel was dry when observed on September 8th, 2010 and was therefore classified as an intermittent stream.

Laurie Drain is a water body observed at 'WB-H' and occurs within the Project area. This drain crosses the proposed cabling that runs alongside Horton Line and also comes within 74 m of proposed turbine P056.

19. WB-J5

Water body 'WB-J5' was identified as White Drain and was observed where it crosses Burke Line to the immediate southwest of Harwich Road. The natural corridor measured 15 m wide, had a channel width of 1.5 m and a high water mark of 2 m. The vegetation consisted of trees (poplar, maple), shrubs, herbaceous plants, and grasses. There was dry standing water underneath the culvert at Burke Line when visited on September 16th', 2010.

White Drain is a water body observed at 'WB-J5' and is located within the Project area. It comes within 81 m of the proposed cabling along Burke Line and Harwich Road.

20. WB-M2

Water body 'WB-M2' was identified as R.L. Smyth Drain and was observed where it crosses Burk Line, between Huffman and Communication Road. The natural corridor measured 8 m, channel width was 0.5 m, and the high water mark was 1 m. Vegetation within the corridor consisted of herbaceous and grass species. Bank vegetation was composed of herbaceous plants and cattails. The channel bed was bare, dry to the

north and moist at the south side of the culvert; it was therefore classified as an intermittent stream.

R.L. Smyth Drain is a water body observed at 'WB-M2' and is located within the Project area. It crosses proposed cabling and continues within 60 m to the access road to proposed turbine P039.

21. WB-N2

Water body 'WB-N2' was identified as Proctor Drain and was observed where it crosses Burk Line, between Huffman Road and Communication Road. The natural corridor measured 15 m, channel width was 2 m, and the high water mark was 3 m. Vegetation along the corridor was made up of various trees, grass, and herbaceous species. The bank was lined with shrubs, grass and herbaceous vegetation. The channel was bare with some woody debris and was dry when observed on September 13th, 2010; therefore this channel was classified as an intermittent stream.

Proctor Drain is a water body observed at 'WB-N2' and is located within the Project area. It crosses proposed cabling at the observation site. Further downstream the drain comes within 84 m of proposed turbine P039. Observation point WB-RR12 discusses details on where this drain reaches P040.

22. WB-O2

Water body 'WB-O2' was identified as Proctor Drain and was observed where it crosses Drury Line, between Communication Road and Huffman Road. The natural corridor measured 10 m, channel width was 1 m, and the high water mark was 2 m. Vegetation within the corridor consisted of mixed deciduous and coniferous trees along with a variety of grass species. Bank vegetation consisted of shrubs, grasses, and herbaceous plants. The channel at the observation point was bare but north cattails were growing in the channel. The channel was dry when observed on September 13th, 2010 and was therefore classified as an intermittent stream.

Proctor Drain is a water body located within the Project area and was observed at 'WB-O2'. It crosses the access road and cabling for proposed turbine P041 and southeast of the observation point, Proctor Drain is 29 m from proposed turbine P041. Proctor continues towards proposed turbine P120 and is further explained under observation point 'P120'.

23. WB-O7

Water body 'WB-O7' is located south of the junction between Gagner Line and Lagoon Road and was identified as Locke. This stream was classified as permanent and had a slow northwest flow was observed when visited on October 6th, 2010 with a water temperature of 12°C. Locke Drain through this sect ion had a natural corridor width of 12 m, channel width of 1 m, and a high water mark of 2.5 m. The vegetation consisted of predominantly of grass species. In stream vegetation consisted of filamentous algae with habitat being provided through pools, backwater, and undercut banks. A wetted width of 2.0 m was taken with depths ranging from 12 to 20 cm. Cyprinid species, a muskrat, and benthic invertebrates were also observed.

Locke Drain is a water body within the Project area and was observed at 'WB-O7' and it comes within 86 m from proposed turbine P055. West of the observation point the same drain runs directly alongside (115 m) proposed access road for turbine P054.

24-25. WB-P2A/B

Water body 'WB-P2' was identified as Watts Drain where it joins Morrison Drain. The observation point was taken along Drury Line, to the immediate east of Huffman Road. 'P2' was broken into 'P2A' and 'P2B' to represent the different drains.

'WB-P2A' was located on Morrison Drain. The natural corridor measured 10 m, channel width was 1.5 m, and the high water mark was 2 m. Vegetation along the corridor was dominated by grass species. Bank vegetation was made up of herbaceous plants and shrubs, including cattails. The channel was bare and dry when observed on September 13th, 2010 and was therefore classified as an intermittent stream.

'WB-P2B' was located on Watts Drain. The natural corridor measured 5m, channel width was 1 m, and the high water mark was 0.5 m. Grass, shrubs, and herbaceous plants made up the vegetation within the corridor and along the channel banks. The channel had a variety of grasses sprouting and was dry when observed on September 13th, 2010 and was therefore classified as an intermittent stream. South of 'WB-P2A' is another observation point ('RR11'), which will be discussed later in this section. South of observation point 'WB-P2B', Watts Drain crosses under the railway tracks and the proposed cabling.

26. WB-Q2

Water body 'WB-Q2' was identified as White Drain and was observed where it passes under a culvert at the junction of Drury Line and Harwich Road. White Drain was classified as an intermittent stream as water was standing with a temperature of 18°C on September 13th, 2010. The natural corridor measured 15 m and was composed of cedar trees and different grass species. The channel width was 2 m, with a bank height of 4.5 m, and the high water mark of 4 m. Wetted width at this section was 1.42 m, with depths ranging from 9 to 11 cm. Bank stability was good and vegetation consisted of grass, shrubs and herbaceous plants. Channel substrates included clay, silt, sand, gravel, and cobble. Instream habitat was provided through pools, undercut banks, woody debris, grass, and cobble. A single dead Central Mudminnow (*Umbra limi*) was also observed at this location.

White Drain is a water body located within the Project area and was observed at 'WB-Q2'. It crosses cabling on Drury Line and runs 100 m adjacent to cabling along Harwich Road. Observation points 'WB-RR10' and 'WB-J5' further discuss White Drain.

27. WB-Q7

Water body 'WB-Q7' was identified as Mosey Drain and is located to the north of Fargo Road, between Horton Line and Cundle Line. The natural corridor measured 10 m and the vegetation was composed of predominantly grass species. The channel width was 1 m, with a bank height of 1 m, and a high water mark of 2 m. Bank vegetation consisted of a mixture of tree species, grass, and herbaceous plants. Substrates within the channel included clay, silt, and sand. Woody debris provided instream habitat and cover. Mosey Drain was classified as an intermittent stream as standing water was present on October 6th, 2010. Furthermore deer tracks were present around this site.

At this location the water body Mosey Drain falls within 75 m of proposed access road and 60 m of proposed cabling for turbine P045.

28. WB-R7

Water body 'WB-R7' was identified as Lucas Drain and is located to the north of Communication Road. On October 6th, 2010 there was a slow flow to the northwest which had a water temperature of 14°C; therefore th is watercourse was identified as an intermittent stream. The natural corridor measured 10 m and was composed of grass species. The channel width ranged from 0.5 to 2.5 m and had a high water mark of 2 m. The bank height was 3 m with a high density of grass, herbaceous plants and tree species. Instream habitat and cover was provided through pools, riffles, backwater, undercut banks, and aquatic vegetation.

At observation 'WB-R7' Lucas Drain crosses the access road and cabling for proposed turbine P120 and P042.

29. WB-S2

Water body 'WB-S2' was identified as Pilotte Drain and was observed along the railway tracks adjacent to Knights Line. The natural corridor width was 2.5 m, channel width was 2 m, and the high water mark was at 1 m. Vegetation with the corridor and along the banks was dominated by grass species. This drain was classified as an intermittent stream as the channel was bare with patches of grass and was dry when observed on September 13th, 2010.

Pilotte Drain is a water body observed at 'WB-S2' and is located within the Project area as it runs adjacent (10 m) to the cabling that runs along the railway.

30. WB-T7

Water body 'WB-T7' was identified as Cyrus Huffman Drain and was observed to the north of Burk Line and the west of Harwich Road. The natural corridor measured 8m and the vegetation was made up of predominantly grass species. The channel width was 1m, with a high water mark of 1.5 m. Grass and herbaceous plant species composed the vegetation along the banks. Substrates within the channel included clay, sand, and silt. The channel was dry when viewed on October 6th, 2010 and was therefore classified as an intermittent stream.

Cyrus Huffman Drain is a water body located within the Project area and was observed at 'WB-T7'. It crosses the access road and cabling for proposed turbine P033. This drain is also 62 m from proposed turbine P033.

31. WB-Y7

Observation point 'WB-Y7' taken just south of the 401 and west of Harwich Road. White Drain was located at the observation point. This watercourse was classified as an intermittent stream at 'WB-Y7' as water was observed to be standing with a temperature of 10°C when observed on October 21st, 2010. The n atural corridor measured 12 m and the vegetation included shrubs, grass, and herbaceous plants. The channel width was 1.5 m, with a bank height of 2.5 m, and a high water mark of 2 m. Vegetation along the banks was provided through herbaceous plants and grass species. Substrates along this stretch consisted of clay, sand, silt, and muck. Pools, backwater, undercut banks, and woody debris provided instream cover.

White Drain at observation point 'WB-Y7' crosses the cabling and access road to proposed turbine P032.

32. WB-RR09

Water body 'WB-RR9' was identified as Tedford Drain and was observed where it crosses under the railway corridor northeast of Harwich Road. The natural corridor measured 10 m wide and consisted of grasses, and a mixture of tree and shrub species. The channel was 1m in width and had a high water mark of 2 m, with bank vegetation comprised of grass and herbaceous plant species. The channel was dry and bare when observed on October 27th, 2010 and was therefore classified as an intermittent stream

Tedford drain is a water body that was observed at 'WB-RR09' and is located within the Project area as it crosses the proposed cabling that runs along the railway.

33. WB-RR10

Water body 'WB-RR10' was identified as White Drain and was observed where it crosses under the railway corridor northeast of Harwich Road. The natural corridor measured 12 m wide and consisted of grasses, and a mixture of tree and shrub species. The channel was 1 m in width and had a high water mark of 1.5 m, with bank vegetation

comprised of grass and herbaceous plant species. Standing water was found within the channel at the culvert and was dry in other locations when observed on October 27th, 2010; therefore this watercourse was identified as an intermittent stream.

White Drain was observed at 'WB-RR10' and is a water body located within the Project area as it crosses the proposed cabling that runs along the railway. Southeast of the observation point, White Drain also comes within 97 m of the cabling that runs parallel to Harwich Road.

34. WB-RR11

Water body 'WB-RR11' was identified as Morrison Drain and was observed where it crosses under the railway corridor. Water was flowing with a water temperature of10°C on October 27th, 2010; therefore classifying this water body as an intermittent stream. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this portion measured 25 m in width and consisted of grass species, herbaceous plants (goldenrod), and a mixture of tree species that provided 50% (good) shade over the channel. The channel ranged in widths from 0.5 - 4 m and had a high water mark of 3 m. The 5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, cobble, backwater, and woody debris. Substrates within the channel at this section was 0.68m with depths ranging from 1 to 5 cm. Cyprinids were observed within the channel along with raccoon tracks.

Morrison Drain was observed at 'WB-RR11' and is a water body located within the Project area as it crosses the proposed cabling that runs along the railway.

35. WB-RR12

Water body 'WB-RR12' was identified as Proctor Drain and was observed where it crosses under the railway corridor between Huffman Road and Communication Road. The natural corridor measured 10 m wide and consisted of grasses, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 1 m in width and had a high water mark of 0.5 m, with bank vegetation comprised of grass, shrub and

herbaceous plant species. The channel was dry with some vegetation growing within the bed when observed on October 27th, 2010; therefore this watercourse was classified as an intermittent stream.

Proctor Drain was observed at 'WB-RR12' and is a water body located within the Project area. At this location it crosses the proposed cabling that runs along the railway. Northwest of the observation point, Proctor Drain comes within 82 m of the access road to proposed turbine P040. The drain also comes within 90 m of this turbine.

36. WB-RR13

Water body 'WB-RR13' was identified as Spisani Drain and was observed where it crosses under the railway corridor between Huffman Road and Communication Road. Water temperature for Spisani Drain was 9°C on October 28th, 2010. Land use surrounding this drain was being used primarily for agricultural and residential purposes. The natural corridor of this portion measured 18m in width and consisted of grass species, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 50% (good) shade over the channel. The channel ranged in widths from 0.5 - 4 m and had a high water mark of 2 m. The 3 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, shrubs, and grass species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, cobble, backwater, and woody debris. Substrates within the channel consisted of clay, silt, sand, cobble, muck, and detritus. The wetted width of the channel at this section was 1.92 m with depths ranging from 3 to 11 cm. The channel had a slow northerly flow and was therefore classified as a permanent stream.

Spisani Drain was observed at 'WB-RR13' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway at the observation point.

37. WB-RR14

Water body 'WB-RR14' was identified as Lucas Drain and was observed where it crosses under the railway corridor between Drury Line and Cundle Line. Lucas Drain was classified as a permanent stream through this section as it had a northerly flow with

a water temperature of 9°C on October 28th, 2010. Land use surrounding this drain was being used primarily for agricultural and residential purposes. The natural corridor of this portion measured 25 m in width and consisted of grass species, herbaceous plants (goldenrod), and a mixture of tree species that provided 40% (poor) shade over the channel. The channel ranged in widths from 0.5 - 1 m and had a high water mark of 2m. The 4 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, cobble, backwater, and woody debris. Substrates within the channel consisted of clay, silt, sand, gravel, cobble, muck, and detritus. The wetted width of the channel at this section was 0.86 m with depths ranging from 2 to 6 cm.

Lucas Drain was observed at 'WB-RR14' and is a water body located within the Project area and crosses the proposed cabling that runs along the railway.

38. WB-RR15

Water body 'WB-RR15' was identified as Conrail Drain and was observed where it crosses under the railway corridor between Drury Line and Cundle Line. The natural corridor measured 15 m wide and consisted of grasses and herbaceous plants (goldenrod). The channel was 1 m in width and had a high water mark of 2 m, with bank vegetation comprised of grass and herbaceous plant species. The channel had standing turbid water with cattails growing within the channel bed when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Conrail Drain is a water body located within the Project area and was observed at 'WB-RR15'. At this point, Conrail Drain it crosses the proposed cabling that runs along the railway.

39. WB-RR16

Water body 'WB-RR16' was identified as Locke Drain and was observed where it crosses under the railway corridor between Fargo Road and Lagoon Road. The natural corridor measured 15 m wide and consisted of grasses, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 0.5 m in width and had a high water mark of 1m, with bank vegetation comprised of grass and herbaceous plant species.

The channel was dry and was overgrown with grass species when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Locke Drain is a water body located within the Project location and was observed at 'WB-RR16'. It crosses the proposed cabling that runs along the railway.

40. WB-RR17

Water body 'WB-RR17' was identified as Locke Drain and was observed where it crosses the railway corridor between Fargo Road and Lagoon Road. The natural corridor measured 12 m wide and consisted of grasses, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 1.5 m in width and had a high water mark of 3 m, with bank vegetation comprised of grass and herbaceous plant species. The channel was dry and was overgrown with vegetation when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Locke Drain was observed at 'WB-RR17' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway.

41. WB-RR18

Water body 'WB-RR18' was identified as Locke Drain and was observed where Unnamed Drain G branches off, between Fargo Road and Lagoon Road. The observation point was located along the railway corridor. The natural corridor measured 5m wide and consisted of grass species. The channel was 0.5 m in width and had a high water mark of 0.5 m, with bank vegetation comprised of grass species. The channel was dry and was overgrown with grass when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Locke Drain was observed at 'WB-RR18' to be a water body located within the Project area and as it crosses the proposed cabling that runs along the railway.

42. WB-RR19

Water body 'WB-RR19' was identified as Drewery Branch Drain where it crosses under the railway corridor, south of Lagoon Road. The natural corridor measured 6m wide and consisted of grass and a mixture of tree species. The channel was 1 m in width and had a high water mark of 1 m, with bank vegetation comprised of grass and herbaceous plant species. The channel had standing water at the culvert, under the railway corridor, with cattails growing within the channel bed when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Drewery Branch Drain was observed at 'WB-RR19' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway.

43. WB-RR20

Water body 'WB-RR20' was identified as Barfoot Drain and was observed where it crosses under the railway corridor, south of Lagoon Road. The natural corridor measured 6 m wide and consisted of grass species. The channel was 0.5 m in width and had a high water mark of 0.5m, with bank vegetation comprised of grass and herbaceous plant species, including goldenrod. The channel had standing water at the culvert, under the railway corridor, and was overgrown with grass and herbaceous plants when observed on October 28th, 2010; therefore classified as an intermittent stream.

Barefoot Drain was observed at 'WB-RR20' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway.

44. WB-RR21

Water body 'WB-RR21' was identified as Laurie Drain and was observed where it crosses under the railway corridor, south of Lagoon Road. The natural corridor measured 18 m wide and consisted of grasses, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 1.5 m in width and had a high water mark of 2.5 m, with bank vegetation comprised of grass and herbaceous plant species. The channel was dry and was overgrown with vegetation when observed on October 28th, 2010 and was therefore classified as an intermittent stream.

Laurie Drain was observed at 'WB-RR21' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway.

45. WB-RR22

Water body 'WB-RR22' was identified as Gales Drain and was observed where it crosses under the railway corridor, south of Lagoon Road. The natural corridor measured 20 m wide and consisted of grasses, herbaceous plants (goldenrod), and a mixture of tree species. The channel was 2 m in width and had a high water mark of 3.5 m, with bank vegetation comprised of grass and herbaceous plant species. The channel had standing water present and was overgrown with vegetation, including Phragmites, when observed on October 28th, 2010. This watercourse was classified as an intermittent stream.

Gales Drain was observed at 'WB-RR22' and is a water body located within the Project area. It crosses the proposed cabling that runs along the railway.

46. WB-RR23

Water body 'WB-RR23' was identified as Knott Creek Drain and was observed where it crosses under the railway corridor, south of Lagoon Road. Knott Creek Drain was classified as a permanent stream through this section as it had a slow northerly flow with a water temperature of 9°C on October 28th, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 20 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree species that provided 75% (excellent) shade over the channel. The channel ranged in widths from 0.5 - 2 m and had a high water mark of 4 m. The 5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and grass species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, cobble, backwater, and woody debris. Substrates within the channel consisted of clay, silt, sand, gravel, cobble, muck, and detritus. The wetted width of the channel at this section was 2.19 m with depths ranging from 3 to 10 cm.

Knott Creek Drain was observed at 'WB-RR23' and is a water body located within the Project area as it crosses the proposed cabling that runs along the railway.

47-48. CAB031A/B

Water body 'CAB031A' was identified as Charing Cross Drain and was observed parallel to, and southwest of Charing Cross Road. The natural corridor of Charing Cross Drain at this point measured approximately 8 m in width and consisted of predominantly grass species. The channel measured 2 m in width and contained Phragmites. Bank vegetation was comprised of trees and shrubs. Considerable bank erosion was observed as well as turbid water flowing on April 27th, 2011 therefore classifying this as a permanent stream.

Water body 'CAB031B' was identified as an unnamed roadside ditch and was observed parallel to, and on the northeast side of, Charing Cross Road. The natural corridor of Charing Cross Drain at this point measured approximately 4 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and contained grass. Bank vegetation was comprised of grass species. Turbid, flowing water was observed on April 27th, 2011 therefore classifying this as a permanent stream.

Charing Crossing Drain was observed at 'CAB031A' and is a water body located within the Project area adjacent to (8 m) to the proposed cabling running parallel to Charing Cross Road. CAB031B is an unnamed water body and is located within the Project area adjacent to (10 m) the proposed cabling that runs parallel to Charing Cross Road. Northwest of the observation point, Charing Crossing Drain crosses cabling at the junction of Charing Crossing Road and 10th Line.

49-50. CAB059A/B

Water body 'CAB059A' was identified as unnamed drain and was observed along the southeast side of Boundary Line, perpendicular to the road. The natural corridor of unnamed drain at this point measured approximately 4 m in width and consisted of grass and shrub species, as well as cedar. The channel measured 1 m in width and contained grass, herbaceous plants and Cattail within the channel. Bank vegetation was comprised of grass, herbaceous plant and shrub species. Standing water was observed within the channel on April 28th, 2011 therefore classifying this as an intermittent stream.

Water body 'CAB059B' was identified as an unnamed drain and was observed parallel to the southwest side of a secondary road, south of Boundary Line, east of Communication

Road. The natural corridor of unnamed drain at this point measured 3 m in width and consisted of grass species. The channel measured 1m in width and contained grass species within the channel. Bank vegetation was comprised of grass species and Queen Anne's lace. Standing water was observed within the channel on April 28th, 2011 classifying this as an intermittent stream.

Unnamed drains CAB059A and CAB059B are water bodies located within the Project area and crossing proposed cabling.

51. CAB073A

Waterbody 'CAB073A' is an unnamed drain following the northwest side of Horton Road, east of Charing Crossing Road. The natural corridor and channel were 3 m and 0.5 m wide respectively and vegetated only with grass (including the banks). The channel itself had evidence of cattails. Standing water was observed on April 28th 2011 therefore this watercourse was classified as an intermittent stream.

This unnamed drain was observed at 'CAB073A' and is a water body located within the Project area adjacent (20 m) to the proposed cabling running parallel to the northwest side of Horton Road.

52. CAB073B

Waterbody 'CAB073B' is an unnamed drain on the southeast side of Horton Road E of Charing CX Road. Similar to CAB073A this drain also has a natural corridor of 3 m and a channel of 0.5 m. Grass is the predominant vegetation covering the natural corridor, banks and channel. On April 28th 2011 standing water was observed at this location therefore classifying this as an intermittent stream.

This unnamed drain was observed at 'CAB073B' and is a water body located within the Project area adjacent (10 m) to the proposed cabling along Horton Road.

53. CAB074

Waterbody 'CAB074' is an unnamed drain on the southwest side of Charing Cross road north of Horton Line. The natural corridor is 6m wide and is vegetated with grass. The channel is 1.5 m wide with grassy banks and Typha sp. growing within the channel itself. Standing water was observed in the channel on April 28th 2011, classifying this as an intermittent stream.

This unnamed drain was observed at 'CAB074' and is a water body located within the Project area adjacent (10 m) to the proposed cabling.

54. CAB086

Water body 'CAB086' was identified as McGregor Creek and is located southwest of Communication Road north of Hwy 401 and south of Boundary Line. The natural corridor is approximately 30 m wide and composed of small groupings of deciduous trees, a few shrubs, a lot of grass and some herbs. This natural creek was flowing and is approximately 15 m wide with banks of predominantly grasses and herbs including some vines such as the Dog Strangling Vine. Within the channel small clumps of grass and algae are present. All observations for this permanent stream were made on June 15th, 2011.

McGregor Creek was observed at 'CAB086' and is located within the Project area as it crosses the cabling near the substation.

55. P031A

Water body 'P031A' was identified as unnamed drain and was observed midfield approximately 750 m northwest of Knight's Line. Unnamed drain begins in the middle of the field and extends approximately 500 m southwest to join with Tedford Drain. Water temperature for unnamed drain was 5°C on April 21st, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of unnamed drain measured 7 m in width and consisted of grass, shrub and herbaceous plant species, including wild strawberry, dandelion, rose and wild carrot. Grass and herbaceous plant species provided 10% shade to the channel, however during full growth in summer 50% shade is expected. The channel ranged in width from 0.25 – 0.75 m and contained abundant dead grass. The wetted width of the channel at this section was 0.5 m with depths ranging from 5 – 7 cm. Instream habitat and cover found within the channel was provided by pools and vegetation. Substrates within the channel consisted of clay, detritus, silt and muck. Bank height was recorded to be 0.1 m with top of bank at 1.5 m. Bank stability was noted to be good with dense grass and herbaceous species, including wild carrot and wild strawberry. Clear standing water was noted within the channel on April 21st, 2011 classifying this watercourse as an intermittent stream.

This unnamed drain was observed at 'P031A' and is a water body located within the Project area 11 m to proposed turbine P031 and 60 m from its associated access road and crosses the proposed cabling.

56. P031B

Water body 'P031B' was identified as unnamed drain and was observed along Knight's Line. The natural corridor of unnamed drain at this point measured approximately 4 m in width and consisted of grass and shrub species. The channel measured 0.5 m and contained grass species. Bank vegetation was comprised of grass species. Clear standing water was reported within the channel on April 21st, 2011 therefore classifying this water body as an intermittent stream.

This unnamed drain was observed at 'P031B' and is a water body located within the Project area. It runs 100 m adjacent to cabling that runs parallel to Knight's Line. At the observation point, this drain also crosses the access road and cabling for proposed turbine P031.

57. P035

Waterbody 'P035' has been identified as Watts Drain and runs parallel to Communication Road approximately half way between Communication Road and Harwich Road. Surrounding land use includes a woodlot to the south and an agricultural field to the north. Natural vegetation consists of grass, raspberry, herbs extending 2 m to the N and woodlot extending more than 30 m to the southwest. Canopy is deciduous trees and the cover is approximately 30%. The channel is 0.4m wide with banks of grass, herbs and shrubs and channel vegetation of flooded grass. Channel substrate is clay, Silt and detritus. The water was brown, 10°C with a wetted width of 0.4 m and depths of 0.1, 0.2, 0.3, 0.3 and 0.1 m in cross section. Water was not flowing when observed and is therefore classified as an intermittent stream. All observations and measurements for this site were made on April 28th 2011. It should be noted that historically 'P035' and 'P108A' should be linked together as they are both part of Watt Drain.

Watt Drain is a water body observed at 'P035' and crosses the access road and cabling for proposed turbine P035, and follows 15 m adjacent to proposed cabling running parallel to the road. It also comes within 87 m of the turbine itself. Please see observation 'P108A' for further details on the current status of Watts Drain.

58. P036A

Water body 'P036A' has been identified as Grist Drain and runs parallel with Communication Road, southwest of Harwich Road. Surrounding land use includes a woodlot to the south and an agricultural field to the north. Natural vegetation consists of grass, raspberry, herbs extending 2 m to the north and woodlot extending more than 30 m to the southwest. Canopy is deciduous trees and the cover is approximately 30%. The channel is 1.5 m wide with banks of grass, herbs and shrubs and channel vegetation of flooded grass. Channel substrate is clay, Silt and detritus. The water was brown, 10°C with a wetted width of 1 m and depths of 14, 20, 21, 20 and 17 cm in cross section. There is no flow but the water is expected to drain northwest into Proctor Drain due to visual observations made at water body 'P120'. This drain is classified as an intermittent stream and all observations and measurements for this site were made on April 28th 2011.

Grist Drain was observed at 'P036A' and is a water body located within the Project area. It crosses the proposed access road and cabling to turbine P036.

59. P036B

Water body 'P036B' has been identified as Morrison Drain flowing west. The natural corridor is 6 m wide consisting of primarily grass and with some dogwood and Queen Anne's Lace. The channel is 2 m wide with similar vegetation to the corridor and the channel, with some flooded grass. It should be noted an additional observation was made directly to the south where an historical drain may have been located but shows no sign of a formed channel. All observations and measurements for this site were made on April 28th, 2011.

Morrison Drain was observed at 'P036B' and is considered to be a permanent stream located within 78 m of proposed turbine P035. Southeast of the observation point, Morrison Drain crosses proposed cabling.

60. P037

Water body 'P037' was identified as RL Smyth Drain and was observed northeast of Communication Road. This was a historical drain but was observed to show no features of a drain on June 29th, 2011 and is therefore not considered to be a water body.

61. P046B

Water body 'P046B' was not historically present but now runs northeast and appears to empty into Lucas Drain. The natural corridor is approximately 10 m in width consisting of shrubs trees and grass, while the channel is approximately 1m and completely overgrown with grass. No water was observed in the channel although evidence of water draining into Lucas drain can be seen in the photographs suggesting this is an intermittent stream. Observations and measurements for the site were made on April 29th 2011 and this water body is considered to be an intermittent stream.

This water body was observed at 'P046B' within the Project area and comes within 12 m of proposed turbine P046.

62. P057

Water body 'P057' is an unnamed drain that empties into Laurie drain southeast of Horton Line and east of Charing Crossing Roads. Land use surrounding this drain is entirely agricultural. The natural corridor and riparian zone is approximately 4 m wide and is composed of a high density of grass and Queen Anne's Lace while the fairly stable banks are predominately grassy. Bank heights of less than 0.7 m and lack of tall vegetation renders the amount of in stream shade as 0%. The channel of this straight drain is approximately 1 m wide, is composed of clay, detritus and silt and is vegetated with some flooded grass. The wetted width was 0.5 m with a depth cross section of 7, 7, 9, 8 and 7 cm. This drain was classified as an intermittent stream as water in the channel was observed to be standing, somewhat cloudy with a temperature of 14°C. Although water was standing, water is expected to flow southwest into Laurie Drain during high water. All observations and measurements for this site were made on April 28th, 2011.

This unnamed drain was observed at 'P057' and is a water body located within the Project area. It comes within 27 m of proposed turbine P057, and crosses the associated access road and cabling.

63. P058

Historically 'P058' was located approximately 1 km south of Horton Line draining southwest into Laurie Drain however field observations indicate there is no longer an established channel to the northeast of Laurie Drain. Remnants of a previous channel include a small grassy ditch and a small puddle of water. Please note a drain still exists to the southwest of Laurie Drain. As of April 28th 2011 there is no established watercourse at this location and it is not considered to be a water body.

64. P108A

Water body 'P108A' should be named as Watt Drain and be located along the north edge of the woodlot; however upon making field observations there appears to be no establish channel where there once was.

Watt Drain was a historical drain but is no longer considered a water body at location 'P108A' when observed on April 28th, 2011 near the proposed access road leading to turbine P108.

65. P108B

Water body '108B' was identified as Morrison Drain and flows northwest between Harwich Road and Chatham Street. Surrounding land use includes agriculture on both sides while the natural corridor and riparian zone is approximately 5m wide and was composed entirely of grass and a bit of Queen Anne's Lace. The channel width and grassy bank height are both 2 m with a straight morphology and fairly stable banks. Channel substrates are composed mostly of clay with some silt and detritus. Cattails were also present in 40% of the channel and appeared to have been cut the previous summer. The 2 m wetted width had water depths of 14, 19, 24, 20 and 16 cm in cross section. The water was brown, cloudy, 10° and with a steady flow classifying it as a permanent stream.

Morrison Drain was observed at 'P108B' and is a water body located within the Project area as a drain scheduled to be crossed by an access road and cabling.

66. P109A

Water body 'P109A' was identified as the junction of Lucas and Sample Drain, around 600 m northeast of Communication Road. Surrounding land use was identified as agriculture including some corn. The extent of natural vegetation was approximately 13 m and was composed of grass, herbs, shrubs and deciduous trees similar to the riparian vegetation which also included some Queen Anne's Lace. Canopy cover was noted as poor or 20% cover however this number is expected to increase somewhat with summer leaf growth. Instream habitat and cover was limited to a few flooded herbs along the edge. Channel morphology was straight and included a channel width of 1.5 m, low gradient with fairly stable banks of 2.5 m height. Although banks were somewhat vegetated with trees, shrubs, grass and herbs there were some bare soil visible. Channel substrates in order of decreasing abundance were: clay, silt, pebble, gravel and detritus. The wetted width of Lucas Drain is 1.5 m had a depth cross section of 9, 15, 20, 25 and 30 cm. Water was 10°C, brown and with a uniform flow northwest. Sample Drain is of similar status and drains southwest into Lucas Drain. Please see water body 'P109B' for details of Sample drain approximately 350m northeast of 'P109A'. All observations and measurements taken for this site were made on April 28th, 2011.

The junction of Lucas and Sample Drain was observed at 'P109A' and are permanent streams located within the Project area. They cross the access road and cabling leading to proposed turbine P109.

67. P109B

Water body 'P109B' was identified as Sample Drain and is a tributary to Lucas Drain. Observation P109B is located approximately 350 m north of observation P109A. Similar to 'P109A' surrounding land use is agriculture including corn. Natural vegetation corridor is less than 10 m wide and is composed of deciduous trees, dense shrubs including dogwood and rose as well as grass, Queen Anne's Lace and a few herbs. The riparian zone is approximately 6 m wide and vegetated similarly to the corridor. Bank vegetation is mostly grass with some shrubs and the canopy of trees provides around 20% shade which is estimated to somewhat increase during summer. Channel width measures 2.6 m with fairly stable banks 2 m high although isolated pockets of erosion were observed. The channel is straight and naturalizing and instream habitat cover includes Typha sp. covering approximately 50% of the stream bed. Channel substrate in order of most to lease abundance includes: clay, silt, detritus, muck and sand in order of decreasing abundance. The 2.6 m wetted width had depths of 28, 28, 37, 24 and 27 in cross section. The water was light brown, 10°C and has a uniform flow to the south. All observations and measurements for this site were made on April 28th, 2011.

Sample Drain was observed at 'P109B' and is a permanent stream located within the Project area. It crosses the access road and cabling leading to proposed turbine P109. It also comes within 24 m of this turbine.

68. P109C

Water body '109C' has been identified as Nichol Drain flowing west into Sample Drain. The natural features of this drain are similar to that of observation P109C: the natural corridor is approximately 6m wide with grass, shrubs and dogwood. The banks are also vegetated by grass shrubs and dogwood and the channel is 2 m wide and contains some flooded grass.

Nichol Drain was classified as a permanent stream and was observed at 'P109C' and is located within the Project area. Nichol Drain comes within 79 m from proposed turbine P109.

69. P120

Water body 'P120' occurs at the junction of Proctor and Grist Drain. Grist Drain flows southwest into Proctor Drain which then flows northwest. This junction occurs on the periphery of 2 deciduous woodlots with a natural corridor of over 30 m on the woodlot side of the drains and 2 m on the agricultural side of the drains. Banks adjacent to the agricultural field are predominantly covered by grass and some herbs with a few bare locations. The headwaters of Proctor Drain (Intermittent stream), however, originates from within a woodlot and is therefore surrounded on both sides by deciduous forest.

The junction of Proctor and Grist Drain was observed at 'P120' and is a water body located within the Project area 130 m from turbine P120.

70. AHY039A/B

Water body 'AHY039A' and 'B' was identified as Gregory Drain and was viewed at two locations, where it crosses under 9th Line and where it crosses under Charing Crossing Road. The surrounding land use within this area is primarily agricultural. The natural corridor at these two locations was found to be 12-14 m in width and consisted of a variety of shrubs and grass species. The channel measured 1-2.5 m in width, had an average depth of 0.4 m, and had no aquatic vegetation present. Instream habitat was provided through pools, riffles, and the culverts. The banks were heavily vegetated with shrub, grass, and herbaceous plant species when observed on October 5, 2011.

Gregory Drain at observation point 'AHY039A' is located within the Project area and crosses the cabling that runs along 9th Line. At 'AHY039B' Gregory Drain comes within 20 m to the cabling along Charing Crossing Road. It also comes within 20 m of the cabling and access road of proposed turbine P054.

71. AHY042

Water body 'AHY042' was identified as a channelized road side drain running parallel to Gagner Line, where it intersects with Lagoon Road. This road side drain was found to have no defined channel and no water on the west side of Lagoon Road. On the east side the natural corridor measured 7 m in width and was made up of grass and herbaceous plant species. The channel was undefined and completely lined with grass species when observed on October 5th, 2011.

This unnamed water body is located 10 m adjacent to the cabling along Gagner Line.

72. AHY043

Water body 'AHY043' was identified as Vanraay Drain and was observed perpendicular to Lagoon Road, between Gagner Line and Horton Line. This drain is located in an agricultural field and had tile drains present along the banks. The natural corridor measured approximately 10 m in width and consisted of grass species, herbaceous plants, and Phragmites. The channel was undefined and completely lined with cattails and Phragmites. When observed on October 5th, 2011 pockets of water were noticed but there was no flow.

Vanraay Drain at 'AHY043' is located within the Project area and comes within 10 m of the cabling that runs along Lagoon Road.

73. AHY045

Water body 'AHY045' was identified as Lucas Drain and was observed where it crosses under Cundle Line through a box culvert. The natural corridor was observed to extend 10 m wide downstream of Cundle Line and 20 m wide upstream of Cundle Line, being made up primarily of poplar, elm, cedar, goldenrod, dogwood, and a variety of grasses. Bank vegetation was observed to provide shade for 60% of the main channel. The adjacent land was primarily agricultural. The channel at this observation point measures 4-2 m in width with a wetted width of 2 m, and an average depth 0.5 m. Instream habitat was provided by riffles, pools, woody debris, vegetation, boulder, and undercut banks. Instream vegetation was observed to be terrestrial vegetation grasses and was located mainly around the edges. Channel substrates were made up primarily of sand, muck, gravel, and pebble, with deposits of silt, boulder, and detritus. The 1-3 m bank was observed to have moderate bank stability, with bank vegetation being made up of grass species. On October 5th, 2011 Lucas Drain was observed to be flowing with a high rate of flow, high turbidity, and a water temperature of 13°C.

An unnamed drain was also present, running parallel to the north side of Cundle Line, at the confluence with Lucas Drain. This drain had a 10 m wide natural corridor with a few deciduous trees, cattails, Phragmites, goldenrod, and a variety of grass species. The channel was 1 m or less in width and there was grass located within the channel.

At observation point 'AHY-045' Lucas Drain was observed to cross the proposed cabling running parallel Cundle Line. The unnamed drain at this location is also within 10 m of the same cabling.

74. AHY046

Water body 'AHY047' was identified as Morrison Drain and was observed where it crosses under Burk Line through a 3 m round culvert. The natural corridor was

observed to measure approximately 10-12 m on the upstream side and 7-9 m in width on the downstream side and was made up of cattails, goldenrod, aster sp., and different grasses. Morrison Drain was observed to be channelized ditch draining adjacent agricultural fields. The channel at the observation point was found to be lined with cattails and had unconnected pools with no overall flow. Substrates within the channel were observed to be muck, sand, and silt. When observed on October 5th, 2011 the water temperature of the pools was 15°C.

At observation point 'AHY046' Morrison Drain was observed to cross the proposed cabling running parallel to Burk Line.

75. AHY047

Water body 'AHY047' was identified Kneeborne Drain and was observed where it crosses under Burk Line through a 1 m round culvert. The natural corridor was observed to measure 10 m in width being made up of willow sp., goldenrod, aster sp., cattail, shrubs, and a variety of grass species, which provided shade for 60% of the channel. The channel was observed to be 0.75-0.25 m in width with substrates consisting of muck, silt, sand, and detritus. Instream habitat was provided through terrestrial grasses. The bank appeared to have a moderate stability with bank vegetation made up of a variety of grass species. On October 5th, 2011 Kneeborne Drain was found to have turbid unconnected pools (no flow) with a water temperature of 15℃.

Kneeborne Drain was observed to intersect the proposed cabling running parallel to Burk Line at observation point 'AHY047'.

76. AHY048

Water body 'AHY048' was identified as Cyrus Huffman Drain and was observed where it crosses under Burk Line through a culvert. This drain is a straight channelized drainage ditch which is lined with cattails and drains the adjacent agricultural fields. The natural corridor was observed to measure approximately 10 m in width being made up of grasses, goldenrod, and aster sp. The channel was found to be 0.75 m in width with substrates made up of muck, detritus, sand, and silt. The bank was found to have high

stability with bank vegetation made up of herbaceous plants and grass species. On October 5th, 2011 Cyrus Huffman Drain was found to have pockets of turbid water, with no flow.

At observation point 'AHY048' Cyrus Huffman Drain is located within the Project area and intersects the cabling that run alongside Burk Line.

77. AHY049

Water body 'AHY049' was identified as Tedford Drain and was observed where it crosses under Burk Line through a 5 m wide box culvert. The natural corridor extends 10 m in width being made up of goldenrod, oak sp., red osier dogwood, and aster sp., The bank had a moderate stability, with a high density of vegetation, which was comprised of primarily grass species. The adjacent land use is primarily agricultural. The channel was observed to be 1.5 m in width with channel substrate being comprised primarily of muck and sand, with deposits of silt, gravel, pebble, and boulder. In channel habitat was provided by pools, riffles, vegetation, and the box culvert. Instream vegetation was comprised of cattail, and bullrush sp. On October 5th, 2011 Tedford Drain was observed to be flowing with high turbidity and had a water temperature of 13℃. Tile drains from the adjacent fields were fl owing also at this time.

An unnamed drain was found also at this observation point. It had been recently dug and ran parallel to Burk Line, out letting into Tedford Drain. The banks were comprised of grass and herbaceous plants and the channel had limited vegetation. This drain was very turbid and was flowing when observed on October 5th, 2011.

Tedford Drain at this observation is within the Project area and crosses the cabling that runs along Burk Line. The unnamed drain at this location also comes within 10 m adjacent to the cabling.

78. AHY050

Water body 'AHY050' was identified as Centre Line Drain and was observed parallel to Harwich Road, north of Welch Line. The natural corridor measures approximately 5 m in width and was made up of goldenrod, grasses, and asters. The primary land use for the surround area was agricultural. The channel ranged from 0.5-0.75 m in width and was lined with cattails and Phragmites. When observed on October 5th, 2011 Centre Line Drain had pockets of unconnected water.

Centre Line Drain at observation point 'AHY050' is located within the Project area and comes within 20 m of the cabling which runs along Harwich Road.

78. AHY051

Water body 'AHY051' was identified as White Drain and was observed southeast of the Harwich Road and Welch Line junction. This drain is located within an agricultural area and was completely lined with grass and herbaceous plant species. No defined channel was observed within this drain at observation point 'AHY051'. No water or signs of water were observed on October 5th, 2012.

Southeast of the observation point 'AHY051' is located within the Project area and crosses the proposed cabling for proposed turbine P036.

80. AHY052

Water body 'AHY052' was identified as Tedford Drain and was observed where it crosses under Welch Line through a 5 m wide box culvert. The natural corridor measures approximately 10 m in width as was made up of red osier dogwood, goldenrod, cattail, sumac sp., aster sp., and a variety of grasses. The adjacent land use within the area is primarily agricultural. The bank had a moderate stability and was densely vegetated with grass species and herbaceous plants. The channel was defined and was 1-3 m in width with bank vegetation providing shade to 60% of the main channel. Channel substrates were comprised primarily of muck, with deposits of detritus, sand, and silt. Instream habitat was provided by pools and vegetation. The instream vegetation was made up of cattail, and bullrush species. On October 5th, 2011 Tedford Drain was observed to be flowing, had a high turbidity, and a water temperature 12℃.

Tedford Drain at 'AHY052' is within the Project area and intersects the proposed cabling that runs parallel to Welch Line.

81. AHY058

Water body 'AHY058' was identified as a branch of White Drain and was observed where it crosses under Harwich Road through a small round culvert and also where it runs parallel to Harwich Road. Adjacent land use for the area is primarily agricultural. The natural corridor measures approximately 10 m in width and was made up primarily of goldenrod, red osier dogwood, cattail, Phragmites, and aster sp. The bank showed moderate stability and had a high density of grass species, which provided shade to 65% of the main channel. The channel was found to be 1.25 m in width, with an average depth of 0.1 m, and with substrate composition consisting primarily of muck, with deposits of clay, sand, and detritus. Instream habitat was provided was provided by pools, and vegetation. In channel vegetation was made up of cattails and Phragmites. On October 6th, 2011 White Drain was observed to have unconnected pools showing high turbidity and a water temperature of 12°C.

At observation point 'AHY058' White drain is located within the Project area. At this location it crosses the proposed cabling and is also 18 m adjacent to the cabling along Harwich Road.

Water Body Observations Found on Figure 2-8 59 observations (30 from 2010, 29 from 2011)

1. WB-AR37A

Water body 'WB-AR37A' was identified as Ingram Drain where it flows parallel to Kent Bridge Road. On the opposite side of the road Mervin drain runs parallel as well. The observation point was broken into two separate components to represent all the aquatic features at this location.

Ingram Drain, 'WB-AR37A', continues from east to west. The natural corridor measured 7 m wide and consisted of grasses, herbaceous plants, as well as a mixture of shrubs and trees. The channel was 0.75 m in width and had a high water mark of 1m, with bank vegetation of grass, herbaceous species, and mixed shrubs. This channel was classified as an intermittent stream as it was observed to be dry with overgrown grasses on November 18th, 2010.

North of the observation point Ingram Drain is located within the Project area and crosses the proposed cabling at Cofell Line. Mervin Drain also crosses the proposed cabling at the same location.

2. WB-AR38

Water body 'WB-AR38' was identified as Brown Drain and was observed where it crosses Kent Bridge Road. This drain runs east to west. The natural corridor of Brown Drain at this point measured 6 m in width and consisted of grasses and mixed trees. The channel measures 1 m in width and has a high water mark of 1.5 m as well, with bank vegetation consisting of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to have standing water with some Typha and Phragmites when it was observed on November 18th, 2010. Further west Brown Drain was observed by Terrestrial field staff, across the access road and cabling leading to proposed turbine P152 and P102. The channel was observed to contain cattails therefore this water body was classified as an intermittent stream.

The water body Brown Drain at 'WB-AR38' is a located within the Project area and crosses cabling running parallel to Huffman Road. Further west Brown Drain comes

within 18 m away from proposed turbine P152 and crosses its associated access road and cabling.

3. WB-AR39

Water body 'WB-AR39' was identified as Bisner Drain and was observed where it crosses Kent Bridge Road and intersects with the roadside Bernie Debrouwer Drain. This drain runs northeast to southwest and turns sharply to the southeast 525 m north of Kent Bridge Road. The natural corridor of Bisner Drain at this point measured 10 m in width and consisted of grasses and mixed trees. The channel measured 1.5 m in width and had a high water mark of 1 m as well, with bank vegetation consisting of mixed grasses and shrubs in addition to herbaceous plants (primarily goldenrod). The channel was found to be dry with some Phragmites present when it was observed on November 17th, 2010 and was therefore classified as intermittent.

Bisner Drain was observed at 'WB-AR39' and is a water body located within the Project area crossing proposed cabling along Huffman Road and also crossing the access road and cabling, and comes within 24 m from proposed turbine P093. South of the observation point, unnamed drain U crosses the cabling along Kent Bridge Road.

4. WB-AR49

Water body 'WB-AR49' was identified as Cooper Drain and was observed where it crosses Knights Drain. Land use surrounding this drain is agricultural and residential land. The natural corridor of this portion of Cooper Drain measured approximately 30m in width and consisted of herbaceous plants (goldenrod) and a mixture of shrubs and trees that provided 95% (excellent) shade over the channel. The channel ranged in widths from 0.5 - 4 m, and had a high water mark of 3 m. The wetted width of the channel at this section was 1.12 m with depths ranging from 4 - 15 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, and woody debris. Substrates within the channel consisted of clay, silt, sand, muck and detritus. The 5 m high bank was noted as having fairly good stability with vegetation comprised of herbaceous plants, grasses, as well as a mixture of shrubs and trees. Within the channel water was noted as turbid and flowing slowly west when it was viewed on November 18th, 2010 and was therefore classified as an intermittent stream.
At observation location 'WB-AR49' Cooper Drain is a water body located within the Project area and crosses proposed cabling along Knights Line.

5. WB-AR50

Water body 'AR50' was identified as McEachren Drain and was observed where it crosses Knights Line. The natural corridor of McEachren Drain at this point measured approximately 8 m in width and consisted of mixed shrubs, and grass species. The channel measures 1 m in width and had a high water mark of 1 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to be dry and grown in with cattails when it was observed on November 18th, 2010 and was therefore classified as an intermittent stream.

McEachren Drain was observed at 'WB-AR50' and is a water body located in the Project area. It crosses the cabling along Knights Line. This drain is further discussed in 'WB-G3'.

6. WB-AR60

Water body 'WB-AR60' was identified as Baird Drain and was observed where it crosses Mull Road, to the north of Holdaway Line. The natural corridor throughout this section measured approximately 6 m in width and consisted of mixed trees, grass and herbaceous plants. The channel measured 1 m in width and had a high water mark of 1 m. Bank vegetation consisted of mixed grasses and herbaceous plants (primarily goldenrod). The channel was found to be dry and overgrown with Phragmites when it was observed on November 18th, 2010 and was therefore classified as an intermittent stream.

Baird Drain was observed at 'WB-AR60' and is a water body located within the Project area as it crosses cabling along Mull Road. It also runs 20 m adjacent to the cabling along Mull Road.

7. WB-B3

Water body 'WB-B3' was identified as McEachren Drain and was observed where it crosses under Burk Line. The natural corridor measured 10m, channel width was 0.5 m, and the high water mark was at 1.5 m. Vegetation within the corridor and along the

banks included grass, shrub, and herbaceous plant species. The channel was classified as intermittent as it was bare with patches of grass and appeared dry when observed on September 14th, 2010.

McEachren Drain was observed at 'WB-B3' and is a water body located within the Project area. It runs 8 m directly alongside the access road and cabling which is 111 m to the proposed turbine P017. Please see observation point 'WB-X7' for details of this water body closer to the turbine.

8. WB-C3

Water body 'WB-C3' was identified as the upper part of Mull Branch Drain and was observed along Burk Line. The natural corridor measured 10 m, channel width was 1 m, and the high water mark was at 1 m. Vegetation within the corridor and along the banks consisted of trees and herbaceous plant species. The channel was classified as an intermittent stream as vegetation was composed of cattails and was dry when observed on September 14th, 2010.

Mull Branch Drain is a water body observed at 'WB-C3' and occurs within the Project area. It crosses the proposed cabling along Burk Line, comes within 22 m of the access road and 30 m of the cabling associated with proposed turbine P016, and also comes within 108 m of the access road and 115 m of the cabling associated with proposed turbine P173.

9. WB-D3

Water body 'WB-D3' was identified as a roadside ditch and was observed along Burk Line, to the southwest of Base Road. The natural corridor measured 6 m, channel width was 0.5 m, and the high water mark was at 1m. Vegetation was the same within the corridor and along the banks and included grass and herbaceous plant species. The channel classified as an intermittent stream as it was dry and bare when observed on September 14th, 2010.

Water body 'WB-D3' is located within the Project area and runs alongside (25 m) cabling along Burke Line.

10. WB-E3

Water body 'WB-E3' was identified as an unnamed tributary to Shipp Drain and was observed at the corner of Burk Line and Base Road. The natural corridor measured 18m, and the vegetation was composed of grass, herbaceous plants, and shrub species. The channel width was 2 m, with a bank height of 3 to 6 m, and a high water mark of 3 m. The bank vegetation consisted of grass and herbaceous plant species. Channel substrates included clay, silt, sand, gravel, cobble, and muck. Instream habitat was provided through small pools, undercut banks, woody debris, and cobble. On September 14th, 2010, fish were observed in the standing water near the concrete culvert.

This intermittent stream was observed at 'WB-E3', occurs within the Project area and crosses the cabling running alongside Burk Line. A tributary (Taff Creek Drain) to Shipp Drain is located upstream of the observation point and also crosses the cabling that runs alongside Base Road.

11. WB-F3

Water body 'WB-F3' was identified as the top of the unnamed tributary to Shipp Drain. 'WB-F3' was observed along Knights Line, to the southwest of Base Road. The natural corridor measured 8 m, channel width was 1.5 m, and the high water mark was 0.5 m. Vegetation within the corridor and along the banks consisted of trees, grass and herbaceous plant species. The channel was classified as an intermittent stream as it was bare and dry when observed on September 14th, 2010.

The water body at observation location 'WB-F3' occurs within the Project area and crosses cabling along Knights Line.

12. WB-G3

Water body 'WB-G3' was identified as a section of McEachren Drain and was observed along Knights Line. The natural corridor measured 11 m, channel width was 1 m, and the high water mark was 0.5 m. Vegetation within the corridor consisted of cedar trees and herbaceous plants. Bank vegetation was made up of a variety of shrubs and herbaceous plants. The channel was classified as an intermittent stream as it was overgrown with cattails and was dry when observed on September 14th, 2010. McEachren Drain was observed at 'WB-G3' and is a water body located in the Project area crossing the proposed cabling along Knights Line. North of observation point 'WB-G3' McEachren Drain comes within 86 m of the access road and cabling >120 m from proposed turbine P018.

13. WB-H3

Water body 'WB-H3' was identified as Union Drain (Old Course) and was observed where it crosses under Brush Line and the cabling for proposed turbine P005. The natural corridor measured 15 m and was composed of maple species and shrubs and herbaceous vegetation. The channel width was 1 m, with a bank height of 6 m, and a high water mark of 4 m. The bank stability was good with a high density of shrubs, grass, and herbaceous vegetation. Channel substrates included clay, silt, sand, cobble, muck and detritus. Instream habitat was provided through small pools of standing water, woody debris, cobble and duckweed (Lemna sp.). This water body was classified as an intermittent stream with young of the year cyprinids were observed in the small pools on September 14th, 2010.

Union Drain was observed at 'WB-H3' and is a water body located within the Project area. At Brush line it crosses cabling and follows directly beside the access road (20 m) and cabling (17 m) leading to proposed turbine P005. Please see observation P005B for details on the roadside ditch along Brush Line.

14. WB-I3

Water body 'I3' was identified as Union Drain (Old Course), Union Drain (New Course) and Cleveland Drains where they all intersect. The observation point was located along Mull Road. 'I3' has been broken down into 'I3i', 'I3ii', and 'I3iii' to represent each Drain.

'I3i' was located of Union Drain (Old Course) where it crossed Mull Road. The natural corridor measured 12 m, while the channel width was 2 m, with a high water mark of 3 m. Vegetation within the corridor was predominately grass species. The bank vegetation consisted of herbaceous plants and cedar trees. The channel had standing water with cattails and arrowhead (*Sagittaria sp.*) present on September 14, 2010.

'I3ii' was located on Cleveland Drain, which runs immediately adjacent to the south side of Mull Road. The natural corridor measured 6 m, channel width 1 m, and the high water mark was 2 m. Vegetation within the corridor and along the banks was composed of grass and herbaceous plant species. The channel was bare with grass in places and dry on September 14, 2010.

'I3iii' was located on Union Drain (New Course) where it runs adjacent to the north side of Mull road. The natural corridor measured 4 m, channel width 0.5 m, and a high water mark of 1 m. The channel, corridor and bank vegetation consisted of grass and herbaceous plants. The channel was dry when observed on September 14, 2010.

At this observation point, Union Drain (old course) is located within the Project area crosses the cabling that runs parallel to Mull Road. Union Drain (new course) is also located within the Project area and comes within 6 m to cabling. Cleveland Drain is also 45 m adjacent to the cabling at this location.

15. WB-J7

Water body 'WB-J7' was identified as Pfaff Creek Drain and was observed along the south side of Shewburg Road. The natural corridor through this section was 15 m wide and the vegetation included a mixture of trees, herbaceous plants, and grass species. The channel width was 2 m, bank height was 3 m, and the high water mark was 3m. Channel substrates included clay, sand, and silt. The channel was classified as an intermittent stream as it was dry when viewed on October 5th, 2010.

Pfaff Creek Drain is a water body observed at 'WB-J7' and is located within the Project area coming within 21 m of proposed turbine P012 and 80 m from its associated access road and cabling.

16. WB-L4

Water body observation 'WB-L4' was identified as Mull Drain where it crosses Mull Line. The natural corridor through this section measured 10 m, channel width was 1 m, and the high water mark was 1 m. Land use for the surrounding area was predominantly agriculture. Vegetation within the corridor and along the banks consisted of shrubs, herbaceous plants and grass species. Grass and herbaceous plants lined the channel which was dry when viewed on September 15th, 2010 therefore classifying it as an intermittent stream. At this location there is also a roadside drain running along Welch Line.

Mull Drain was observed at 'WB-L4' and was a water body located within the Project area. At the observation point Mull Drain crosses the cabling which runs parallel to Mull Line.

17. WB-M4

Water body 'WB-M4' was identified as McPhail Drain and was observed where it crosses Welch Line. The natural corridor measured 15 m, channel width was 1.5 m, bank height was 3 m, and the high water mark was 2 m. The surrounding land use was predominantly agriculture. Vegetation within the area included a mixture of grass, shrubs, trees and herbaceous plants. Substrates throughout this section consisted of clay, silt, sand, and muck. The channel was moist when viewed on September 16th, 2010 and was therefore classified as an intermittent stream.

McPhail Drain at location 'WB-M4' is a water body located within the Project area and crosses cabling along Welch Line.

18. WB-M5

Water body 'WB-M5' was identified as Taff Creek Drain and was observed as it flowed under Cofell Line and intersects with Anderson Drain. The natural corridor measured 12 m, channel width was 1 m, and the high water mark was 1.5 m. Vegetation within the corridor and along the banks was composed of grass and herbaceous plants. The channel was classified as an intermittent stream as it was bare and dry when viewed on September 17th, 2010.

Taff Creek Drain was observed at 'WB-M5' and is a water body located within the Project area. It crosses cabling and comes within 90 m of the access road and cabling which is >120 m to proposed turbine P014.

19. WB-N5

Water body 'WB-N5' was identified as Wiebenga Drain and was observed along Kent Bridge Road, from Front Line to Talbot Trail. The natural corridor within this section measured 6m and was composed predominantly by grass species. The channel was 1m wide with a bank height of 2.5 m, and a high water mark of 1.5 m. Substrates within the channel included clay, silt, and sand. The channel was classified as an intermittent stream as it was dry when viewed on September 17th, 2010.

Wiebenga Drain at location 'WB-N5' is a water body existing within the Project area and runs adjacent (20 m) to cabling that follows Kent Bridge Road. It also crosses the cabling and access road for proposed turbine P138 and P001.

20. WB-P3

Water body 'WB-P3' was identified as Pfaff Creek Drain and was observed where it crosses under Cofell Line and railway tracks. The natural corridor measured 18 m, channel width was 1.5 m, and the high water mark was 3 m. Vegetation throughout this area consisted of grass, trees, shrubs, and herbs, including goldenrod and jewelweed (Impatiens capensis). The channel was bare with woody debris present and standing water was located at the culvert and was therefore classified as an intermittent stream.

Pfaff Creek Drain was observed at 'WB-P3' and is a water body located within the Project area. It crosses the access road and cabling leading to proposed turbines P012 and P101. It also flows adjacent (30 m) to cabling along Cofell Line. At the observation point it is also located 20 m from the access road and cabling associated with proposed turbine P168.

21. WB-P4

Water body 'WB-P4' was identified as an unnamed ditch and was observed along Welch Line to the southeast of Mull Road. The vegetation within the area was composed of grass species and was dry when viewed on September 16th, 2010; therefore classifying this ditch as an intermittent stream.

'WB-P4' is a water body located within the Project area and runs 15 m alongside cabling on Welch Line.

22. WB-Q4

Water body 'WB-Q4' was identified as Baird Drain Open and was observed where it crosses Welch Line to the southeast of Mull Road. The natural corridor measured 7 m, channel width was 1 m, and the high water mark was 2 m. Grass was the predominant vegetation within the corridor and along the banks. Phragmites and cattails were present within the channel which was dry when viewed on September 16th, 2010; therefore classified as an intermittent stream.

At observation 'WB-Q4' Baird Drain Open is a water body located within the Project area as it crosses cabling along Welch Line.

23. WB-RR03

Water body 'WB-RR3' was identified as Nicholson Drain and was observed where it crosses under the railway tracks. This drain was classified as an intermittent stream as it contained standing water with a temperature of 9°C on October 27th, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this portion measured 12 m in width and consisted of herbaceous plants (goldenrod), grass species and a mixture of trees that provided 15% (poor) shade over the channel. The channel ranged in widths from 0.5 - 1 m and had a high water mark of 2 m. The 2.5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, and a variety of tree and grass species. Instream habitat and cover found within the channel was provided through pools, undercut banks, woody debris, and vegetation. Substrates within the channel consisted of clay, silt, sand, muck, and detritus.

South of the observation point, Nicholson Drain is located within the Project area and crosses the cabling at the Welch Line and Base Road junction.

24. WB-RR06

Water body 'WB-RR6' was identified as Mull Drain and was observed where it crosses under the railway corridor. When viewed on October 27th, 2010, the channel had standing water on the south side of the culvert and was therefore classified as an intermittent stream. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this portion measured 10 m in width and consisted of herbaceous plants (goldenrod), and a mixture of trees and shrubs that provided 55% (good) shade over the channel. The channel ranged in widths from 0.5 – 1 m and had a high water mark of 1.5 m. The 3 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, and a variety of grass and shrub species. Instream habitat and cover found within the channel was provided through pools, undercut banks, and woody debris. Substrates within the channel consisted of clay, silt, sand, muck, and detritus.

Mull Drain was observed at 'WB-RR6' and is a water body located within the Project area. It crosses the proposed cabling that run adjacent to the railway corridor. North of the observation point, Mull Drain also crosses cabling that runs parallel to Knights Line.

25. WB-RR07

Water body 'WB-RR7' was identified as Baird Drain Open and was observed where it crosses under the railway corridor and its adjacent proposed cabling. This drain was classified as an intermittent stream as water was flowing and the temperature for was 10° C on October 27th, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this portion measured 15 m in width and consisted of herbaceous plants (goldenrod), and a mixture of trees and shrubs that provided 50% (good) shade over the channel. The channel ranged in widths from 0.5 - 2 m and had a high water mark of 3.5 m. The 1 to 4 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, and a variety of grass and shrub species. Instream habitat and cover found within the channel was provided through pools, backwater, undercut banks, riffles, backwater, cobble, and woody debris. Substrates within the channel at this section was 2.17 m with depths ranging from 3 to 11 cm.

Baird Drain Open was observed at 'WB-RR7' and is a water body located within the Project area as it crosses the cabling along the railway.

26. WB-RR35

Water body 'RR35' was identified as Rushton Drain and was observed where it crosses under the railway corridor. Rushton Drain through this section had a slow northerly flow with a water temperature of 7°C on October 29, 2010. Land use surrounding this drain was being used primarily for agricultural purposes. The natural corridor of this section measured 18 m in width and consisted of grass, herbaceous plants (goldenrod), and a mixture of tree and shrub species that provided 65% (good) shade over the channel. The channel width ranged from 0.5 - 10 m and had a high water mark of 3 m. The 5 m high bank was noted as having good stability with vegetation comprised of grass, herbaceous plants and shrub species. Instream habitat and cover found within the channel was provided through pools, riffles, undercut banks, backwater, gravel, cobble, and woody debris. Substrates within the channel consisted of clay, silt, sand, gravel, cobble, muck, and detritus. The wetted width of the channel at this section was 1.11 m with depths ranging from 2 to 9 cm.

WB-RR35 is located within the Project area and crosses under the railway corridor and the proposed cabling.

27. WB-T2

Water body 'WB-T2' was identified as McPhail Drain and was observed where it crosses under Knights Line. The natural corridor measured 17 m, channel width was 2 m, and the high water mark was at 1.5 m. Vegetation within the corridor was composed of herbaceous plants, including goldenrod species, and sumac. Bank vegetation consisted of grass and herbaceous species. When observed on September 13, 2010, the channel was bare and dry and was therefore classified as an intermittent stream.

McPhail Drain was observed at 'WB-T2' and is a water body located within the Project area as it crosses cabling along Knights Line and along the railroad.

28. WB-U2

Water body 'WB-U2' was identified as Baird Drain Open and was observed where it crosses Knights Line, to the west of Mull Road. The natural corridor measured 8 m, channel width was 1.5 m, and the high water mark was at 1 m. Vegetation along the banks and within the corridor consisted of grass, trees and herbaceous species. The channel had grass and cattail species growing and was dry when observed on September 13th, 2010 and was therefore classified as an intermittent stream.

Baird Drain Open was observed at 'WB-U2' and is a water body located within the Project area and crosses cabling at Knights Line and follows the access road and cabling for proposed turbine P023 and P024 at a distance of 20 m.

29. WB-U7

Water body 'WB-U7' was identified as Unnamed Drain W and was observed where it crosses through the access road and cabling for proposed turbine no. P028. The observation point was located to the north of Campbell Line and west of Mull Road. The natural corridor measured 8 m and the vegetation was composed of grass, tree, and herbaceous plant species. The channel width was 1.5 m, with a bank height of 2 m, and a high water mark of 0.5 m. A mixture of shrub, tree, herbaceous plant, and grass species composed the vegetation along the bank. Channel substrates included clay, silt, and sand. The channel was dry when observed on October 7th, 2010 and was therefore classified as an intermittent stream.

Unnamed Drain W is a water body located within the Project area as it crosses the access road and cabling for proposed turbine P028 and P029. This drain also comes within 58 m of proposed turbine P028.

30. WB-X7

Water body 'X7' was identified as McEachren Drain and was observed between the 401 and Burk Line. The natural corridor measured 8 m and the vegetation was composed of herbaceous plants, shrubs, grass, and a mixture of tree species. The channel width was 2 m, with a bank height of 3 m, and a high water mark of 2.5 m. Substrates included clay, silt, and sand. The channel was dry with vegetation lining the channel bed when observed on October 21st, 2010 and was therefore classified as an intermittent stream.

McEachren Drain was observed at 'WB-X7 and is a water body located within the Project area. It does not come within 120 m of proposed turbine P017 but is 10 m from the access road and 15 m from the cabling. Please see observation 'WB-B3' for more information on this drain.

31-32. CAB006A/B

Water body 'CAB006A' was identified as unnamed roadside ditch and was observed along the northwest side of Welch Line immediately northeast of Mull Road. The natural corridor of unnamed roadside ditch at this point measured approximately 4 m in width and consisted of predominantly grass. The channel measured 0.5 m in width and had sparse detritus within the channel. Bank vegetation was comprised of grass species. Standing water was reported within the ditch on April 13th, 2011 and was therefore classified as an intermittent stream.

Water body 'CAB006B' was identified as unnamed roadside ditch and was observed along the southeast side of Welch Line immediately northeast of Mull Road. The natural corridor of unnamed roadside ditch at this point measured approximately 3 m in width and consisted of predominantly grass species. The channel measured 1.0 m in width and contained detritus. Bank vegetation was comprised of grass and wheat species. Standing water was reported within the ditch on April 13th, 2011 and was therefore classified as an intermittent stream.

'CAB006A' is located within the Project area adjacent (15 m) to the proposed cabling that runs parallel to Welch Line. 'CAB006B' is located within the Project area adjacent (10 m) to the proposed cabling that runs parallel to Welch Line.

33. CAB058

Water body 'CAB058' was identified as unnamed drain and was observed along the northeast side of Welch Line. The natural corridor of unnamed drain measured 3 m in width and consisted of predominantly grass species. The channel measured 1 m in width and contained grass species and detritus. Bank vegetation consisted of predominantly grass observed to contain standing water on April 27th, 2011 and was therefore classified as an intermittent stream.

'CAB058' is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P133. At the same location this drain runs immediately adjacent (15 m) to the cabling proposed to run parallel to Welch Line.

34. CAB087

Observation 'CAB087' was identified as Cooper Drain as it crossed Welch Line west of Base Road. The natural corridor was approximately 8 m wide with vegetation consisting of deciduous trees, some shrubs such as Rhus typhina, herbs, few grasses and some poison ivy. The channel measured 2 m with banks vegetated with deciduous trees, shrubs, raspberry, grape vine and some Doc. The channel itself was flowing to the northwest and contained some succulent herbs, a pondweed, some grass and some cattail. This is classified as a permanent stream.

At observation 'CAB087' Cooper Drain occurs as a water body within the Project area and crosses cabling that run along Welch Line.

35. P005B

Water body 'P005B' was identified as unnamed roadside ditch and was observed along the northwest side of Brush Line. The natural corridor of unnamed roadside ditch at this point measured approximately 8 m in width and consisted of large trees, grass and shrub species. The channel measured 0.5 m in width and contained grass species. Bank vegetation was comprised of grass species. The channel was reported to be dry on April 21st, 2011 and was therefore classified as an intermittent stream.

'P005B' is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P005.

36. P013A

Water body 'P013A' was identified as Nicholson Drain and was observed parallel to Base Road. Water temperature for Nicholson Drain was 6°C on April 14, 2011. Land use surrounding this drain is primarily for agricultural pasture and crop purposes. The natural corridor of this portion of Nicholson Drain measured less than 10 m of grass species to the south and more than 30 m of tilled agricultural field to the north. No cover was provided over the channel on April 14, 2011, however summer growth of grass and reed species may provide more shade. The channel ranged in width from 0.75 - 1.5 m. The wetted width of the channel at this section was 1.5 m with depths ranging from 6 – 13 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks and vegetation. Substrates within the channel were comprised of clay, silt, detritus, pebble and muck. Bank height ranged from 0.05 – 3 m at the top of bank. Stability was poor-fair with slumping and erosion evident amongst the grass and herbaceous plant species. Clear, flowing water was reported within the channel on Apirl 14th, 2011 and was therefore classified as a permanent stream.

Nicholson Drain is a water body and at observation 'P013A' is located within the Project area as it crosses the access road and cabling leading to proposed turbine P013.

37. P013B

Water body 'P013B' was identified as Unnamed J Drain and was observed approximately 150 m northeast of Base Road. Water temperature for Unnamed J Drain was 6oC on April 14, 2011. Land use surrounding this drain is primarily for agricultural purposes. The natural corridor of this portion of Nicholson Drain measured 6 m in width at this location and consisted of grass, shrub and herbaceous plant species, including teasel, Phragmites, raspberry and milkweed. Phragmites stalks and grass species provided approximately 50% shade over the channel. The channel ranged in width from 0.2 - 1 m. The wetted width of the channel at this section was 1.35 m with depths ranging from 3 - 16 cm. Instream habitat and cover found within the channel was provided by pools, backwater, undercut banks and vegetation. Substrates within the channel were comprised of clay, silt, detritus, muck, sand and pebble. Bank height ranged from 0.05 - 1.75 m at the top of bank, with a recent high water mark of 0.3 m. Stability was poor-fair with erosion evident amongst the grass species. Water was flowing very slowing within the channel on April 14th, 2011 and was therefore classified as a permanent stream.

'P013B' is an observation point located on water body Unnamed J Drain which is located within the Project area and crosses the access road and cabling leading to proposed turbine P013. Northwest of the observation point this drain comes within 15 m to the cabling that runs parallel to Base Road.

38. P018

Water body 'P018' was identified as unnamed roadside ditch and was observed along the northwest side of Knight's Line. The natural corridor of unnamed roadside ditch

measured 3 m in width and consisted predominantly of grass species. The channel measured 0.5 m in width and contained grass species. Bank vegetation was comprised of grass species. Standing water was reported within the channel on April 13th, 2011 and was therefore classified as an intermittent stream.

'P018' is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P018 as well as following adjacent (12 m) to cabling on Knights Line.

39. P019

Observation 'P019' was taken north of Welch Line between Base Road and Mull Road. As of April 13th, 2011 no water body was observed where historically Busted Drain used to occur. Although there were patches of darker soil the channel appears to have been tilled through.

40. P022

Water body 'P022' was identified as the confluence of Mull and McLachlan Drains and was observed approximately 700 m southeast of Welch Line. Water temperature for Locke Drain was 12° C on April 27, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Mull and McLachlan Drains measured approximately 8 m in width and consisted of deciduous trees and shrubs, herbaceous plants and some grass species. The trees were providing approximately 30% shade over the channel on April 27, 2011. The channel width was fairly uniform at 2 m with a stable top of bank at 2 m. Dense bank vegetation was comprised of shrubs, trees, some grass and herbaceous plant species. The wetted width of the channel at this section was 2.4 m with depths ranging from 19 - 42 cm. Instream habitat and cover found within the channel was provided by riffles, woody debris and sparse vegetation. Substrates within the channel consisted of silt, detritus and clay. Water was reported to be turbid and flowing northeast and was therefore classified as a permanent stream.

Observation 'P022' was made on a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P022 and P133. Further south this drain does not come within 120 m of proposed turbine P022.

41. P023

Water body 'P023' was identified as Baird Drain Open and was observed approximately 300 m southwest of Mull Road. Water temperature for Baird Drain Open was 12oC on April 27, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Baird Drain Open measured approximately 8 m in width and consisted of shrub, herbaceous plants and grass species along the northeast side, and dominated by shrubs and herbaceous plants on the southwest side. The shrubs and vegetation provided poor shading (15%) over the channel on April 27, 2011. The channel width was fairly uniform at 2 m with a fair – poor bank of 2.5 m. Some grass, shrub and small trees were evident as bank vegetation amidst sections of bare soil and erosion. The wetted width of the channel at this section was 2.0 m with depths ranging from 30 - 50 cm. Instream habitat and cover found within the channel was provided by a few riffles and woody debris. Substrates within the channel consisted of silt, clay and detritus. Turbid water was reported to be flowing northeast on April 27th, 2011 and was therefore classified as a permanent stream.

Baird Drain Open at this observation point is a water body located within the Project area as it comes within 26 m of the access road and 12 m to the cabling that is associated with proposed turbine P023.

42. P024

Water body 'P024' was identified as Whitiebread Drain and was observed northwest of Knights Line south of mull and north of Harwich. The natural corridor measures 5m and contains a few deciduous trees but mostly composed of grass and herbs such as goldenrod. The width of the channel is 1m and the banks are vegetated with goldenrod and vetch while the channel contains some algae. Water was seen flowing to the north and was therefore classified as a permanent stream. All observations made for this site were taken on June 29th, 2011.

Whitiebread Drain was observed at 'P024' and is a water body located within the site area. Furthermore it crosses the access road and cabling but does not come within 120 m of proposed turbine P024.

43. P030

Water body 'P030' was identified as Tedford Drain and was observed 450 m northwest of Campbell Line. Water temperature for Tedford Drain was 12oC on April 27, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Tedford Drain measured 6 m in width and consisted of grass, shrub, deciduous tree and herbaceous species, including raspberry. This vegetation provided 5% (poor) shade over the channel. The channel width was fairly uniform at 2 m with a stable top of bank of 2.5 m. The wetted width of the channel at this section was 2.5 m with depths ranging from 20 - 60 cm. Instream habitat and cover found within the channel was provided by woody debris. Substrates within the channel consisted of grass, shrub and detritus. Bank stability was fair with mixed bank vegetation comprised of grass, shrub and deciduous tree species. The water was reported to be brown and flowing northwest on April 27th, 2011 and was therefore classified as a permanent stream.

At location 'P030' Tedford Drain is a water body located within the Project area as it crosses the access road and cabling and intersects with the proposed turbine P030.

44. P101

As of April 13th, 2011 Rushton Drain at location 'P101' did not exist. All associated water features within the Project area near this location appeared to have been tilled and planted with a crop.

45. P135

Water body 'P135' was identified as Tompkins Drain and was observed along approximately 700 m northwest of Welch Line. Water temperature in Tompkins Drain was 9oC on April 14, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Tompkins Drain measured 6 m in width and consisted of shrub and herbaceous plant species, including dandelion, vine and hawthorn. This vegetation provided 25% cover on April 14, 2011 and would likely provide over 80% canopy in full summer foliage. The channel ranged in width from 0.75 - 2 m and was bare of in-stream vegetation. The wetted width of the channel at this section was 1.5 m with depths ranging from 8 – 12 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater and woody debris. Substrates within the channel consisted of clay, sand, detritus, silt and muck. The bank was fairly uniform at 2.5 m with fair stability and areas of erosion amongst the roots of hawthorn and vines. Slightly turbid water was reported to be flowing northwest slowly on April 14th, 2011 and was therefore classified as a permanent stream.

Tompkins Drain is a water body located within the Project area and at location 'P135' crosses the access road and cabling and comes within 16 m to proposed turbine P135.

46. P138

Water body 'P138' was identified as Wiebenga Drain and was observed on the northeast side of Kent Bridge Road. Water temperature for Wiebenga Drain was 9oC on April 13, 2011. Land use surrounding this drain is predominantly for a municipal road and agricultural purposes. The natural corridor of Wiebenga Drain measured approximately 8 m in width and consisted of grass species and a dense cedar hedgerow. On April 13th, 2011 there was no canopy shading the channel, however typha and herbaceous plant species in the area may provide 60% cover at full summer growth. The channel ranged in widths from 0.75 – 1.5 m and contained unknown vegetation roots and algae. The wetted width of the channel at this section was 1.4 m with depths ranging from 5 -17 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, dense vegetative roots and sparse woody debris. Substrates within the channel consisted of sand, roots, clay, silt, gravel, pebble and debris. Bank heights ranged from 0.05 - 1 m with isolated sections of slumping along the fairly stable bank with Typha, grass and herbaceous species. Clear, flowing water was reported within the channel on April 13th, 2011 and was therefore classified a permanent stream.

At observation point 'P138' Wiebenga Drain is a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P138.

47. P155

Water body 'P155' was identified as unnamed drain and was observed approximately 450 m northwest of Welch Line. Water temperature was 9°C on April 14, 2011. Land use surrounding this drain is woodlot next to agricultural fields. The natural corridor of this portion of unnamed drain measured 20 m to the southwest and over 400 m to the northeast and consisted of deciduous trees, including oak, hawthorns and NUT, and

herbaceous plants including rose, dandelion and raspberry. Deciduous trees provided 5% cover for the watercourse, however full summer foliage would like provide 90-100% shade over the channel. The channel ranged in width from 2 - 3 m and was bare of Instream vegetation. The wetted width of the channel at this section was 2.3 m with depths ranging from 7 - 19 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater and woody debris. Substrates within the channel were comprised of sand, silt, muck, detritus, woody debris and pebbles. Bank height was fairly uniform at 1 m. Stability was poor-fair with consistent erosion evident along the bank. Water was reported to be flowing northwest on April 14th, 2011 and was therefore classified as a permanent stream.

'P155' is a water body located within the Project area and comes within 22 m of the access road and cabling to proposed turbine P155 and P135.

48. P156A

Water body 'P156A' was identified as unnamed roadside ditch and was observed along the northwest side of Knight's Line. The natural corridor of unnamed roadside ditch at this point measured approximately 5 m in width and consisted of grass and herbaceous plant species. The channel measured 0.5 - 1 m in width and contained grass species. Bank vegetation was comprised of grass and herbaceous plant species. Standing water was observed within the channel on April 14th, 2011 and was classified as an intermittent stream.

'P156A' is a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P156.

49. P156B

A water body was historically documented within the immediate vicinity of the proposed access road on the northwest side of Knight's Line and was reported to no longer exist on April 14, 2011.

50. P166

There are two historical records of water bodies present within the Project area for proposed turbine P166; however on April 27th, 2011 no water bodies were seen northeast of observation point P166 facing northeast from Kent Bridge Road.

51. P173

Water body 'P173A' was identified as unnamed roadside ditch and was observed along the northwest side of Burk Line. The natural corridor of unnamed roadside ditch at this point measured approximately 5 m in width and consisted of predominantly grass. The channel measured 0.5 m in width and contained approximately 50% grass species. Bank vegetation consisted of grass species and the channel was reported to be dry on April 14th, 2011 and was therefore classified as an intermittent stream.

'P173' is a water body located within the Project area and crosses the access road and cabling leading to proposed turbine P173.

52. AHY053

Water body 'AHY053' was identified as Unnamed Drain 'W' and was observed running parallel to the south west side of Welch Line and where it crosses under the road through a 1 m culvert to continue perpendicular to the road. The surrounding land use within the area is primarily agricultural and tile drains were noted along the drain. The natural corridor measured 12 m in width and contained goldenrod, aster sp., red osier dogwood, and a variety of grass species. The channel was found to be 0.75 m in width with bank vegetation being highly dense of grass species and providing shade for 60% of the channel. Channel substrates were observed to be composed of clay, muck, and gravel, with deposits of pebble. Instream vegetation was made up of cattail, algae, and bulrush species. On October 5th, 2011 Unnamed 'W' Drain was observed to be flowing and had a 16°C water temperature.

This Unnamed Drain at 'AHY053' is within the Project area and crosses the cabling, as well as coming 10 m adjacent to it as it runs alongside Welch Line.

53. AHY054

Water body 'AHY054' was identified as English Drain and was observed where it runs along the south side of Campbell Line. English Drain was observed to be a channelized roadside drain with a channel width of 0.75 m. It had a natural corridor 6 m in width which was comprised of goldenrod, Phragmites, cattail, and grass species. On October 5th, 2011 English drain was observed to be flowing with an average depth of 0.15 m and a water temperature of 12°C. During fall 2011 both watercress sp., and frogs were seen at this observation point.

At this observation point, English Drain is located within the Project area and comes within 12 m to the cabling that run parallel to Campbell Line. It is also considered to be a seepage area due to the presence of watercress.

54. AHY055

Water body 'AHY055' was identified as McPhail Drain and was observed where it intersects Campbell Line and connects to English Drain. McPhail Drain at this location runs under Campbell Line through a 1.5 m round culvert. The land use within the surrounding area is primarily agricultural. The natural corridor of McPhail Drain measures approximately 10 m in width consisting of red osier dogwood, goldenrod, poplar, elm, and a variety of grasses. The channel was found to be 0.5-1 m in width with channel substrate made up of muck, detritus, clay, and sand. Banks were observed to have high stability and be vegetated with grass species which provided shade for 70% of the main channel. On October 5th, 2011 McPhail Drain was observed to have very low turbidity, no visible flow, and a water temperature of 13°C.

McPhail Drain was observed to intersect with the proposed cabling along Campbell line at 'AHY055'.

55. AHY056

Water body 'AHY056' was identified as Gobert Drain and was observed parallel to the south side of Campbell Line. Gobert Drain empties into Tedford Drain through a 2 m wide round culvert under Campbell Line. This location is also the connecting point for English Drain to Tedford Drain. Gobert Drain at this located has a natural corridor measuring approximately 12 m in width and consisting of herbaceous plants and grass

species. The channel was found to be 3 m in width, with a wetted width of 0.75 m, and had instream habitat provided through cattails, algae, and watercress. Substrates were made up primarily of muck and sand, with deposits of silt, gravel, pebble, and boulder. On October 5th, 2011 Gobert Drain was observed to have a slow flow and had a water temperature of 12℃.

At this observation point Gobert Drain is located within 12 m of the cabling alongside Campbell Line. Tedford Drain also crosses the cabling at this observation point. Gobert Drain at this location is also considered a seepage area due to the presence of watercress.

56. AHY071

Water body 'AHY071' was identified as Brown Drain and was observed where it crosses under Ridge Line through a 3 m wide round culvert. The natural corridor measures 10 m in width and was made up of sumac sp., poplar, red osier dogwood, and grass species. The natural corridor provided 60-70% shade to the channel. The adjacent land use is primarily agricultural. The channel was found to be 3 m in width, with the banks showing moderate stability, and vegetated with different grass species and herbaceous plants. The channel substrate composition consisted of muck, with deposits with silt and sand. Instream habitat was provided through pools and algae. When observed on October 6th, 2011 Brown Drain was observed to be flowing, with low turbidity, and had a water temperature of 13°C. Cyprinid species were observe d within the pool downstream of the culvert.

At this observation point, Brown Drain is located within the Project area and crosses the proposed cabling that runs along Ridge Line.

57. AHY072

Water body 'AHY072' was identified as an Unnamed Drain and was observed where it runs perpendicular and crosses under Base Road througha 0.5 m round culvert. Nicholson Drain is also located at this observation point and runs parallel to Base Road. More information on Nicholson Road can be found under 'WB-RR03'. The natural corridor for the unnamed drain measured approximately 2 m in width and consisted of grass species. When observed on October 6th, 2011 the 0.5 m channel was dry and Phragmites and cattails lined the channel.

At observation point 'AHY072' this unnamed drain crosses the proposed cabling along Base Road. Nicholson Drain at this location comes within 10 m of the cabling as well.

58. AHY073

Water body 'AHY073' was identified as Anderson Drain and was located in an agricultural field north of Base Road and south of Cofell Line. When observed on October 6th, 2011 Anderson Drain at this location has been plowed through and no longer exists.

59. AHY074

Water body 'AHY074' was identified historically as Shipp Drain but when observed on October 6th, 2011 it had been plowed through and is no longer existent.

Water Body Observations Found on Figure 2-9 41 Observations (13 from 2010, 28 from 2011)

1. WB-AR40

Water body 'AR40' was identified as Neve Drain and was observed where it crosses Mull Road. This drain runs south to north. Land use surrounding this drain is agricultural and recreational. The natural corridor of Neve Drain measured 15 m in width and consisted of grasses, herbaceous species (including goldenrods) and trees that provided 85% (excellent) shade over the channel. The channel ranged in widths from 1 - 3 m, and had a high water mark of 3 m. The wetted width of the channel at this section was 1.09 m with depths ranging from 5 - 8 cm. The water in this drain was very turbid and flowing to southwest at the time of site investigation on November 18, 2010. As a result, this water body has been identified as a permanent stream. Instream habitat and cover found within the channel consisted of pools, riffles, backwater, undercut banks, and woody debris. Substrates within the channel consisted of clay, silt, sand, muck, and detritus. The 5 m bank was noted as having good stability with a high level of vegetation comprised of herbaceous plants (largely golden rod and teasel), grasses, and mixed trees and shrubs.

Neve Drain at 'WB-AR40' is a water body located within the Project area crossing and directly adjacent to the proposed cabling that runs parallel to Mull Road.

2. WB-AR41

Water body 'WB-AR41' was identified as a tributary flowing into Rowe Drain and was observed where it crosses Eds Line. This drain runs towards the south into Rowe Drain. Land use surrounding this drain is strictly agricultural. The natural corridor of this tributary measured 12 m in width and consisted of grasses, herbaceous species (including goldenrods) and trees that provided 50% (good) shade over the channel. The channel ranged in widths from 0.5 - 4 m, and had a high water mark of 1.5 m. The wetted width of the channel at this section was 0.47 m with depths ranging from 2 - 8 cm. The water in this drain was very turbid and slowly flowing to the south at the time of site investigation on November 18, 2010. As a result, this water body has been identified as a permanent stream. Instream habitat and cover found within the channel consisted of pools, riffles, backwater, undercut banks, and woody debris and vegetation

(sparse typha). Substrates within the channel consist of clay, silt, sand, cobble, muck, and detritus. The 4 m bank was noted as having good stability with vegetation comprised of herbaceous plants, grasses, and mixed shrubs.

'WB-AR41' is a water body located within the Project area and crosses cabling running to proposed turbine P139 at Ed's Line.

3. WB-AR42

Water body 'WB-AR42' was identified as Clendening Drain and was observed where it crosses Sinclair Line. This drain flows south towards Rondeau Bay. Land use surrounding this drain is strictly agricultural. The natural corridor of this tributary measured 12 m in width and consisted of grasses, herbaceous species (including goldenrods) and trees that provided 85% (excellent) shade over the channel. The channel ranged in widths from 0.25 - 1 m, and had a high water mark of 2.5 m. The wetted width of the channel at this section was 0.22 m with depths ranging from 1 - 7 cm. Water in the drain was noted as being low and difficult to see due to tall phragmites. As a result, this water body has been identified as an intermittent stream. Instream habitat and cover found within the channel consisted of pools, riffles, backwater, undercut banks, and woody debris and vegetation (phragmites). Substrates within the channel consisted of clay, silt, sand, muck, and detritus. The 4 m bank was noted as having good stability with vegetation comprised of herbaceous plants, grasses, and mixed shrubs when viewed on November 18, 2010.

Clendening Drain at observation point 'WB-AR42' is a water body located within the Project area and intersects the proposed cabling that runs parallel to Sinclair Line. It is also located 22 m from the access road and 85 m from the cabling associated with proposed turbine P139.

4. WB-AR43

Water body 'AR43' was identified as Chris Debrouwer Drain and was observed where it crosses Sinclair Line W of 'WB-AR42'. This drain flows south towards Rondeau Bay. Land use surrounding this drain is both agricultural and residential. The natural corridor of this tributary measured 20 m in width and consisted of mixed shrubs and trees that provided 85% (excellent) shade over the channel. The channel ranged in width from 0.5

-2.5 m, and had a high water mark of 3 m. The wetted width of the channel at this section was 1.86 m with depths ranging from 4 - 17 cm. This water body has been designated as an intermittent stream. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, woody debris and some cobble. Substrates within the channel consisted of clay, silt, sand, gravel, pebble, cobble, and detritus. The 5 m high bank was noted as having good stability with vegetation comprised of herbaceous plants and mixed shrubs with some trees when viewed on November 18, 2010.

Chris Debrouwer Drain at observation 'WB-AR43' is a water body located within the Project area crossing cabling running parallel to Sinclair Line. South of the observation line is also comes within 26 m of the cabling alongside Mull Road.

5. WB-AR48

Water body 'AR48' was identified as Bates Bloomfield Drain and was observed where it crosses Kent Bridge Road. This drain flows south towards Rondeau Bay. Land use surrounding this drain is agricultural and residential land. The natural corridor of this portion of Bates Bloomfield Drain measured 15 m in width and consisted of grasses, herbaceous plants (goldenrod), and mixed shrubs and trees that provided 65% (good) shade over the channel. The channel ranged in widths from 0.25 – 1.5 m, and had a high water mark of 2 m. The wetted width of the channel at this section was 1.14 m with depths ranging from 1 - 10 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, and woody debris. Substrates within the channel consisted of clay, silt, sand, gravel, pebble, muck and detritus. The 4 m high bank was noted as having good stability with vegetation comprised of herbaceous plants, grasses, and some shrubs. Within the channel, water was noted on November 18, 2010 as turbid and flowing slowly south with sparse filamentous algae. The drain also flows directly through a mill located adjacent to Kent Bridge Road. As a result, this water body has been designated as a permanent stream.

North of the observation 'WB-AR48' Bates Bloomfied Drain is a water body located within the Project area as it crosses the access road and cabling for proposed turbine P118. It also crosses the cabling along Kent Bridge Road.

6. WB-AR62

Water body 'WB-AR62' was identified as Woodlife Drain and was observed along Mull Road. The natural corridor along this section of Woodlife Drain measured approximately 5 m in width and consisted of grass and herbaceous plant species. The channel measured 3 m in width and had a high water mark of 1.5 m. Bank vegetation consisted of mixed grasses and herbaceous plants. The channel was found to be dry with cattail and phragmites when it was observed on November 19, 2010. As a result, this water body has been designated as an intermittent stream.

Observation 'WB-AR62' on Woodlife Drain is a water body located within the Project area 13 m adjacent to proposed cabling that runs parallel to Mull Road.

7. WB-K3

Water body 'WB-K3' was identified as Woodlife Drain and was observed along Mull Road, to the south of Stefina Line. The natural corridor measured 5 m, channel width 1.5 m, and had a high water mark of 0.5 m. The natural corridor and bank vegetation consisted of grass and herbaceous plants. The channel bed was noted to be dry and had cattail species and phragmites growing within it on September 14, 2010. As a result this water body has been designated as an intermittent stream.

WB-K3 is immediately adjacent (7 m) to the cabling that runs parallel to Mull Road. North of the observation point, Woodlife Drain crosses the cabling and access road for proposed turbine P009.

8. WB-L3

Water body 'WB-L3' was identified as Rowe Drain and was observed where it crosses under Eds Line and the cabling. The natural corridor for this area measured 8 m, channel width was 2 m, and the high water mark was 2 m. The natural corridor was made up of grasses and herbaceous vegetation. Bank vegetation included sumac shrubs and goldenrod species. The channel had standing water present and was covered in duckweed sp. on September 14, 2010. As a result this water body has been designated as an intermittent stream. Rowe Drain is a water body located within the Project area. At observation 'WB-L3' this drain crosses cabling along Ed's Line.

9. WB-M3

Water body 'WB-M3' was identified as Arnold Davis Drain and was observed where it crossed under Eds Line, to the west of Kent Bridge Road. The natural corridor measured 3.5 m, channel 0.5 m, and the high water mark 0.5 m. Herbaceous plants and grass species composed the vegetation within the area. The channel was bare and dry when visited on September 14, 2010. As a result this water body has been designated as an intermittent stream.

Arnold Davis Drain is a water body in the Project area and crosses under the cabling at this location.

10. WB-N3A

Water body 'WB-N3A' was identified as East Lake Drain and was observed where it crosses under Eds Line. The natural corridor measured 15 m, channel width 1.5 m, and had a high water mark of 2 m. Pine and Ash trees, grass, and herbaceous plants composed the vegetation within the corridor. The banks were vegetated with herbaceous plants and grass species. The channel was bare with standing water present on September 14, 2010. As a result, this water body has been characterized as an intermittent stream.

East Lake Drain is a water body within the Project area and crosses under the cabling at this location.

11. WB-O3

Water body 'WB-O3' was identified as McKay Drain and was observed where it crosses under Eds Line. The natural corridor measured 12 m, channel 1.5 m, and high water 3 m. When visited on September 14, 2010, there was a very slow flow present and the water temperature was 16°C. As a result, this water body has been characterized as a permanent stream. The vegetation within the area consisted of mixed deciduous trees, shrub, grass and herbaceous plants, including goldenrod species. A wetted width was taken, measuring 1.75 m with depths ranging from 4 to 17 cm. Channel substrates included clay, silt, sand, cobble, and muck. Instream habitat was provided through pools, woody debris, and cobble. A fish was also observed at this location.

McKay Drain at 'WB-O3' is a water body located in the Project area and crosses the cabling at Eds Line.

12. WB-W7

Water body 'WB-W7' was identified as Rowe Drain where it meets with Clunis drain. The observation point is located to the north of Eds Line and to the east of Mull Road. The natural corridors measured 10 m with vegetation composed of grass, shrub, and herbaceous plants species. The channel width ranged from 0.5 to 1 m, with a bank height of 4 m, and a high water mark of 1.5 m. Grass and herbaceous plant species lined the channel bed. Standing water was present when viewed on October 7, 2010. As a result this has been designated as an intermittent water body.

Rowe Drain and Clunis Drain (WB-W7) intersect within the Project area and cross access roads and cabling for proposed turbines: P167, P006, P007 and P008.

13. WB-X5

Water body 'WB-X5' was identified as McLean Drain and was observed where it crosses under New Scotland Line. The natural corridor measured 10 m, channel width was 1 m, and the high water mark was 1 m. A variety of trees, grass, and herbaceous plant species, including goldenrod and jewelweed posed the vegetation along the corridor and banks. The channel was bare and standing water was present in some locations on September 21, 2010. As a result this has been designated as an intermittent stream.

McLean Drain is a water body located within the Project area and crosses cabling at observation 'WB-X5'.

14. CAB024

Water body 'CAB024' was identified as McArthur East Drain and was observed perpendicular to, and on the southeast side of, Stefina Line. Water temperature was reported to be 7°C on April 20th, 2011. Land use surrounding this drain is used primarily

for agricultural purposes. The natural corridor of this portion of McArthur East Drain measured 10m in width and consisted of grass, herbaceous plant and deciduous tree species. No vegetative canopy was observed on April 20th, 2011, however full summer foliage of deciduous shrubs, grass and cattails may provide over 80% shading over the channel. The channel ranged in width from 0.75 - 1.5 m and contained abundant cattails and patches of grass species. Bank height was 1 m and the top of bank measured 2.5 m with fair stability and consistent erosion up to 1 m on the bank. Sparse bank vegetation was comprised of grass species. The wetted width of the channel at this section was measured at 1.4 m with depths ranging from 7 - 23 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks, woody debris and dense vegetation. Substrates within the channel was reported to be turbid and flowing on April 20, 2011. As a result this water body has been designated as a permanent stream.

'CAB024' is a water body located within the Project area and crosses cabling along Stefina Line.

15. CAB026

Water body 'CAB026' was identified as unnamed drain and was observed perpendicular to, and on the southeast side of, Stefina Line. Land use surrounding the drain is primarily for agricultural purposes. The natural corridor of this portion of unnamed drain measured 12 m in width and consisted of grass and herbaceous plant species. A section of drain from the culvert at Stefina Line to approximately 50 m southeast was plowed through and contained damp areas of soil and pockets of standing water potentially along the historic channel. As a result this water body has been designated as an intermittent stream. The drain appeared to continue beyond the 50 m to the boundary of a neighboring golf course.

CAB026 is a water body located within the Project and crosses cabling along Stefina Line.

16. CAB028

Water body 'CAB028' was identified as unnamed roadside drain and was observed parallel to, and on the southeast side of Stefina Line. Water temperature for unnamed roadside drain was 7oC on April 20th, 2011. Land use surrounding this drain is primarily for municipal road and residential lawn purposes. The natural corridor of unnamed roadside drain at this point measured approximately 8 m in width and consisted of grass, herbaceous plant and deciduous tree species. No vegetative cover was observed on April 20, 2011, however full summer foliage may provide 50% shade over the channel. The channel width ranged from 0.3 – 1 m and was bare of vegetation. Bank height ranged from 0.05 – 0.5 m with top of bank at 4m. Good bank stability was noted and bank vegetation was comprised of grass and shrub species. The wetted width of the channel at this section was 0.9 m with depths ranging from 19 to 24 cm. Instream habitat and cover found within the channel was provided by pools, riffles, backwater, undercut banks and boulder. Substrates within the channel consisted of clay, muck, detriuts, silt and boulder. Clear water, tinged with white, was observed with the channel on April 20th, 2011. As a result this water body has been designated as a permanent stream.

'CAB028' is a water body located within the Project area immediately adjacent, and intersects with the proposed cabling to run parallel to Stefina Line.

17. CAB054A

Water body 'CAB054A' was identified as unnamed roadside ditch and was observed along the Chatham St. South/Communication Road. The natural corridor of unnamed roadside ditch at this point measured over 15 m in width and consisted of lawn (grass) and coniferous tree species. No distinct channel was noted, however pockets of standing water ranged in width from 0.5 - 1 m and contained grass and detritus on April 27, 2011. Bank vegetation was comprised of grass species. This channel was not observed on any available mapping and has been considered an intermittent stream.

'CAB054A' is a water body located within the Project area 12 m adjacent to the proposed cabling parallel to Stefina Line.

18. CAB054B

Water body 'CAB054B' was identified as unnamed roadside ditch and was observed along the southwest side of Chatham St. South / Communication Road. The natural

corridor of unnamed roadside ditch at this point measured approximately 2 m in width and consisted of lawn (grass). The channel width was approximately 1 m and contained grass and detritus. Bank vegetation was comprised of grass species. Water within the channel was reported to be flowing southeast on April 27, 2011. This channel was not observed on any available mapping, however due to flowing conditions it has been designated as a permanent stream.

'CAB054B' is a water body located within the Project area 25 m adjacent to the proposed cabling parallel to Chatham St. South / Communication Road.

19. CAB055

Water body 'CAB055' was identified as unnamed roadside ditch and was observed along the northeast side of Communication Road. The natural corridor of unnamed roadside ditch at this point measured approximately 2 m in width and consisted predominantly of grass. The channel width was approximately 1 m in width and contained grass and Typha species. Bank vegetation was comprised of grass species. Water within the channel was reported to be flowing southeast on April 27, 2011. This channel was not observed on any available mapping, however due to flowing conditions it has been designated as a permanent stream.

'CAB055' is a water body located within the Project area 7 m adjacent to the proposed cabling parallel to Chatham St. South / Communication Road.

20. CAB056

Water body 'CAB056' was identified as unnamed roadside drain and was observed along the southwest side of Communication Road. The natural corridor of unnamed roadside drain at this point measured 3 m in width and consisted predominantly of grass, shrub and tree species. The channel width was approximately 1.5 m and contained Typha and grass species. Bank vegetation was comprised of grass species. Standing water was reported within the channel on April 27th, 2011. This channel was not observed on any available mapping and has been considered an intermittent stream.

'CAB056' is a water body located within the Project area 22 m adjacent to the proposed cabling parallel to Chatham Street South / Communication Road.

21. CAB057

Water body 'CAB057' was identified as unnamed drain and was observed perpendicular, and on the northeast side of, Communication Road. The natural corridor of unnamed drain at this point measured approximately 6 m in width and consisted of mixed vegetation: grass, some trees and reed species. The channel measured 1.5 m in width and was bare with patches of grass species. Bank vegetation was comprised of grass and tree species. Water within the channel was reported to be flowing on April 27th, 2011. This channel was not observed on any available mapping, however due to flowing conditions it has been designated as a permanent stream.

'CAB057' is a water body located within the Project area as it crosses the cabling and access road leading to proposed turbine P140 and is 23 m from the cabling parallel to Communication Road.

22. CAB090

Water body 'CAB090' was identified as an unnamed drain that is a tributary to Clendening Drain. The natural corridor was approximately 6 m wide and vegetated with mostly grass, some Rhus typhina, some herbs and 2 large deciduous trees. The channel measured 2 m and the banks were vegetated with grasses, Rhus typhina, herbs, vines and some tiger lily. Erosion control rocks were seen alongside a section of the bank and the channel was vegetated with some herbs. The flow was to the south and slow and tadpoles and green frogs were observed in the channel. All observations for this site were made on June 15th, 2011. This water body has been designated as a permanent stream.

The drain at location 'CAB090' is a water body located within the Project area as it crosses the cabling along Ed's Line.

23. P003

Water body 'P003' was identified as unnamed roadside ditch and was observed along the northwest side of Ed's Line. The natural corridor of unnamed roadside ditch at this point measured approximately 6 m in width and consisted of mixed vegetation: grass and deciduous tree species, and cedar. The channel measured 0.25 m in width and contained grass species. Bank vegetation was comprised of grass species. The channel was reported to be dry on April 19, 2011. As a result this water body has been designated as an intermittent stream.

'P003' is a water body located within the Project area and crosses the access road and cabling to proposed turbine P003 and P004.

24. P004

Water body 'P004' was identified as McKay Drain and was observed midfield near the confluence with Clunis Drain, approximately 1.3 km northwest of Ed's Line. Water temperature for McKay Drain was 5oC on April 19, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of McKay Drain measured 10 m in width and consisted of mixed vegetation: tall, deciduous trees, grass and herbaceous species. A vegetative canopy was provided by the tall deciduous trees and provided poor shading (10%). The channel ranged in width from 1.5 - 2.5 m and contained sparse grass species. The wetted width of the channel at this section was 1.8 m with depths ranging from 7 - 17 cm. Bank height was consistent at 3 m with erosion prominent in the poor – fair bank stability. Bank vegetation was comprised of grass and sumac. Instream habitat and cover found within the channel was provided by pools, rifles, backwater, vegetation and cobble. Substrates within the channel consisted of sand, clay, gravel and pebble. Water within the channel was reported to be clear and flowing southeast on April 19, 2011. As a result this water body has been designated as a permanent stream.

McKay Drain just south of observation 'P004' is a water body located within the Project area and comes within 4 m of proposed turbine P004 and 53 m from associated access roads and cabling.

25. P009

Observation 'P009' was identified as Rowe Drain northeast of Mull Road in line with Stefina Line. The channel began at this observation point and flowed to the south. Water feeding into this drain came from piping from agricultural fields to the north. Surrounding land use is agricultural and the natural vegetation corridor is less than 20m consisting of deciduous trees(Ash, cherry), shrubs (willow, Rhus typhina), vines, grasses and some herbs including Galium sp.. The riparian zone is approximately 5m wide and consists of similar vegetation as the corridor including a violet species. Canopy was dominated by willow and ash and was estimated to be 70% shaded. The channel width was 2m and the bank height was 2 m while the wetted width measured 1.5 m with depths of 17, 19, 20, 20 and 14 cm in cross section. Bank vegetation consisted of shrubs, herbs, grass (including a species of rice grass) and horsetail. The banks were stable and the channel was straight. Channel substrate included: clay, silt, sand, gravel, pebble, cobble and boulder. Instream habitat and cover consisted of riffles, boulders, cobble, algae and moss. Water temperatures measured 14°C and ran clear. All observations and measurements taken for this site were done so on June 15th, 2011. Due to its characteristics this water body has been designated as a permanent stream.

Rowe Drain at observation 'P009' is identified as a water body within the Project area as it crosses the access road and cabling between proposed turbine P009, P007 and P008. This drain also comes within 20 m of proposed turbine P009.

26. P104B

Observation 'P104B' occurred approximately 300 m northwest of New Scotland Line west of McKinlay Road where a section of Ross Drain was expected to be located. No water body channel was observed on June 15th, 2011. It appears as though the channel has been ploughed through.

27. P106

Observation 'P106' was made between Sinclair Line and New Scotland Line southwest of Kent Bridge Road at the junction of where Unnamed Drain C and Holdaway Drain should meet. On June 15th, 2011 no water body channels were visible in the middle of the agricultural field. It appears as though the channel has been ploughed through.

28. P140

Water body 'P140' was identified as Nelles Extension Drain and was observed midfield approximately 625 m northeast of Communication Road. Land use surrounding this drain is mainly for agricultural purposes. The natural corridor of this portion of Nelles Extension Drain measured 3 m in width and consisted of very sparse patches of herbaceous vegetation. No shade or canopy covered the channel on April 27th, 2011. The channel width was approximately 1m and contained the roots of sparse grass and herbaceous plant species. The wetted width of the channel at this section was 1.0 m with depths ranging from 1 - 5 cm. No defined bank height existed along the meander and no vegetation was present along the bank. It appears the channel had been ploughed through and either precipitation or higher water table provided surface water within the channel. Instream habitat and cover was limited to pools. Substrates within the channel consisted of clay, silt, muck and detritus. Several small pools of water connected by saturated soil were observed within the channel on April 27th, 2011. As a result this water body has been designated as an intermittent stream.

Nelles Drain at observation 'P140' is a water body located within the Project area as it crosses the access road and cabling leading to proposed turbine P140. Nelles Drain also comes within 65 m of the turbine itself.

29. P167

Water body 'P167' was identified as Clunis Drain and was observed midfield approximately 1.2 km northeast of Mull Road. Water temperature was 5oC on April 19, 2011. Land use surrounding this drain is used primarily for agricultural purposes. The natural corridor of this portion of Clunis Drain measured 12 m in width and consisted of grass, shrub, herbaceous plants and tree species. Shading was poor over the channel with deciduous trees and shrubs providing 25% canopy. This may increase with full summer foliage. The channel ranged in widths from 0.10 – 2.5 m and contained abundant grass species. Cross-sections were taken at two locations within 50 m of each other and resulted in wetted widths of 1.1 m and 2.5 m, and depths ranging from 4 - 6 m and 10 – 17 cm, respectively. Bank height ranged from 0.01 – 0.05 m with stable banks vegetated by grass. Instream habitat and cover found within the channel was provided by pools, undercut banks and vegetation. Substrates within the channel consisted of muck, detritus, sand and silt. On April 19, 2011, the water within the channel was reported to be flowing southwest to an infiltration area, after which was a dry channel until further along the drain. Due to flowing conditions this water body has been designated as a permanent stream.

Clunis Drain at location 'P167' is a water body located within the Project area and crosses the access road and cabling to proposed turbine P167, continuing to within 95 m of proposed turbine P006.
30. P171C

Water body 'P171C' was identified as Unnamed X Drain and was observed approximately 475 m northwest of New Scotland Line. Land use surrounding Unnamed X Drain is woodlot and agricultural purposes. The natural corridor of this portion of Unnamed X Drain measured approximately 400 m to the northeast and 400 m to the southwest and consisted of grass, woodlot and planted crop. The drain in this area appears to be the outlet of a tile drain under the field. Grass and deciduous tree species provided a poor (5%) canopy over the channel. The meandering channel ranged in width from 0.25 - 0.5 m and contained grass species. Bank height ranged from 0.02 - 0.15 m and bank vegetation was comprised of grass species. Bank stability was good with little evidence of erosion. The wetted width of the channel at this section was 0.7 m with depths consistent at 9 cm. Instream habitat and cover found within the channel was provided by pools and vegetation. Substrates within the channel consisted of muck, detritus, clay, silt and pebble. Water within the channel was reported to be clear and flowing on April 19th, 2011. Due to flowing conditions this water body has been designated as a permanent stream.

Unnamed X Drain at location 'P171C' is a water body located in the Project area and is intersecting proposed turbine P171 and associated cabling and access roads.

31. AHY057

Water body 'AHY057' was identified as White Drain and was observed were it runs parallel to Harwich Road, south of Campbell Line. The natural corridor was observed to be 10 m in width and be made up of goldenrod and cattail. On October 5th, 2011 this road side drain was found to be dry with the entire channel lined with cattail and phragmites.

White Drain at this location is within the Project area and is 50 m adjacent to the cabling that runs alongside Harwich Road.

32. AHY059

Water body 'AHY059' was identified as unnamed drain that crosses under Harwich Road through a 2 m wide box culvert. Upstream of the road, the drain is straight, is undefined, and has a 2 m wide swatch of vegetation consisting of grass species and herbaceous

plants. Downstream of the road the drain is overgrown with shrubs, sumac, poplar, and disappears within the agricultural field. When observed on October 6th, 2011 this drain showed no signs of water.

This unnamed drain is located within the Project area and crosses the proposed cabling that runs along Harwich Road.

33. AHY060A/B

Water body 'AHY060' was identified as McArthur East Drain and was observed in two locations, one where it runs perpendicular to Harwich and the other closer to Stefina Line where it runs parallel. The surrounding land use is primarily agricultural within this area. The natural corridor measured approximately 10 m in width and consisted of goldenrod, willow species, poplar, maple, and a variety of grass species. The channel was found to be 3 m in width and instream habitat was provided through pools and vegetation. The vegetation within the channel was made up of willow species, terrestrial grasses and an abundance of watercress was noted at 'AHY060B'. Substrates within the channel were composed primarily of muck with deposits of sand, silt, clay, and gravel. The bank showed moderate stability and was vegetated with terrestrial grasses. On October 6th, 2011 McArthur E Drain was observed to be flowing with very low turbidity, and a water temperature of 12°C.

McArthur E. Drain is located within the project area and at 'AHY060A' is 10 m from the cabling along Harwich Road. At 'AHY060B; McArthur E Drain is located 10 m from the same cabling. This drain is also considered to be a seepage area due to the presence of watercress.

34. AHY068

Water body 'AHY068' was identified as Clendening Drain and was observed where it crosses under New Scotland Line through an 8 m wide box culvert. The natural corridor extends 10 m in width and is made up of Phragmites, cedar, red osier dogwood, aster sp., spotted jewelweed, and grass species. The adjacent land use is primarily agricultural. The channel was found to be 5 m in width with a depth of 0.9 m. The bank showed high stability and was densely vegetated with grass species and herbaceous plants. The substrate composition was made up primarily of muck, with deposits of

sand, silt, gravel, detritus, pebble, and boulder. There was dense instream vegetation present which was made up of duckweed sp., cattail, milfold sp., broadleaved arrowhead, celery grass, and bulrush sp. On October 6th, 2011 Clendening Drain had a water temperature of 15°C. Unknown cyprinid species and green frogs were also observed at this time.

Clendening Drain is located within the Project area and intersects the proposed cabling running along New Scotland Line.

35. AHY070

Water body 'AHY070' was observed to be Nesbitt Drain and was observed where it crosses under New Scotland Line through a 10 m wide box culvert. The surrounding land use was primarily agricultural. The natural corridor measured approximately 10 m in width and consisted of herbaceous plants, shrubs, and grass species. The channel width ranged between 0.5- 2 m, and the pools average depth was 0.25 m. Substrates were made up primarily of muck, with deposits of silt, detritus, gravel, and sand. Terrestrial grass species were found growing within the channel. The bank showed moderate stability and was highly vegetated with grass species. The vegetation also the banks provided shade to 10% of the channel. On October 6th, 2011 Nesbitt Drain was observed to be flowing with high turbidity and a water temperature of 14°C. Unknown cyprinid species and green frogs were also observed at this time.

Nesbitt Drain at observation point 'AHY070' is located within the Project area and crosses the cabling that runs along New Scotland Line.

36. AHY086

Water body 'AHY086' was identified as Neve Drain and was observed where it crosses under Talbot Trail through a box culvert. The natural corridor extends 15 m in width and was made up of mixed coniferous and deciduous trees with a variety of grass species. The channel had a width of 4 m, with a wetted width of 3.3 m, and an average depth of 0.3 m. The bank was observed to be 1 m in height with moderate stability and was vegetated with grass, and mixed coniferous and deciduous trees. The vegetation at this location provides shade for 75% of the channel. The channel substrate was observed to be gravel, cobble, and boulder, with deposits of clay, sand, silt, and detritus. In channel habitat was provided by pools, riffles, undercut banks, woody debris, bank vegetation, boulder and cobble. On November 10th, 2011 Neve Drain was observed to be flowing with a water temperature of 8.5°C, and showed signs of fish activity.

Neve Drain at this observation point is located within the Project area and crosses the proposed cabling along Talbot Trail.

37. AHY087

The water body 'AHY087' was identified as Archie Campbell Drain and was observed where it crosses under Talbot Trail through a box culvert. The natural corridor extends 10 m in width and is made up of mixed coniferous and deciduous trees and different grass species. The channel was found to have a width of 2.5 m with a wetted width of 2.3 m and a max depth of 0.27 m. The bank was observed to be 0. 5m in height with moderate stability and vegetated with terrestrial grasses. Substrate composition was made up of clay and cobble with deposits of gravel, sand and detritus. In channel habitat was provided by pools, riffles, woody debris, cobble and instream vegetation. Instream vegetation consisted of watercress sp., Phragmites, and terrestrial grasses. On November 10th, 2011 the Archie Campbell Drain was observed to be flowing with a water temperature of 9°C. No fish were observed du ring field investigation.

The Archie Campbell Drain at this observation point is located within the Project area and crosses the proposed cabling along the Talbot Trail. Archie Campbell Drain is also considered a seepage area due to the presence of watercress.

38. AHY088

The water body at 'AHY088' was identified as an undefined water body that crosses under Talbot Trail. On November 10th, 2011 this unnamed water body was found to have damp soil but no standing water.

This water body is located within the Project area and intersects the proposed cabling along Talbot Trail.

39. AHY089

Water body 'AHY089' was identified as Cumming Drain and was observed where it crosses under Talbot Trail through a box culvert. The natural corridor was found to be 10 m in width and made up of deciduous trees, coniferous trees, terrestrial grasses and shrubs. The 0.7 m high bank was found to have moderate stability with bank vegetation being made up of terrestrial grasses. The vegetation provided shade for 80% of the channel. The adjacent land is primarily agricultural within this area. The channel measured 2.5 m, with a wetted width of 2.1 m, and an average depth of 0.25 m. Instream habitat is provided through riffles, woody debris, cobble, and vegetation. The instream vegetation was found to be watercress. Channel substrate composition was cobble and clay, with deposits of gravel, sand, and detritus. On November 11th, 2011 Cumming Drain was observed to be flowing with low turbidity and a water temperature of 9°C.

At observation point 'AHY089' Cumming Drain is located within the Project area and was found to cross the proposed cabling along Talbot Trail. Cumming Drain is also considered a seepage area due to the presence of watercress.

40. AHY090

Water body 'AHY090' was identified as McArthur East Drain and was observed where it crosses under Talbot Trail through a box culvert. The natural corridor was found to be 10 m and made up of deciduous trees, coniferous trees, terrestrial grasses and shrubs. Bank vegetation provided shade for 80% of the channel and the adjacent land was primarily agricultural. The channel measured 1.4 m, with a wetted width of 1.2 m, and an average depth of 0.4m. Instream habitat was provided through pools, riffles, woody debris, cobble, and vegetation. The instream vegetation was found to be watercress sp., and terrestrial grasses. Channel substrate composition was made up of gravel with deposits of clay, cobble, detritus, and sand. The 0.8 m bank was found to have moderate stability with bank vegetation being made up of grass species and herbaceous plants. On November 11th, 2011 McArthur East Drain was observed to be flowing with moderate turbidity and a water temperature of 9°C.

At observation point 'AHY090' McArthur East Drain is located within the Project area and crosses the proposed cabling along Talbot Trail. McArthur East Drain is also considered a seepage area due to the presence of watercress.

41. AHY091

Water body 'AHY091' was identified as Nelles Extension Drain and was observed where it crosses under Talbot Trail through a box culvert. The natural corridor was found to be 20 m and was made up of deciduous trees, grass species and a variety of shrubs which provided shade for 25% of the channel. The 0.5 m bank was found to have moderate stability with bank vegetation being made up of grasses and herbaceous plant species. The channel measured 2.5 m, with a wetted width of 2.3 m, and an average depth of 0.3m. Instream habitat was provided through pools, riffles, woody debris, cobble, vegetation. The instream vegetation was found to be watercress sp., and terrestrial grasses. Channel substrate composition was made up of gravel with deposits of clay, cobble, detritus, silt, and sand. On November 11th, 2011 Nelles Extension Drain was observed to be flowing with low turbidity and a water temperature of 9°C.

At observation point 'AHY 091' Nelles Extension Drain is located within the Project area and crosses the proposed cabling along Talbot Trail. Nelles Extension Drain is also considered a seepage area due to the presence of watercress.

Water Body Observations Found on Figure 2-10 3 water body observations (2 from 2010, 1 from 2011)

1-2. P145A & P145B

Water body 'P145A' was unnamed channelized natural stream and was observed at Beechwood Line road crossing between Shewburg Road and Scane Road. The surrounding area was dominated by agricultural fields (corm). The natural corridor was estimated to be 8 m wide and consisted of trees, shrubs, grass and some teasel. The canopy was composed of deciduous shrubs with 0% shade. The channel width ranged from 0.5-2.0 m wide with bank heights of 2 m. Banks were fairly stable and vegetated with grass, trees and shrubs. Instream habitat cover consisted of backwater, sparse woody debris and vegetation. The wetted width of 1.8 m had depth measurements of 10, 12, 16, 14 and 4 cm in cross section and was taken in a run. Water was flowing clear and measured 9°C and cyprinids were observed on Apr il 13th, 2011. Due to flowing conditions observed within this water body it has been designated as a permanent stream.

Water body observation 'P145B' was unnamed and occurred less than 500 m downstream from observation 'P145A'. The stream characteristics were relatively similar to those made for observation 'P145A' except for the natural corridor which was approximately 15 m.

Observation 'P145A' is a water body located within the Project area and will cross cabling leading to proposed turbine P145. This water body was also observed at 'P145B' as it followed adjacent (20 m) to the access road and 15 m from cabling leading to proposed turbine P145 located 88m away.

3. CAB001

Observation 'CAB001' was taken on an unnamed drain crossing Beechwood Line NE of Shewburg Road. The natural corridor measured approximately 6 m and was vegetated with herbs, grass, teasel and some shrubs. The channel of the drain was approximately 1 m and the banks were vegetated with herbs and grass while the channel contained cattail and phragmites. The water was noted as flowing north on April 13th, 2011. As a result this water body has been designated as a permanent stream. Observation 'CAB001' is a water body within the Project area as it crosses cabling on Beechwood Line leading to proposed turbine P145.

7.2 Site Investigation Results: Water Body Observation Tables

Tables 3 - 18 summarize the relationship between each Water Body Observation and its associated infrastructure (access roads, cabling and substations). Observations are organized by figure number and provide the following information: Water body observation label, water body name, type of infrastructure within 120 m of the water body and distance to infrastructure. Furthermore, there are eight tables (Table 3 - 18) summarizing the relationship between turbines within 120 m of a water body. Observations are organized by figure number and provide the following information: Water body observation number, water body observation label, water body name, type of water body observation number, water body observation label, water body name, type of water body, turbine closest to the water body, shortest distance between the water body and turbine base and the shortest distance between the water body and the project location (turbine blade tip).

Observation Number	Water Body Observation Label	Water Body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1	WB-B5	Eight Creek Drain	Intermittent Stream	Cabling	Crosses
2	WB-C5	Eight Creek Drain	Intermittent Stream	Access Road & Cabling	113
3	CAB048	Eight Creek Drain	Permanent Stream	Cabling	21
4	CAB049	Eight Creek Drain	Permanent Stream	Cabling	20
5	CAB050	Eight Creek Drain	Permanent Stream	Cabling	19
6	CAB051	Eight Creek Drain	Permanent Stream	Cabling	18
7	CAB052	Unnamed Drain	Intermittent Stream	Cabling	15
8	CAB053	Unnamed Drain	Intermittent Stream	Cabling	13
9	P174A	Unnamed Drain	Permanent Stream	Cabling & Access Road	Crosses
10	P174B	Unnamed Drain	Intermittent Stream	Cabling & Access Road	17
11	P175A	Eight Creek Drain	Intermittent Stream	cabling	17
12	P175B	Eight Creek Drain	Permanent Stream	Cabling & Access Road	Crosses
10		Fight Crock Drain	Bormonont Stroom	Cabling	20
13	PI/OA	Eight Creek Drain	Permanent Stream	Access Road & Cabling	Crosses
14	P176B	Unnamed Drain	Intermittent Stream	Cabling	9
15	P176C		Permanent Stream	Access Road & Cabling	Crosses
			. Simanoni Griouni	Cabling	22

Table 3. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-3)

Table 4. Water Body Observation Summary for Distances to Turbines (Figure 2-3)

Water Body Observation Number	Water Body Observation Label	Water Body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location
1	WB-B5	Eight Creek Drain	Intermittent Stream	P070	120	71
2	WB-C5	Eight Creek Drain	Intermittent Stream	P087	110	61
9	P174A	Unnamed (north/south)	Intermittent Stream	P174	64	15

Table 5. Water Bod	v Observation	Summary for	Distances to	Access Ro	ads and Cabli	na (Fiaure 2-4)
Table of Hater Dea	,	e annan y rer				

Observation Number	Water body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1	WB-A5	Unnamed	Intermittent Stream	Cabling	Crosses
2	WB-AR8	Branch Drain	Intermittent Stream	Cabling	12
		Unnamed Drain	Intermittent Stream	Cabling	Crosses
3	WB-AR12	King & Whittle Drain	Intermittent Stream	Cabling	10
			· · · · · · · ·	Access Road	22
4	WB-AR23	Unnamed Drain	Intermittent Stream	Cabling	Crosses
		McDougall Drain	Intermittent Stream	Access Road & Cabling	7
				Access Road	Crosses
-		King & whittle Drain	Intermittent Stream	Cabling	6
5	WB-C7	Comor Droin	Intermittent Otreem	Access Road	58
		Gagner Drain	Intermittent Stream	Cabling	6
		Linnerned	Intermittent Otreem	Access Road	Crosses
6		Unnamed	Intermittent Stream	Cabling	Crosses
6	WB-D8			Access Road & Cabling	Crosses
		Graham Extension Drain	Intermittent Stream	Access Road & Cabling	10
7	WB-E4	Patrick Drain	Intermittent Stream	Cabling	Crosses
8	WB-F4	Branch 7 th Concession Drain	Intermittent Stream	Access Road & Cabling	Crosses
		Unnamed Drain	Intermittent Stream	Access Road & Cabling	7
9	WB-G4	South Middle Road Drain	Intermittent Stream	Access Road & Cabling	Crosses
				Access Road	15
10	WB-H4	Ivison Drain	Intermittent Stream	Cabling	30
				Access Road & Cabling	10
		Grant Drain	Intermittent Stream	Access Road, & Cabling	Crosses
11				Cabling	Crosses
	VV D-14	Ivison Drain	Intermittent Stream	Cabling	20
				Access Road	25
12	WB-16	Graham Extension Line	Intermittent Stream	Cabling	Crosses
12	VVD-10			Cabling	5
13	WB-R6	7 th Concession Road	Intermittent Stream	Access Road & Cabling	Crosses
15		Drain	Internittent Ottean	Access Road & Cabling	21
14	WB-V4	Unnamed Drain A	Intermittent Stream	Cabling	10
				Access Road. Cabling & Cabling	Crosses
15	WB-W4	Jessop Drain	Intermittent Stream	Access Road	23
				Cabling	6
16	CAB045A	Unnamed	Permanent Stream	Access Road & Cabling	Crosses
17	CAB045B	Unnamed Roadside	Intermittent Stream	Access Road & Cabling	Crosses

Observation Number	Water body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
		Ditch			
18	CAB047	McLeod Drain	Permanent Stream	Cabling	Crosses
				Cabling	Crosses
19	CAB080	Graham Drain	Permanent Stream	Cabling	13
	0.0.000.0			Cabling	3
20	CAB081	Grant Drain	Intermittent Stream	Cabling	Crosses
21	CAB082	Unnamed Drain E	Intermittent Stream	Cabling	Crosses
22	P075A	McLeod Drain	Permanent Stream	Access Road & Cabling	Crosses
23	P075B	Unnamed	Permanent Stream	Access Road & Cabling	18
24	P075C	Unnamed	Permanent Stream	Access Road & Cabling	Crosses
25	D0784	Linnemed Water Dedu	Dermanant Stream	Access Road	Crosses
25	PUTOA	Unnamed water body	Permanent Stream	Access Road & Cabling	15
26	P078B	Gagner Drain	Intermittent Stream	Access Road	45
27	P078C	Unnamed Water Body	Intermittent Stream	Access Road	17
28	P082A	Burgess Drain	Permanent Stream	Access Road & Cabling	Crosses
29	P082B	Carless Drain	Permanent Stream	Access Road & Cabling	100
20	DOSOC	Lippamod Water Redy	Intermittent Streem	Access Road	23
	F002C	Unnamed Water Body		Cabling	16
				Access Road	7
31	P150B	Ivison Drain	Intermittent Stream	Cabling	18
				Cabling	Crosses
32	AHY005	South Middle Road Drain	Intermittent Stream	Cabling	7
33	AHY006	South Middle Road Drain	Intermittent Stream	Cabling	7
		King & Whittle Drain	Intermittent Stream	Cabling	Crosses
34	AHV007	Norval Davis Drain	Intermittent Stream	Cabling	9
	AI11007		internittent Otream	Cabling	Crosses
35	AHY008	Unnamed Drain	Intermittent Stream	Cabling	Crosses
		McLeod Drain	Permanent Stream	Cabling	Crosses
36	AHY009	Graham Drain	Intermittent Stream	Cabling	7
		Powell Drain	Intermittent Stream	Cabling	7
		Unnamed Drain	Intermittent Stream	Cabling	5
37	AHY010	East Branch Graham Drain	Intermittent Stream	Cabling	20
38	AHY011	Valetta Road Drain	Intermittent Stream	Cabling	10
39	AHY012	Unnamed Drain	Intermittent Stream	Cabling	5
40		Ross Norry Drain	Intermittent Stream	Cabling	Crosses
+0	AITUI3	Unnamed Drain	Intermittent Stream	Cabling	17
<u>4</u> 1		Jessop Drain	Intermittent Stream	Cabling	Crosses
	AHYU14	Unnamed Drain	Intermittent Stream	Cabling	20

Observation Number	Water body Observation Label	Water body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
5	WB-C7	King & Whittle Drain	Intermittent Stream	P116	111	62
6	WB-D8	Unnamed	Intermittent Stream	P132	70	21
8	WB-F4	Unnamed	Intermittent Stream	P081	140	91
9	WB-G4	South Middle Road Drain	Intermittent Stream	P080	118	69
10	WB-H4	Ivison Drain	Intermittent Stream	P115	130	81
13	WB-R6	7 th Concession Road Drain Extension	Intermittent Stream	P122	75	26
14	WB-V4	Unnamed Drain A	Intermittent Stream	P071	115	66
15	WB-W4	Jessop Drain	Intermittent Stream	P072	80	31
22	P075A	McLeod Drain	Permanent Stream	P075	118	69
29	P082B	Carless Drain	Permanent Stream	P082	100	51

Table 6. Water Body Observation Summary for Distances to Turbines (Figure 2-4)

Table 7. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-5)

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
		Government Drain #1	Permanent Stream	Access Road & Cabling	80
1	WB-AR14	Unnamed	Intermittent Stream	Access Road	35
			internitient Otteam	Cabling	15
2	WB-AR15A	Government Drain	Permanent Stream	Cabling	Crosses
				Cabling	Crosses
3	WB-AR15B	Pollard Drain	Permanent Stream	Cabling	5
				Cabling	Crosses
4	4 WB-AR26	Finn and Cooper Drain	Permanent Stream	Cabling	Crosses
		Webb Drain	Intermittent Stream	Cabling	Crosses
5	WB-D5	Deary Drain	Intermittent Stream	Cabling	Crosses
				Access Road & Cabling	Crosses
6	WB-E5	Rice Drain	Intermittent Stream	Cabling	6
				Access Road& Cabling	20
7		Doory Drain	Intermittent Stream	Cabling	Crosses
,	WB-115	Dealy Dialit		Access Road	45
8	WB-L7	Mazan Drain	Intermittent Stream	Cabling,	1
0		Mazan Drain	Intermittent Streem	Access Road & Cabling	Crosses
Э	VVD-IVI/	wazan Drain	intermittent Stream	Cabling	5
10	WB-S6	Gardner Drain	Intermittent Stream	Cabling	15
11	WB-U4	McDougall Drain	Intermittent Stream	Cabling	Crosses

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
4.0		Cooper-Stevenson Drain	Intermittent Stream	Cabling	10
12	WB-06	Lewis Drain	Intermittent Stream	Cabling	Crosses
				Cabling	5
13	CAB034A	Shadd Drain	Permanent Stream	Cabling	Crosses
				Access Road & Cabling	14
				Cabling	13
14	CAB034B	Unnamed	Intermittent Stream	Cabling	Crosses
				Access Road & Cabling	Crosses
15	CAB034C	Unnamed	Permanent Stream	Cabling	15
16	CAB035A	Shadd Drain	Permanent Stream	Cabling	3
17	CAB035B	Unnamed	Intermittent Stream		
18	CAB036A	Unnamed	Intermittent Stream	Cabling	Crosses
19	CAB036B	Unnamed	Permanent Stream	Cabling	Crosses
20	CAB038A	Cooper-Stevenson Drain	Permanent Stream	Cabling	17
21	CAB038B	Linnamed	Intermittent Stream	Cabling	12
21	CAD030B	Offinanted		Cabling	Crosses
	040000	Managli Dasia	Democratic Other and	Cabling	Crosses
22	CAB038C	Mancell Drain	Permanent Stream	Cabling	3
23	CAB039	Beattie Drain	Permanent Stream	Cabling	12
24		Manaall Drain	Dormonont Stroom	Cabling	2
24	CAD040	Mariceli Dialii	Fernianent Stream	Cabling	Crosses
25	CAB044A	McHardy Drain	Permanent Stream	Cabling	Crosses
20	0,1001.01			Cabling	2
26	CAB044B	Unnamed	Intermittent Stream	Cabling	Crosses
27	D064	Linnamod	Intermittent Streem		10 Crossos
21	P004	Cordnor Droin	Dermonont Stream	Access Road & Cabling	Crosses
20	PU95A	Gardher Drain	Permanent Stream	Access Road & Cabling	Closses
29	POQ5B	Linnamed	Permanent Stream	Access Road	37
23	10350	Unnamed	r ennanent otream	Cabling	27
30	P126	Mazan Drain	Permanent Stream	Access Road & Cabling	Crosses
	1 120	Mazari Diam	r ennanent etteam	Cabling	10
				Access Road, Cabling	Crosses
31	P148	Linnen Drain	Intermittent Stream	Cabling	15
				Access Road	30
22	D161	Skinner Drein	Dermanant Stream	Access Road & Cabling	Crosses
32	FIOI		Fermanent Stream	Cabling	10
33	AHY015	Unnamed Drain A	Intermittent Stream	Cabling	Crosses
34	AHY016	Sinclair Drain	Intermittent Stream	Cabling	Crosses
35	AHY017	Skipper Drain	Permanent Stream	Cabling	14
20		Osusses to Design #4	Democratic Office and	Cabling	Crosses
36	AHY018	Government Drain #1	Permanent Stream	Cabling	10
37	AHY019A	Government Drain #1	Permanent Stream	Cabling	21
38	AHY019B	Mancell Drain	Intermittent Stream	Cabling	21
39	AHY019C	Unnamed Drain	Intermittent Stream	Cabling	Crosses
40	AHY020	Gardiner Drain	Intermittent Stream	Cabling	10
				5	1

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
41	AHY021	Government Drain #1	Permanent Stream	Cabling	Crosses
42	AHY022	Lewis Drain	Intermittent Stream	Cabling	Crosses
43	AHY023	Mancell Drain	Intermittent Stream	Cabling	3
		Unnamed Drain	Intermittent Stream	Cabling	7
44	AH 1024	Griffin Drain	Intermittent Stream	Cabling	7
45		Finn & Cooper Drain	Permanent Stream	Cabling	Crosses
	AH 1025	Unnamed Drain	Intermittent Stream	Cabling	6

Table 8. Water Body Observation Summary for Distances to Turbines (Figure 2-5)

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
7	WB-H5	Newham Drain	Intermittent Stream	P068	117	68
31	P148	Linnen Drain	Intermittent Stream	P148	85	36

Table 9. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-6)

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1	WB-A2	Vsetula Drain	Intermittent Stream	Cabling	15.5
2	W/B-47	Lewis Drain	Intermittent Stream	Cabling	Crosses
2	WD-AI			Access Road & Cabling	100
3	WB-AR27	Lecoco Drain	Permanent Stream	Cabling	Crosses
1	\//B_A D31	Vsetula Drain	Intermittent Stream	Cabling	Crosses
4	VID-ARST			Access Road & Cabling	10
				Access Road	13
5	WB-AR56	Chase Drain	Intermittent Stream	Cabling	15
				Cabling	Crosses
				Cabling	Crosses
6	WB-B2	WB-B2 Flook and Hinton Drain	Intermittent Stream	Access Road	20
				Cabling	6
8	WB-J	Mummery Drain	Intermittent Stream	Cabling	6
9	WB-K	Flook and Hinton Drain	Permanent Stream	Cabling	Crosses
10		Chase Drain	Intermittent Stream	Access Road & Cabling	Crosses
10	WB-L	Sampson Drain	Intermittent Stream	Access Road & Cabling	30
11	WB-M	West Drain	Intermittent Stream	Cabling	Crosses
12	W/B-N	Carter Drain	Intermittent Stream	Cabling	Crosses
12	000-10			Cabling	Crosses
13	WB-N7	Flook & Hinton Drain	Permanent Stream	Access Road, Cabling	Crosses
14	WB-O	Carter Drain	Intermittent Stream	Cabling	Crosses

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
15	WB-P	O'Rourke Drain	Intermittent Stream	Cabling	Crosses
16	WB-O	Doyle Drain	Intermittent Stream	Cabling	Crosses
10	VVD-Q	Sheeler Waddick Drain	Intermittent Stream	Cabling	20
17	WB-RR24	Lewis Drain	Permanent Stream	Cabling	Crosses
18	WB-RR25	Flook & Hinton Drain	Permanent Stream	Cabling	Crosses
19	WB-RR26	Garnet Russel Drain	Intermittent Stream	Cabling	Crosses
20	WB-RR27	Miller Drain	Permanent Stream	Cabling	Crosses
21	WB-RR28	Horne Drain	Permanent Stream	Cabling	Crosses
22	WB-RR29	Vail Drain	Permanent Stream	able	Crosses
23	WB-RR30	Doyle Drain	Intermittent Stream	Cabling	Crosses
24	WB-S	Government Drain	Intermittent Stream	Cabling	Crosses
25	WB-1	Moody & Earley Drain	Intermittent Stream	Cabling	Crosses
26	WB-U	O'Neil Drain	Intermittent Stream	Cabling	Crosses
07		Miller Drein	Intermittent Streem	Access Road & Cabling	60 Craasaa
21			Intermittent Stream	Cabling	Crosses
20	WB-V	Garnet & Russell Drain	Intermittent Stream	Cabling	Crosses
29	WB-Y6		Intermittent Stream	Cabling	Crosses
			internitterit Otream	Access Road	20
31	WB-Z6	O'Rourke Drain	Intermittent Stream	Cabling	5
32	CAB029	Unnamed Drain	Permanent Stream	Cabling	Crosses
33	CAB030	Unnamed roadside ditch	Intermittent Stream	Cabling	1
24			Dormonant Stroom	Cabling	8
- 34	CABUSSA	Government Drain	Permanent Stream	Cabling	Crosses
35	CAB033B	I Innamed roadside ditch	Intermittent Stream	Cabling	5
	CADUSSE	offinamed roadside diterr		Cabling	Crosses
36	CAB083	Lecoco Drain	Permanent Stream	Cabling	Crosses
37	CAB084	Symon Drain	Permanent Stream	Cabling	Crosses
38	CAB085	Towl Drain	Permanent Stream	Cabling	Crosses
39	CAB100	Price Drain	Intermittent Stream	Cabling	Crosses
40	P060	Mummery Drain	Permanent Stream	Access Road	20
				Cabling	15
41	P065	Carter Drain	Intermittent Stream	Access Road & Cabling	Crosses
		Reach Connecting		Access Road & Cabling	Crosses
42	P098	Doyle and O'Rourke Drains	Permanent Stream	Access Road	30
				Cabling	14
43	P100A	Unnamed Roadside Ditch	Intermittent Stream	Cabling	8
45	P111	Tributary to Moody & Earley Drain	Permanent Stream	Access Road & Cabling	Crosses
46	P149	Vince Doyle Drain	Permanent Stream	Access Road & Cabling	Crosses
47	P163	Unnamed roadside ditch	Intermittent Stream	Access Road & Cabling	Crosses
49	AHY027	Waddick Drain	Permanent Stream	Cabling	Crosses
51	AHY034	Symon Drain	Permanent Stream	Cabling	Crosses
52	AHY035	Government Drain	Permanent Stream	Cabling	Crosses
53	AHY036	Doyle Drain	Intermittent Stream	Cabling	Crosses
54	AHY037	Vail Drain	Permanent Stream	Cabling	Crosses

Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
55	AHY038	Ferguson/Laurie Drain	Permanent Stream	Cabling	Crosses
56	AHY041	Stenton Drain	Intermittent Stream	Cabling	17

Table 10. Water Body Observation Summary for Distances to Turbines (Figure 2-6)

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
6	WB-B2	Flook and Hinton Drain	Intermittent Stream	P164	90	41
7	WB-B8	Lewis Drain	Permanent Stream	P164	94	45
10	WB-L	Chase Drain	Intermittent Stream	P063	120	71
13	WB-N7	Flook & Hinton Drain	Permanent Stream	P097	100	51
40	P060	Mummery Drain	Permanent Stream	P060	49	0
44	P100B	Garen & Young Drain	Permanent Stream	P100	129	80
45	P111	Tributary to Moody & Earley Drain	Permanent Stream	P111	67	18
46	P149	Moody & Earley Drain	Permanent Stream	P149	49	0

Table 11. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-6a)

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1	AHY029	Unnamed Drain	Intermittent Stream	Cabling	5
0	AHY030	Unnamed Drain	Permanent Stream	Cabling	6
2		Unnamed Drain	Intermittent Stream	Cabling	6
3	AHY031	Unnamed Drain	Intermittent Stream	Cabling	5
5	AHY033	Carter Drain	Intermittent Stream	Cabling	Crosses

Table 12. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-7)

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1		McCorkell Drain	Intermittent Streem	Cabling	10
1	WD-A			Access Road & Cabling	Crosses
2	WB-AR33A	Hedgedus Drain	Intermittent Stream	Cabling	8
3	WB-AR33B	McGregor Creek tributary	Intermittent Stream	Cabling	Crosses
4		Unnamed Drain B	Intermittent Stream	Cabling	Crosses
4	WD-ARST	Corlett Drain	Intermittent Stream	Cabling	40
5	WB-AR52	Fargo Branch Drain	Intermittent Stream	Cabling	Crosses

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
				Cabling	Crosses
6		Lorpo English Droip	Intermittent Streem	Access Road & Cabling	Crosses
0	VD-AR55	Lome English Drain		Cabling	Crosses
7		Corlott Drain	Intermittent Stream	Cabling	38
7	VVD-D	Conell Drain		Cabling	Crosses
8	WB-C	Unnamed Drain K	Intermittent Stream	Cabling	10
9	WB-D	Locke Drain	Permanent Stream	Cabling	Crosses
10	WB-D6	lackson & Nash Drain	Intermittent Stream	Access Road & Cabling	Crosses
10	VVD-D0	Jackson & Nash Drain		Cabling	17
11	WB-D7	lackson & Nash Drain	Intermittent Stream	Cabling	2
	VVD-D7	Sackson & Nash Drain	internittent Otream	Cabling	Crosses
12	WB-E	Locke Drain	Intermittent Stream	Cabling & Access Road	Crosses
				Access Road & Cabling	Crosses
13	WB-E2	Fargo Drain	Intermittent Stream	Cabling	5
				Cabling	Crosses
15	\//B_E2A	Mosey Drain	Intermittent Stream	Access Road	9
15		Mosey Drain	Intermittent Stream	Access Road & Cabling	Crosses
16	WB-F2B	Jackson & Nash Drain	Intermittent Stream	Access Road & Cabling	Crosses
17	WB-F7	Barfoot Drain	Permanent Stream	Cabling	Crosses
18	WB-H	Laurie Drain	Intermittent Stream	Cabling	Crosses
19	WB-J5	White Drain	Intermittent Stream	Cabling	81
20		P.L. Smyth Drain	Intermittent Stream	Cabling	Crosses
20	VVD-IVIZ	R.L. Shiyin Dialin		Access Road	60
21	WB-N2	Proctor Drain	Intermittent Stream	Cabling	Crosses
22	WB-O2	Proctor Drain	Intermittent Stream	Access Road & Cabling	Crosses
23	WB-07	Locke Drain	Permanent Stream	Access Road	115
24	WB-P2A	Morrison Drain	Intermittent Stream	Cabling	Crosses
25	WB-P2B	Watts Drain	Intermittent Stream	Cabling	Crosses
26		White Drain	Intermittent Streem	Cabling	Crosses
20	WD-QZ			Cabling	100
27		Masov Drain	Intermittent Streem	Access Road	75
21		wosey Drain		Cabling	60
28	WB-R7	Lucas Drain	Intermittent Stream	Access Road & Cabling	Crosses
29	WB-S2	Pilotte Drain	Intermittent Stream	Cabling	10
30	WB-T7	Cyrus Huffman Drain	Intermittent Stream	Access Road & Cabling	Crosses
31	WB-Y7	White Drain	Intermittent Stream	Cabling	10
32	WB-RR09	Tedford Drain	Intermittent Stream	Cabling	Crosses
22		White Drain	Intermittant Straam	Cabling	Crosses
33				Cabling	97
34	WB-RR11	Morrison Drain	Intermittent Stream	Cabling	Crosses

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
05		Due steu Due in	la ta maitte at Otas ana	Cabling	Crosses
35	WB-RR12	Proctor Drain	Intermittent Stream	Access Road	82
36	WB-RR13	Spisani Drain	Permanent Stream	Cabling	Crosses
37	WB-RR14	Lucas Drain	Permanent Stream	Cabling	Crosses
38	WB-RR15	Conrail Drain	Intermittent Stream	Cabling	Crosses
39	WB-RR16	Unnamed	Intermittent Stream	Cabling	Crosses
40	WB-RR17	Locke Drain	Intermittent Stream	Cabling	Crosses
41	WB-RR18	Locke Drain	Intermittent Stream	Cabling	Crosses
42	WB-RR19	Drewery Branch Drain	Intermittent Stream	Cabling	Crosses
43	WB-RR20	Barfoot Drain	Intermittent Stream	Cabling	Crosses
44	WB-RR21	Laurie Drain	Intermittent Stream	Cabling	Crosses
45	WB-RR22	Gales Drain	Intermittent Stream	Cabling	Crosses
46	WB-RR23	Knott Creek Drain	Permanent Stream	Cabling	Crosses
47		Charries Cross Drain	Dermenent Otreen	Cabling	8
47	CABUSTA	Charring Cross Drain	Permanent Stream	Cabling	Crosses
48	CAB031B	Unnamed Drain	Permanent Stream	Cabling	10
49	CAB059A	Unnamed Drain	Intermittent Stream	Cabling	Crosses
50	CAB059B	Unnamed Drain	Intermittent Stream	Cabling	Crosses
51	CAB073A	Unnamed Drain	Intermittent Stream	Cabling	20
52	CAB073B	Unnamed Drain	Intermittent Stream	Cabling	10
53	CAB074	Unnamed Drain	Intermittent Stream	Cabling	10
54	CAB086	McGregor Creek	Permanent Stream	Cabling	Crosses
55	D021A	Linnomod Droin	Intermittent Streem	Access Road	60
55	PUSTA	Unnamed Drain	intermittent Stream	Cabling	Crosses
FC	D024D	Linnomed Drein	Intermittent Stream	Cabling	100
00	PUSID	Unnamed Drain	intermittent Stream	Access Road & Cabling	Crosses
57	D025	Wett Drain	Intermittent Stream	Access Road & Cabling	Crosses
57	P035	wall Drain	intermittent Stream	Cabling	15
58	P036A	Grist Drain	Intermittent Stream	Access Road & Cabling	Crosses
59	P036B	Morrison Drain	Intermittent Stream	Cabling	Crosses
60	P037		RL Smyth Drain no lor	nger exists at this location	
62	P057	Unnamed Drain	Intermittent Stream	Access Road & Cabling	Crosses
63	P058		This historical Unnamed	water body no longer exists	
64	P108A	Watt Dra	ain is a historical water boo	dy that no longer exists at this loo	cation
65	P108B	Morrison Drain	Permanent Stream	Access Road & Cabling	Crosses
66	P109A	Lucas /Sample Drain	Permanent Stream	Access Road & Cabling	Crosses
67	P109B	Lucas /Sample Drain	Permanent Stream	Access Road & Cabling	Crosses
				Cabling	Crosses
70	AHY039A/B	Gregory Drain	Permanent Stream	Cabling	20
				Access Road & Cabling	20
71	AHY042	Unnamed Roadside Ditch	Intermittent Stream	Cabling	10
72	AHY043	Vanraay Drain	Intermittent Stream	Cabling	10

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
70		Lucas Drain	Permanent Stream	Cabling	Crosses
13	AH 1045	Unnamed Drain	Intermittent Stream	Cabling	10
74	AHY046	Morrison Drain	Permanent Stream	Cabling	Crosses
75	AHY047	Kneeborne Drain	Intermittent Stream	Cabling	Crosses
76	AHY048	Cyrus Huffman Drain	Intermittent Stream	Cabling	Crosses
77	AHY049	Tedford Drain	Permanent Stream	Cabling	Crosses
11		Unnamed Drain	Intermittent Stream	Cabling	10
78	AHY050	Centre Line Drain	Intermittent Stream	Cabling	20
79	AHY051	White Drain	Intermittent Stream	Cabling	Crosses
80	AHY052	Tedford Drain	Permanent Stream	Cabling	Crosses
01		White Drain Branch	Intermittent Streem	Cabling	Crosses
81	AHY058		mermilient Stream	Cabling	18

Table 13. Water Body Observation Summary for Distances to Turbines (Figure 2-7)

Water Body Observation Number	Water Body Observation Label	Water body Name	Water Body Type	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
8	WB-C	Unnamed Drain K	Intermittent Stream	P052	139	90
14	WB-E7	Barfoot Drain	Intermittent Stream	P058	129	80
15	WB-F2A	Mosey Drain	Intermittent Stream	P044	80	31
18	WB-H	Laurie Drain	Intermittent Stream	P056	123	74
21	WB-N2	Proctor Drain	Intermittent Stream	P040	133	84
22	WB-O2	Proctor Drain	Intermittent Stream	P041	78	29
23	WB-07	Locke Drain	Permanent Stream	P055	135	86
30	WB-T7	Cyrus Huffman Drain	Intermittent Stream	P033	111	62
35	WB-RR12	Proctor Drain	Intermittent Stream	P040	139	90
55	P031A	Unnamed Drain	Intermittent Stream	P031	65	16
57	P035	Watt Drain	Intermittent Stream	P108	136	87
59	P036B	Morrison Drain	Permanent Stream	P036	127	78
61	P046B	Lucas Drain	Intermittent Stream	P046	61	12
62	P057	Unnamed Drain	Intermittent Stream	P057	76	27
67	P109B	Sample Drain	Permanent Stream	P109	73	24
68	P109C	Nichol Drain	Permanent Stream	P109	128	79
69	P120	Proctor and Grist Drain	Intermittent Stream	P120	130	81

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)	
4		Ingram Drain	Intermittent Stream	Cabling	Crosses	
1	WB-AR37A	Mervin Drain	Intermittent Stream	Cabling	Crosses	
				Cabling	Crosses	
2	WB-AR38	Brown Drain	Intermittent Stream	Access Road & Cabling	Crosses	
		Dian an Daoin	In terms itten til Otre ere	Cabling	Crosses	
3	WB-AR39	Bisner Drain	Intermittent Stream	Access Road & Cabling	Crosses	
		Unnamed Drain U	Intermittent Stream	Cabling	Crosses	
4	WB-AR49	Cooper Drain	Intermittent Stream	Cabling	Crosses	
5	WB-AR50	McEachren Drain	Intermittent Stream	Cabling	Crosses	
6		Deird Drein	Intermittent Otreen	Cabling	Crosses	
ю	WB-AR60	Baird Drain	Intermittent Stream	Cabling	20	
7	WB-B3	McEachren Drain	Intermittent Stream	Access Road & Cabling	8	
				Cabling	Crosses	
				Access Road	22	
8	WB-C3	Mull Branch Drain	Intermittent Stream	Cabling	30	
				Access Road	108	
				Cabling	115	
9	WB-D3	Unnamed Drain	Intermittent Stream	Cabling	25	
40		Unnamed Drain	Intermittent Stream	Cabling	Crosses	
10	WB-E3	Taff Creek Drain	Intermittent Stream	Cabling	Crosses	
11	WB-F3	Unnamed Drain	Intermittent Stream	Cabling	Crosses	
40		MaEashaan Dasia	In terms itten til Otres ere	Access Road & Cabling	86	
12	WB-G3	McEachren Drain	Intermittent Stream	Cabling	Crosses	
				Cabling	Crosses	
13	WB-H3	WB-H3 Union Drain	Union Drain	Intermittent Stream	Access Road	20
				Cabling	17	
		Union Drain (Old Course)	Intermittent Stream	Cabling	Crosses	
14	WB-I3 Union Drain (New Course)	Intermittent Stream	Cabling	6		
		Cleveland Drain	Intermittent Stream	Cabling	45	
15	WB-J7	Pfaff Creek Drain	Intermittent Stream	Access Road & Cabling	70	
16	WB-L4	Mull Drain	Intermittent Stream	Cabling	Crosses	
17	WB-M4	McPhail Drain	Intermittent Stream	Cabling	Crosses	
				Cabling	Crosses	
18	WB-M5	Pfaff Creek Drain	Intermittent Stream	Access Road & Cabling	90	
19	WB-N5	Wiebenga Drain	Intermittent Stream	Cabling	20	
				Access Road & Cabling	Crosses	
				Access Road & Cabling	Crosses	
20	WB-P3	Pfaff Creek Drain	Intermittent Stream	Cabling	30	
				Access Road & Cabling	20	
21	WB-P4	Unnamed Drain	Intermittent Stream	Cabling	15	

Table 14. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-8)

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)	
22	WB-Q4	Baird Drain Open	Intermittent Stream	Cabling	Crosses	
23	WB-RR03	Nicholson Drain	Intermittent Stream	Cabling	Crosses	
				Cabling	Crosses	
24	WB-RR06	Mull Drain	Intermittent Stream	Cabling	Crosses	
25	WB-RR07	Baird Drain Open	Intermittent Stream	Cabling	Crosses	
26	WB-RR35	Rushton Drain	Permanent Stream	Cabling	Crosses	
27	WB-T2	McPhail Drain	Intermittent Stream	Cabling	Crosses	
		Deird Drein Onen	Internet Otre ere	Cabling	Crosses	
28	VVB-02	Baird Drain Open	Intermittent Stream	Access Road & Cabling	20	
29	WB-U7	Unnamed Drain W	Intermittent Stream	Access Road & Cabling	Crosses	
20		McCashran Drain	Intermittent Streem	Access Road	10	
30	VVD-A/	MCEachren Drain	Intermittent Stream	Cabling	15	
31	CAB006A	Unnamed Drain	Intermittent Stream	Cabling	15	
32	CAB006B	Unnamed Drain	Intermittent Stream	Cabling	10	
22		Linnamod Drain	Intermittent Streem	Access Road & Cabling	Crosses	
	CAB056	Unnamed Drain		Cabling	15	
34	CAB087	Cooper Drain	Permanent Stream	Cabling	Crosses	
35	P005B	Unnamed Drain	Intermittent Stream	Access Road & Cabling	Crosses	
36	P013A	Nicholson Drain	Permanent Stream	Access Road & Cabling	Crosses	
27	D012D	2013B	Permanent Stream	Access Road & Cabling	Crosses	
57	PUISD	Unnamed J Diam	Permanent Stream	Cabling	15	
38	P018	Linnamed Drain	Intermittent Stream	Access Road & Cabling	Crosses	
	FUIO			Cabling	9	
39	P019		Busted Drain no long	er exists at this location		
40	P022	Mull & McLachlan Drain	Permanent Stream	Access Road & Cabling	Crosses	
11	P023	Baird Drain Open	Intermittent Stream	Access Road	26	
41	1025	Band Drain Open		Cabling	12	
42	P024	Whitiebread Drain	Permanent Stream	Access Road & Cabling	Crosses	
43	P030	Tedford Drain	Permanent Stream	Access Road & Cabling	Crosses	
44	P101		Rushton Drain no Ion	ger exists at this location	1	
45	P135	Tompkins Drain	Permanent Stream	Access Road & Cabling	Crosses	
46	P138	Wiebenga Drain	Permanent Stream	Access Road & Cabling	Crosses	
47	P155	Unnamed Drain	Permanent Stream	Access Road & Cabling	22	
48	P156A	Unnamed Drain	Intermittent Stream	Access Road & Cabling	Crosses	
49	P156B		Water Body no long	er exists at this location		
50	P166	Bol	Bolohan Craig Drain Extension no longer exists at this location			
51	P173	Unnamed Drain	Intermittent Stream	Access Road & Cabling	Crosses	
52	AHY053	Unnamed Drain W	Intermittent Stream	Cabling	Crosses	
	7.11000			Cabling	10	
53	AHY054	English Drain	Permanent Stream	Cabling	12	
54	AHY055	McPhail Drain	Intermittent Stream	Cabling	Crosses	
55	AHY056	Gobert Drain	Permanent Stream	Cabling	12	
55	AHYU56	Tedford Drain	Permanent Stream	Cabling	Crosses	

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Type of Water Body Type of Infrastructure within 120m of Water Body				
56	AHY071	Brown Drain	Permanent Stream	Cabling	Crosses			
57	AHY072	Unnamed Drain	Intermittent Stream	Cabling	Crosses			
57		Nicholson Drain	Permanent Stream	Cabling	10			
58	AHY073	Anderson Drain no longer exists at this location						
59	AHY074		Shipp Drain no longer exists at this location					

Table 15. Water Body Observation Summary for Distances to Turbines (Figure 2-8)

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
2	WB-AR38	Brown Drain	Intermittent Stream	P152	90	41
3	WB-AR39	Bisner Drain	Intermittent Stream	P093	37	Overlaps
7	WB-B3	McEachren Drain	Intermittent Stream	P017	160	111
15	WB-J7	Pfaff Creek Drain	Intermittent Stream	P012	80	31
29	WB-U7	Unnamed Drain W	Intermittent Stream	P028	107	58
43	P030	Tedford Drain	Permanent Stream	P030	33	Overlaps
45	P135	Tompkins Drain	Permanent Stream	P135	65	16
47	P155	Unnamed Drain	Permanent Stream	P155	170	121

Table 16. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-9)

Water Body Observation Number	Water Body Observation Label	Water body Name	Stream Designation	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
1	WB-AR40	Neve Drain	Permanent Stream	Cabling	Crosses
2	WB-AR41	Unnamed Water Body	Permanent Stream	Cabling	Crosses
				Cabling	Crosses
3	WB-AR42	Clendening Drain	Intermittent Stream	Access Road	22
				Cabling	85
4		Chris Debreuwer Drein	Intermittent Streem	Cabling	Crosses
4	VVD-AR43	Chins Debrouwer Drain	intermittent Stream	Cabling	26
E		Potos Plasmfield Drain	Dermanant Stream	Access Road & Cabling	Crosses
5	WD-AR40	Dates Dioonneid Drain	Permanent Stream	Cabling	Crosses
6	WB-AR62	Woodlife Drain	Intermittent Stream	Cabling	13
7	W/B-K3	Woodlife Drain	Intermittent Stream	Cabling	7
	WD-R3			Access Road & Cabling	Crosses
8	WB-L3	Rowe Drain	Intermittent Stream	Cabling	Crosses
9	WB-M3	Arnold Davis Drain	Intermittent Stream	Cabling	Crosses
10	WB-N3A	East Lake Drain	Intermittent Stream	Cabling	Crosses
11	WB-O3	McKay Drain	Permanent Stream	Cabling	Crosses
12	WB-W7	Rowe Drain & Clunis Drain Intersection	Intermittent Stream	Access Road & Cabling	Crosses

Water Body Observation Number	Water Body Observation Label	Water body Name	Stream Designation	Type of Infrastructure within 120m of Water Body	Distance to Infrastructure (m)
13	WB-X5	McLean Drain	Intermittent Stream	Cabling	Crosses
14	CAB024	McArthur East Drain	Permanent Stream	Cabling	Crosses
15	CAB026	Unnamed Drain	Intermittent Stream	Cabling	Crosses
16				Cabling	9
10	CAB028	Unnamed Drain	Permanent Stream	Cabling	Crosses
17	CAB054A	Unnamed Drain	Intermittent Stream	Cabling	12
18	CAB054B	Unnamed Drain	Permanent Stream	Cabling	25
19	CAB055	Unnamed Drain	Permanent Stream	Cabling	7
20	CAB056	Unnamed Drain	Intermittent Stream	Cabling	22
21		Linnemed Drein	Dormonont Stroom	Access Road & Cabling	Crosses
	CABUSI	Unnamed Drain	Permanent Stream	Cabling	23
22	CAB090	Unnamed Drain	Permanent Stream	Cabling	Crosses
23	P003	Unnamed D	Intermittent Stream	Access Road & Cabling	Crosses
24	P004	McKay Drain	Permanent Stream	Access Road & Cabling	53
25	P009	Rowe Drain	Permanent Stream	Access Road & Cabling	Crosses
26	P104B		Historical unnamed Wa	ater Body no longer exists	
27	P106	Histor	ical Water Body Frasier D	rain no longer exists at this locat	tion
28	P140	Nelles Extension Drain	Permanent Stream	Access Road & Cabling	Crosses
29	P167	Clunis Drain	Permanent Stream	Access Road & Cabling	Crosses
30	P171C	Unnamed X Drain	Permanent Stream	Access Road & Cabling	Crosses
31	AHY057	White Drain	Intermittent Stream	Cabling	50
32	AHY059	Unnamed Drain	Intermittent Stream	Cabling	Crosses
22		MaArthur East Drain	Dormonont Stroom	Cabling	10
	ATTOODAD	MCAILINI East Dialin	Fermanent Stream	Cabling	10
34	AHY068	Clendening Drain	Permanent Stream	Cabling	Crosses
35	AHY070	Nesbitt Drain	Permanent Stream	Cabling	Crosses
36	AHY086	Neve Drain	Permanent Stream	Cabling	Crosses
37	AHY087	Archie Campbell Drain	Permanent Stream	Cabling	Crosses
38	AHY088	Unnamed Drain	Intermittent Stream	Cabling	Crosses
39	AHY089	Cumming Drain	Permanent Stream	Cabling	Crosses
40	AHY090	McArthur East Drain	Permanent Stream	Cabling	Crosses
41	AHY091	Nelles Extension Drain	Permanent Stream	Cabling	Crosses

Water Body Observation Number	Water Body Observation Label	Water body Name	ly Name Type of Water Body		Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
25	P004	McKay Drain	Permanent Stream	P004	53	4
26	P009	Rowe Drain	Permanent Stream	P009	69	20
30	P140	Nelles Extension Drain	Drain Permanent Stream P140		114	65
31	P167	Clunis Drain	Permanent Stream	P006	144	95
32	P171C	Unnamed X Drain	Permanent Stream	P171	75	26

Table 17. Water Body Observation Summary for Distances to Turbines (Figure 2-9)

Table 18. Water Body Observation Summary for Distances to Access Roads and Cabling (Figure 2-10)

Water Body Observation Number	Water Body Observation Label	Water body Name	Water body Name Stream Designation		Distance to Infrastructure (m)		
1	P145A	McGregor Creek	Permanent Stream	Cabling	Crosses		
2	P145B	MaCragar Craak	Bormonont Stroom	Access Road	20		
2		McGregor Creek	Fernaneni Sileani	Cabling	15		
3	CAB001	Unnamed Drain	Permanent Stream	Permanent Stream Cabling			

Table 19. Water Body Observation Summary for Distances to Turbines (Figure 2-10)

Water Body Observation Number	Water Body Observation Label	Water body Name	Type of Water Body	Turbine Closest to Water Body	Shortest Distance between Water Body and Turbine Base (m)	Shortest Distance between Water Body and Project Location (m)
2	P145B	McGregor Creek	Permanent Stream	P145	137	88

7.3 Site Investigation Results: Water Body Observations Containing Seepage Areas Twelve (12) water body observations located within the Project area were identified as seepages. The twelve (12) were declared seepage zones due to the presence of watercress (*Armoracia sp.*). Details of these water bodies can be found in Table 20 below with site-specific information provided in subsection 7.2.

#	Water body Observation Label	Water body Name	Type of Water Body	Type of Infrastructure	Distance to Infrastructure (m)	Turbine Closest to Water Body	Shortest Distance between Water Body and Closest Turbine
Figu	ire 2-5						
17	CAB035B	Unnamed roadside ditch	Intermittent	Cabling	Crosses	P067	>120
Figu	ire 2-6						
30	WB-Y6	O'Rourke Drain	Intermittent	Cabling	Crosses	P098	>120
32	CAB029	Unnamed Drain	Permanent	Cabling	Crosses	P060	>120
Figu	ire 2-7						
5	WB-AR52	Fargo Branch Drain	Intermittent Stream	Cabling	Crosses	P046	>120
18	WB-F7	Barfoot Drain	Permanent Stream	Cabling	Crosses	P165	>120
Figu	ire 2-8						
53	AHY054	English Drain	Permanent Stream	Cabling	12	P028	>120
55	AHY056	Brown Drain	Permanent Stream	Cabling	Crosses	P030	>120
Figu	ire 2-9						
35	AHY060B	McArthur East Drain	Permanent Stream	Cabling	10	P140	>120
39	AHY087	Archie Campbell Drain	Permanent Stream	Cabling	Crosses	P139	>120
41	AHY089	Cumming Drain	Permanent Stream	Cabling	Crosses	P140	>120
42	AHY090	McArthur East Drain	Permanent Stream	Cabling	Crosses	P140	>120
43	AHY091	Nelles Extension Drain	Permanent Stream	Cabling	Crosses	P140	>120

Table 20: Water Body Observations Containing Seepage Areas

8.0 Summary of Site Investigation

Comprehensive site investigations for the Project were undertaken in the fall 2010 and spring, summer, and fall of 2011 by NRSI Biologists. These site investigations included site-specific habitat assessments of aquatic water bodies throughout the Project area.

Similar to the Records Review no lakes or lake trout lakes were observed within the Project area. Overall 344 Water Body Observations were made of which 243 permanent and intermittent streams were identified. Although 243 streams were identified there were numerous cases of streams crossing the site boundaries at a number of different locations. These totals were summarized using Tables 3 to 10 from Subsection 7.2. Table 21 below provides a comprehensive summary of the number of Water Bodies located within the Project area that are adjacent to or crossing Project components while Table 22 summarizes water body sections within 120m of turbines.

Table	Number of W	later Body Sections	Within the Project Area	Number of Water Body Sections CROSSING a Project Component				
Number	Access Road	Cabling	Access Road and Cabling	Access Road	Cabling	Access Road and Cabling		
3	0	10	2	0	1	4		
5	9	24	8	3	19	11		
7	4	31	3	0	26	8		
9	5	13	4	0	39	7		
11	0	4	0	0	1	0		
12	6	28	1	0	46	17		
14	5	21	7	0	32	17		
16	1	13	1	0	23	9		
18	1	1	0	0	2	0		
Total	31	145	26	3	189	73		

Table 21: Water Body Sections within the South Kent Wind Project Area

Table 22: Water Body Sections within 120m of a Turbine

Table Number	Turbine Labels	Number of Water Body Sections within 120m of a Turbine	Number of Water Body Sections within 30 m of a Turbine Base	Number of Water Bodies within 30 m of Project Location
4	P070, P087, P174	3	0	1
6	P116, P132, P081, P080, P115, P122, P071, P072, P075, P082	10	0	1
8	P068, P148	2	0	0
10	P164 (x2), P063, P097, P060, P100, P111, P149	8	0	2
13	P052, P058, P044, P056, P040 (x2), P041, P055, P033, P031, P108, P036, P046, P057, P109 (x2), P120	17	0	5
15	P152, P093, P017, P012, P028, P030, P135, P155	8	0	3
17	P004, P006, P009, P140, P171	5	0	2
19	P145	1	0	0
Total	51	54	0	14

As shown in Table 22, a total of 54 water body sections (permanent and intermittent streams) were found within 120m of a turbine. Of those none are within 30 m of a turbine base and 14 are within 30 m of turbine blade tips. There are 51 different turbines located within 120 m of a water body (measured from the blade tips). Details of these water bodies can be found in Tables 3 - 19 in subsection 7.2.

Lastly, twelve (12) seepage areas were observed and are identified in Subsection 7.3.

The results of these site investigations will be used, in conjunction with the records review, to identify potential impacts associated with the proposed development activities for the Project. These potential impacts, along with recommended mitigations measures, will be addressed in a subsequent report, *South Kent Wind Project: Water Body Environmental Impact Study (NRSI, 2012b).*

9.0 References

- Environmental Protection Act. 2009. Ontario Regulation 359/09 Renewable Energy Approvals under part V.0.1 of the Act.
- Holm, E., N. Mandrak, and M. Burridge. 2009. The ROM field guide to freshwater fishes of Ontario. Royal Ontario Museum Science Publication. Toronto, Ontario. 462 pp.
- Natural Resource Solutions Inc. (NRSI). 2012a. South Kent Wind Project: Water Body Records Review Report. Prepared for Hatch Ltd. March 2012.
- Natural Resource Solutions Inc. (NRSI). 2012b. South Kent Wind Project: Water Body Environmental Impact Study. Prepared for Hatch Ltd. March 2012.
- Newmaster, S.G., A.G. Harris, and L.J. Kershaw. 1997. Wetland plants of Ontario. Lone Pine Publishing. Edmonton, Alberta.

Appendix I Site Investigation Field Notes

S	NATURAL	RESOURCE	SOLUTIONS	INC.
0	Aquatic, Terrestri	ial and Wetland Bio	logists	

	Project	Project: 1184 SOUTH KENT LOCATION: SOUTH OF CHATHAM								Date: Sept. 8/10		
[Staff:	D. CALHOUN, S. MI	URRA	4	Weather: OK	iekchst	WIND 4, CO	0005	10% Aly Temp	2010 Page:	_ of	
2007		Pho	otos	Natural Corridor		Channel Morpho	logy	Vegetation	513°20			
DPM DPM	Loc'n No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions	
×	A	NNKNOUDAI		1	-DECUDIOUS TREES- SW-REGIONE GR	NW 501 SW 501	DRAIN	2	TR -CEDAK PAREN HE, VINES	BARE	DRY	
X	B	Unknown	NW 2	se 3	GR HE	6	Drahaste	1.5	OR	MPHH Catton	Dry	
78	C	Unknown	-	SW 4	TR HE-Griden Tool	7	Drain	Ĺ.	HE-GOIDEN NO	62	Dry	
\checkmark	D	Unknown	NW 5	Se Co	GR HE	16	ds - drown	2.5	HE-Golden Soo	Bare	Ver Turbid.	
1C/	E	UMKNOWN	NW 7	B 9	GIR	9	Drain	1.5	HE GR	A CONTRACTORS FILME	difficult dotel	
1	F	Unknown	12	-	GR	4.5	Disting	1.5	CAIK	GK	Water @ Cuiver	
X	G	unknown	5	-	GIR	15	Drain		HE GR	14 PHM	Dry	
X	4	Unknown	14	15	GR	12	Drain	1.5	-T-E- G-B	HE	Dry	
X	I	unknown	16	17	GIK HE TO BOOK	10	Drain	1.5	HE	TMPHH	Moist	
\sim	0	unknown	16	19	HE OR	5	Drain	1.5	HE Golden Ro	TYPHIA TRANSING	Dry	
V	JK	WHIKNOWN CHERT	20	21	HE Golden Rod	15	(Memders@U/s)	1.5	6R 48 (02	GR	Dry	
1	L	UNKNOUN	22	23	St	10	Prain	1.5	SH USE Contribution	Detrition	Dry	
V	M	anknown	24	25	HE GR	-1	Drailine		LIFE- Gallo Rig	HE Bare + Woods	Dry.	
X	Li	Unknown	N	20	GRE HE Goden	17	Drain	2	HE - Galden Rid	Detrist 1141e	Dry in spots	
1, V	N	unknasn	11	100	SH Rid	18	(Bridge)	2.5 15CH	TR- Willow TR	detus	Water in pools. Dry , wats.	
	9	Up Varian	25	W	HE vines	15	Vrain (6.040)	1.5	HE	Bare channel	The Rock Rock and	
X	E	Arrand and	50	502	UK, IK we want	10	Drain (lonciete)	1.5 (HW)	SH GR	Bare channel	Dry	
S	LQi	MIT WILDWART	1.52	15/	TR TREE		DITCH NATUREL DRAIN NATUREL	DACHW		& duckned		

Solutions Inc. Aquatic, Terrestrial and Wetland Biologists **BASIC AQUATIC HABITAT CHARACTERIZATION**

Project: 1184 South K	ent	Location:		Date: Sep. 9110
Staff:		Weather:		Page: of
	Bhotoo	Natural Corridor	Veretetien	

1 HOF	Loc'n		FIIC	JIOS	Natural Corridor		Channel worpho	logy	vegetation		
Form	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
×	0	unknown	34	-	GR	Z	Drain	1 1.5(HW)	HE-Golden PHRAGINITES	Bare 53 TYPHAR	DN
1	R	UNKNOWN	35	36	E-Woodlot W-HE GR	-7	Drain (Cuives	1.5 2.5(HW)	TE GR	BARE	Pry
Ń	5	unknown	38	37	GIR	15	Prain	2	GR SH	BARE	Dry
X	T	unknown	¥2	541	GIR	F.	Diain (Bidge)	1	HE- Golden RUCH	duct See 45 20	water under de
X	u	unknown	43	- :077 20052	GR	5	Ditch	· 5 1 (H.W)	GR	BARE	Dry
\checkmark	V:	Un Known	44	45	GIR-North HE/Crops-South	15	Drain	5.5+W)	HE-Goven And	BARE	5+:11
×	V::	Whiknown	46	47	GR-South	4.5	Ditch	Z(HW)	UF Galder Deal	Equases	Dry
\checkmark	W	unknown	48	49	HE HE	15	Drain	3	SH-Willow	SARE (Jurbic)	Standing (Hursio)
X	X	unknown	51	52	- Clover	3	Ditch	50mlun	HE-Guen annes	GR	Dry
\checkmark	Y	unknown	53	54	JVE- Griden Red	13	Drain	BLAW	- Greicien Rod	-duckweed.	water
X	Zi	Unknown	5/4	55	TR	7	Drain	2	SH	BARE	Dry
HUMAN	Zii	unknown	56	57	HE Golden Rod	7	Drain	1.5	HE HE	T- grassey jupper	Dry
A	Zin	unknown	58	1410	TR	10	Prain	1.5	HE JUHRAGNIES	PHRAMITES	Dry
×	AA	unknown	59	60	HE-Golden 200	6	Drain	TUL	- Dill	GR Bare	Dhy
¥	BB	Unknown	63	64	GIRE	4	Ditch	· 15(400)	GR	BARE	Dry
X	CC	Unknown	65	66	GiK	5	Ditch	.15(m) .5.1	GR HL- Clover Finistle	BARE	Dry
at of the	DP	unkhown	1877	12560	GR, HE	15	Drain	2	Chik - Gris Clessific	RARE	Dry
×	FF	unknown	GB	69	GR	6	Draim	(m)	ME- GR	DAIKE TYPHIA	Dry



Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

Project: 1184 South Kent	Location: Chatham Kent of 3	Date: 20, 000
Staff: D. Calhown S. Murray	Weather: Supply, 20°C/2 10:53 170% Clau	⊳{ Page: <u>⊰</u> of

HAB	1		Pho	otos	s Natural Corridor Channel Morphology		logy	Vegetation			
Form	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
5amer	FFi	unknown	570	-	HEGR	7	Drain	3(4.W)	UR HE	BARE S	Dry
× ZV	FFii	unknown	3	W 72	GIR	7	Drail n	1.5	LE PHONONES	BAKE	Dry
Canto V	616"	Unknown	5 73	74	TR-Decidhous GR	15	Diguin	2.5	GR	BARE	Standing water Turbid
7.2	GIGII	unknown	75	-	TR. MIXED	5	Drain	.5 (m)) [m	HE	BARE W CHIOSSAS	DRI
\times	HH	UNIONN	76	17	GARASS	Ŧ	ROAPSIDE	0.505	Granss	BANKE	Dey
X	II	Unknown	TR	79	HE- Wolden Rod CArass	20	Prain	2	HE-Golden Kool SH-Sumack	Reed Silverd	FIDE SW
\checkmark	ill	unknown	4n	3	Grass St. Widginge	25	Drain naturalized change	2.5	HC-Gribber Rid	Udeder Kress S	fow SW
\checkmark	Wii	unknown	42	W BB	Chrass	12	Drain	2	SH-Willow	White givine 5	Dry
×	KK	unknown	64	~	Tree Cak Ouroperine Ras	7	Orain	105(HW)	HE-Ciclolen Lool	Deritis	Dry
22p.15/10	21	un Known	N 2	53	TR-Cadar 91m HE-Golder Rod	10	Drain	1.5(240)	HE-Goden Rec	Bare	Very Slow
5	LLii	un Known	E 4	35	TR-Ceclar, Elin HF. GoldenRoo	5	Drain	1.5	GK HE	Bare D Grass	Dey
\checkmark	MN	Miknown	N G	57	Car LadderRod	B	Drain	1(410)	TYPHA HE-Gockin Rod	Bark	Dry (North) Moist@(ulvert(S))
×	NN	unknasn	17	9	GR. HE-Goldeniko	15	Prain	3(40)	SH GT2 HE-Cideler Rol	Bare I wood, details	Dry
HILLOG	-00	unknown	10	N	TR-Cedar, Elm TriR	10	Drain	2(4.0)	HE-Golder Size	Typha (US)	Dry
Y.	PPi	unknown	12	13	GIVOLSS	10	Drain	2(40)	HE-GOOMKNI TYPHA SH	Bave water river)	Moist cirea
X	PPii	Unknown	14	15	Die Golden Rad	5	Drain	5640	HE Golden Ed St	dure to grasses	Dry
\checkmark	aq	Win Known	516	E	(Grass TR-Codar	15	Drain	4(Hus) 2	HE Golden Rod	Bare Ju avasses	Standing
×	ZR	wn Known	22	23	GR TR-Gedar + Dak	12	Drain	3(41)	HE-Geiden hod E- Willow	Bare	Standing water

Aquatic, Terrestrial and Wetland Biologists

476.15

1	Project: 1184 South Kent Location: Chatham Kent Date: SeD B10										
	Staff: S. Murray Weather: Sunny, 28°C. 5% Claud. Wind 2 , Page: of										
ſ	Lasta		Pho	otos	Natural Corridor	Channel Morpho	hannel Morphology Vegetation				
prim	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
X	Ş	unknown	E 24	W 25	Grass	2.5	DHCH	Tittw 2	Garss	Bare To Grass	Dis
\star	TT	unknown	527	N 26	HE-Grobben Rock SH-Sumack	17	Drain	1:5(+0)	GR HE-Golder Fool	BARE	Huddy wholer
7	TTU	unknown	E 28	29	GR HE-Grolden Rod	4	Drain	0.5	GR HE-Grotelen Rod	BARE 5 Orass	Dry
+	uu	Unknown	520	N Z(Grass	T	Drain	16407	HE-Golden Roo	Bare to Orasso Type	Sanding Water (SWorth
×	VV	unknown	500		HE-Golden Fod TR-Doplar	10	Drain	3(+w) 2	HE coolden rod Str GR	Typica	Dry
×	WW	unknown	34	35	CAR, SH TR. Cedar	5	Ditch	5	TR-Cedar	Bare I Crivasses	Dry
X	XX	unknown	36	37	HE-Golden 400 OR	18	Drain	2.5	HE-Golden Lod GR	Bare D grasses	Dry
4	XX??	uviknown	-	38	TR-Cedar	T	Drain	2(240)	GR, TR-Golar	Bare D grasses	Dry
N	YY'	unknown	39	40	HE-Gade Rod	20	Dycum	3 Southern B	HE-GoderRud	grasses	Standing water
5 "	44:9	unknown	41	42	Orrass	0	Drain	In the	HE-Golder, Rod	Bare	Dry
X	22	unknown	43	44	GIVASS	13	Drain	1,5(40)	GR Seweinerd	Bare W TYPHA	Standing Pool
V	AAA	unknown	45	46	HE. Gulder Rock	12	Drain	1.5	St.	Bave to detritis	Dry
X	3BB	unKnown	47	48	GIR GIR	10	Proun	5	GR, SH	grass	Dry
70	al	un Known	F	49	HE GOOGENED	10	Drein		HE-Golden Hed	TYPHA	Diy
×		whknown	50	51	HE- Ciciaeri 200 GR	6	Drain_	5	HE-Goice Rod	Bare u grass	Dry
$\overline{,}$ $$	EEE	UM Knowski	52	52	SH - WILLOW	16	Drain	1 1 SCHW	GR, SH-WILDW	Bare	Standing Water
	EEE'ii	unknown	64	55 N	Uvaso (ar	6	Ditch	L.SCHW	CH-Willow	Barre as avass	Dry
XL	FFP	MIKNUWA	56	57	TR-Lodar Oak	8	Normal South ??	105	TR-Cidor COK	woody dobris	Dru

Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

Proje	ect: 1184 Sout Ker	ot		Location: Ch	athan	n / Kent			Date: Se	D.14110
Staff	S Murray			Weather: ריין	@ ##F	Sunny Winet	Cloud	:0%	Page:	of /
8		Pho	otos	Natural Corridor		Channel Morpho	ology	Vegetation		
No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
XCGG	" withown	58	N 59	TR-Cechar SH	11	Drein	·54m	HE-Golden-10	Bare but over	DrLi
VHHH	unknown	5	NGI	Benaplearn	15	Drain	4(+tw)	HE-L-INFIERROD SH-SURVICEK	Baret	Dry El Some Small pode of
TIT	il unkagu)n	E-63	<u></u>	TR-Oak ALOSS	6	Drain	2(HW)	OR HE-Grober Rod	Pare Si	Dri
TIT	il unknown	W G4	5	(ALCIES	12	Drain	3(HW) 2	HE. Gieldrin Rod TR-Cedar	Arrow head TV12+12	Standing
2 III	ii unknown	N	-	(nrass	4	Ditch	1(HW) .5	GR HE-Giolden Roo	Bare II avass	Dru
XKKK	- unknawn	N (67	5	GIR HE-Golden 200	5	(roodside)	.5 (HW) 1.5	HE-Golden Rod	Bare II Typha + Philogenites	Dry
VILL	unknown	5	E 1W 70171	GR HE-Giolde, Prod	8	Drain	2(200)	HE-Gidden Dach SH-Scinica K	Covered in Cluckweed	Standing water
XMMM	4 unknown	W 73	E	Grass	3.5	DHON	55(#W)	OTRASS Minch)	Bare To grass	Dry
NNN	V unknown	75	76	GR, HE-Gotten Rod	15	Drain	2(++10)	HE-Gidden Roof Serverweed GR	Pare	Water
1000	UNKNOWN	SM	N 78	GR. TR-Maple	12	Drein	3(HW)	HE-Golden Hod	Bare	FLOW
XPPP	unknown	79	80 80	HE-Caolden Roal	16	Drain (goes water on North Side.)	3(+10)	SH-Willowswick HE-Otobler Rod Jewelweod	Barre Ju Woody debris	Standing wat
1 200	2 unknown	52	52	GTR, HE Golden	17	Drain	2	TR-Mixed	Bare	Standing water
XRRR	unknown	83	84	St-Willow GR	15	Drain	25(411)	GR. SH-Willow	Barre W weedy debis	Dry
VGS	· Unknown	85	266	GIR TR CH	n	Drain	2	- Jewelweel	woody debris	Dry
XTTT	unknown	88	59	Grass	6	Train	1.5	Grass	(Olvarss Dare but -	Dry
+ cur	i uhknown	90 E	Q1	HE- Indier Rott	5	Draw	1,5	HE- GOVENSOL Wild Charge	grass + HE GR	Drý -
Augo	ni unknown	d2 N	93	OWOSS	7	Train	1.5	HE Golder Pud	GR + 15	Dry
NAA	1 MANGLOWAN	111	GE	Corrich	IL	Ditch	15	Garass	(2,055)	1000

Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

	Project: 184 South Kent Location: Charlann Kent Date: Sol											
	Staff: S. Murray Weather: Sunny, 7°C @ Dam Ob (loud wind: 2 Page										_ of	
1 at	Loo'n	<u>,</u>	Photos Natural Corridor				Channel Morpho	logy	Vegetation			
Form	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions	
×	NWW!	unknown	299		GR TR	(0	(Overgrown)	1 (HW) 5	HE-Golden Ro	Bare	Diy	
\times	WWW	unknown	N 97	94	GR HE-Golden Rod	9	Drain	1 (+10)	HE-Golden Rud SH, Gruss	Bare	Dry	
CV	XXXî	ynknown	ngg	5100	GR. Stillumack) HE-Cloben Rod	12	Drain	3(HW)	GR Strack	Bare to	Dry	
2V	XXXII	unkrown	F 102	-	Grass	8	Drain	3(HW)	GR TR-Cedar HE-Gidden Rol	Bare 50 grass	Dry	
Ž	XXX iii	unknown	W		(nyass	5	Pitch	-SLAW	GIRASS	Bare W G.VC.SS	Dry	
VZ	444:	unknown	102	103	HE-Golden Lod Girass	8	Drain	2.5(tw)	Grass HE-Giolde, Rad	Bare	Dry	
C	444:	unknown	11in	105	HE-Golden Zog	5	Drain	05	Grass HE-Globlen Rock	Bare D Phiagmites	Dry	
	222	unknown	ide	5	4E=Gradelen Rod	8	Drain	1.5(#w)	HE-GOBER HOG	TUPHA	Hurbiol water	
X	AMAA	unknown	108	5	Guden Rod	5	Drain	- SCHW) - 5	HE COULDE B	Bare	Dry	
×	BRPZ	unknown	104	10	HE-Gidden Rool	8	Drain			Daire w Typha	Dry	
×	acc	whiknown	111 NF	112 SN	Grass	3	Ditch	S I(m)	GIVASS NE Complement	GIIASS	Dry	
×	PDDD	Unknown	1B NE	114 SW	SH GR	7	Drain	1	Grass HE-Conder Rec	+ #E	Dry	
×	EEEE	unknown	115	116	-T2. (9R (N-7TR.HE,5H.)	10	Drain	1.5 .5(#W)	(NOHER, SH)	Typha	Dry	
×	FFFF	unknown	NE	118 SN	(grass	5	Drain	,5 ,5/4W	Grass	Bare wg.ass Race w	Dry	
T	6666	Unknown	19	120	Cirass HE	7	Drain	1 (HW)	Grass	Typna	Dry	
(V	HHAH	un Known	N	5	GR	4	Drain	3.5 (HW)	HE- Capiton Led	191955	Div	
Ľ	HARHI	un Krown	IN2 SE	123	Gracs.	15	Drain	1.5 .5(HW	HE Golden Rd Gruss	Bare in	Dry	
	1771	un Known	124	-	Criass		Drain		HE-Giorden Rod	Phagmites	Dry	
and an and a second second

Aquatic, Terrestrial and Wetland Biologists

	Project	1964 South Ke	Hr.		Location: C	athen	1/Kent			Date: 😏	P.15110
	Staff:C	S. Murray			Weather:ടപ	nny.	Wird: 2.0%	claud		Page:	of
			Pho	otos	Natural Corridor	1.'	Channel Morpho	logy	Vegetation		
	Loc'n No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
×	FIFI	withjown	N 125	5	grass	C	Prain	05(440)	GIVELSS HE-GOOGARCO	Bare to Phraquites	Dry
X	a	unknown	5	NATION 128	grass	4	(Inder on northiside)	Satur)	grass HE	Bare w Grass	Dry
C/	KKKK	unknown	E29	130	HE-Golden Kod	7	Drain	1 (4700)	GR HE-Golden Rud	BARE	Dry
Ľ	KKKK:	Unknown	N 131	132	Grass	-7	Drain	((HW))	Grass	BARE	Dry
S	LLL	unknown	120	131	HE-Golden Lod	10	Drain	2(40)	Gricos	GrasstHE.	Dry
-62 W	Lilki	unknown	135	-	HE- Orbiden Rod	8	Drain	1	HE-Gickle Red	Typha	Dry
L 28	Illin	unknown	136	-	GIRASS	4	Ditch	5	GIASS	gress	Dry
deleted.V	MMMM	unknown	137 N	138	Shrub tree	15	Drain	1.5 3(HW)	HE-Golden Loci	Grass	(vaining) Mucking (vaining)
17 11	NNNN	unknown	129	140	TR-Dak Locar (AR incomment)	13	Drain SHE	1.5	HE-Grocky	Turcha & Grass	Standing Pool
14 3 Mary	0000	Unknown	144	50	HE-Golder Red	7	Drain * SAR	5(4W)	2001	Race	Mucky (rain)
X	PARP	un Known	E	N	GIVASS	4	Ditch	.5 2(40)	TR- Cedar	Barle	DR
X	0000	unknown	146 N	11tt	Grass Arass	7	Prain	1 ,5/Lha)	Lavass HE-Godenika	Typhraginites	Dry Starshighter
Z	RRRQ	un Known	148 E		SH JE-Goldistu Grass	X	Draw	1(43)	the Golden ha	POUP LANGE	Card Ver-
~ ~ ~	11.R2R::	iyukhown	149 E	W	TR- Wared	0	Drain #SAD	TCHW)	SH-Sumar la. TR-mixed SI	Pare 5	water a tula
V	BESS	lin Knawn	150 N	151	GIVALS SL GIVALSS	10	Vrain SAR	2,544)	HE-Golden 200 Griass	Gross + Tota Bare D	Dry
13	TTT	un Khown	152 E	W	HE Gulden Rock		Draim	2.5(HW)	HE Golden Rock Grass with	Puply & grass Barre TO	Dry
	TTTTA For shear	un Known	153 Ner	154	Grass 1	14	Drain	(CHW)	SH. HE. LING	Bare w	standing

99,104,107,108,114,110-118 53,54

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HZ, 43, 44, 45, 46, 47, 57, 140-148, 104, 106, 107, 108, 99

ſ		· · · · · · · · · · · · · · · · · · ·	Pho	otos	Natural Corridor	-	Channel Morph	ology	Vegetation		
	Loc'n No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
\times	$\sqrt{\sqrt{\sqrt{2}}}$	Wiknown	N 157	-	SH TR-Mixed	3	Drain	-5444	Bare to little grass	BARE	Dry
X	MMMM	unknown	158 158	159	GR HE-Golden Rod	7	Drain	1(HW)	GR Rod	Bare	Pry
0	XXX i	unknown	N 160	161	Grass	5	Drain	, S (HW)	Grass	Typher	Dry
X	KX4:,	unknown	162		Grass	6	Drain	1	GIRGSS	Typha & Phragente	Dry
L	1444	Unknown	ILE3	-	HE-GoldenRod	D	Drain	105	HE-Golden Rod	Typha Dypha	Dry
$\langle $	2222	unknown	ILe4	165	Girass	V	Drain	- S(4140)	HE-Golden Rod	grass	(from Rain)
X	AS	unknawn	166	167	grass	2.5	Ditch	65	(nrass	Grass	Dry
X	85	unknown	168	169	Grass	10	Drain	1	HE-Gooden Rod	Typha	Dry
\times	(5	unknown	170	171	GIVASS CONVASS TR	10	Drain	2(440)	HE-Gidden Rock	Bare J Typha Bare J	Standing water
X	D5	unknown	172	173	HE-Gulden Rocl	10	Prain	1 ICHEW	HE-OrdenRed	Typha & Grass	Dhy
	F5:	unknawn	FIY	_	Till-Mixed Garass	B	Drain	Z	HE Grolden Rod	GNUSS & HE ROVE IN	Dry
2	ESII	unknown	175	W	TR-Mixed	0	Drawn	1.5 21+tw)	GR, TR/SH HE-GIONEN	GIR& HE	Dry
X	65	unknown	MO	5	TR-Mixed	6	Drain	1.5 1(HW)	GR Kad	Grass	Pry
×	#5	WIKNOWN	HIS E	179 W	HE-Gidden Red	8	Drain	1.5 4(HW)	HE-Golden Reck GR, St (Swind)	Grass Bare	Dry Moist (Rain
/	1.3	Whichowy	180 N	181	TR-Mixed GIR	25	Drain	3 Z(HW)	HE-GoldenRock		Dry Standin
	05	unknawn	152	185	TR-M:xed	15	Drain	1.5	HE-Goolden Rod	Kare	water and



	Project	: (184 South)	Ken-	t	Location:	notha	no I kend	F	Date: Sep. M				
	Staff:	S. Murray			Weather:	my w	ind: 1 clad	50% +	emp peca	8:22Page:	of		
the	Loc'n	1	Pho	otos	Natural Corridor		Channel Morph	ology	Vegetation				
form	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions		
×	M5	unknown	N88	5	GR HE-Grolden Rod	n	Drain	1.5(Hw)	GR Groblen Rod HE- Skundweed	Bare	Dry		
. 🗸	N5	unknown	N 190	5191	Grass	6	Drain	1. SCHW	HE-Guiden Rod	Bare D Typha	Dry		
$\langle $	05	unknown	Pa2	193	HE-Golden Rod	30	Drain	1.5(HW)	HE-Gooden Rod SH Chrass	Bare	Standing		
9	P5	unknown	A5	S 194	HE-Grolden Rock	18	Drain	24M) 3M	HE-Goolden Kod H-Swhack	Bare	Standing water		
×	Q5	unknown	NG	S 197	TR-WXED Grass SHISwind	6	Drain	1(Hw) 1.5	HE-Gidden Roc Givass	Bare J	Dry		
X 112.21	R5	UNKNOWN	N	SEZ	GR TR-Mixed	R	Drain	((Hw))	HE-GoldenRad GR	Bould TW Phyrosonites	Dry		
X	S5	unknown	E3	W	Grass	5	(Toadside) Ditch	,5(HW) .5	Inrass	Barret	Dre		
\checkmark	,15	unknown	NS	e ro	5H-Sumack TR-Mixed	12	Drain	Z(HW)	Girass HE-GODONEN	Bare	Pry 27 Standing Fool		
\sim	45	Unknown	N	S	H-Sunack	12	Prain	1.5CHW,	HE-Giolden Rock	Baress	Focu (South)		
×	V5	Unknown	Ng	SID	Grass	6	(filled!) Drain	.Scttw)	HE-Goldentag Grass	Bare w Orvass	Dry		
\checkmark	W5	unknown	N	SN2	TR-Mixed GRass	10	Drain	1.5(HW) .5	Grass	Watercress	Standing		
7	xб	whithown	N 13	514	TR-Mixed GRE-Grobben Rich	10	Drain	(CHW)	HE-Grolden Kool GRSH Sewelweed	Bare	Water		
X	45	unknown	NE		HTF-Golden Rod SHITR GR	7	Drain	1(HW)	HE-Golden Rock Giass	Pare taginites	Dry		
\times	Z5	un Known	16	-	TR'-Mixed GR SH. HE-Golden Rod	14.	Drain	.5CHU	GRass	Bare Ju Phraginites	Mucky (a) Culvert (otherwise)		
×	AG	unknown	IT IT	51	HE-Golden Rod SHGR	14	Drain	10400	HE-Golden Rod Grass	Babe in Typha	Dru		
\checkmark	Ro	unknawn	Na	Po	HE-Golden Rod	16	Drain	2.5(HW)	HE-Golden Rod Grass SH(Willow)	Bare	Standling polearly		
\checkmark	00	unknown	N	52	TR-Mixed Gray	15	Drain	2'5(HW)	Arass Jewelver	Bare Typha	Standing weder (2001)		
Х	DG	un Known	NS	4	Grass TR-Mixed		Drain	21AW)	HE-Grolden Rock	Bare to	Day		

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Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

	Project	1:1184 South	Ken	t	Location: Or	athan	n i Kent			Date: Se	p.22'10
	Staff:	S. Murray			Weather: Ro	in,	100% cloud	Wine	1:0 Temp	Page:	of
			Pho	otos	Natural Corridor	,	Channel Morphol	logy	Vegetation	7	
FORM	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
×	E6	unknown	23	524	HE-MIXEDIGR	11	Drain	1.5(+W)	HE-Golden rod (grass	Bare D Tupha	Dry
457	F6	unknown	NW 26	SE 27	TR-Mixed GR HE-Goda Rad	25	Drain	Z(HW) 4.5	HE-Guiden Pool GR, SH(Sumack)	Cetatis	Standing
1	66	Unknown	24	-	Grass	5	Drain	1(HW) .5	HE- Grass	Bareto Ofrass	Dry
1	46	unknown.	N 29	50	TR-Mixed Olivass	18	Drain	3(HW) 3	HE-Golden Girass Rod	Bare	water
V	I 6	unknown	SE	32	Grass HE-Golden Rod	10	Drain	2(HW)	HE-Goldenta Grass	Balvie D Grass	Dry
\checkmark	Jle	unknown	35	34	Grass HE-Golden Rod	8	Drain		Gurass	grass_	Dry
\checkmark	KG	unknown	35	NG/CE	Line 200	20	Drain	2.5	HE-Goddaniod	Bare	north
7	26	unknawn	31	36 39	415 Golden Rock	10	Prain		HE-Golden Rod	Bare	Standing water Era
K	MG	unknown	40	~	HE-Godden Rod	10	Drain	1.5	HE-Goldon Rod	Carre watercross	Drug Galler
\checkmark	Nle	unknown	10W	10E 42	25-Golden Rod	10	Drain	15	HE-Golden Rod	giass/Typha	water
×	06	unknown	43	IH SWJ	(2 v 455	2	Ditch	.25	Giver55	Grass	Dry
X	PG	unknown	45	416	Cara 65	5	Drain	1	Creess	Girass	Dry
×	Q6	unkoewn	47 NE	46	Glyass	3	PHCK	SCHW	G14055	1 Grass	Dry
7-	RG	unknown	19 11W	SO	HE-Conciden Rod	4	Drain	5(+14)	HE (nuldin Roo	Pringmills	Dry
X	Sle	Waknown	S NW	ST.	GIRCISS TRISH, HE-Causkin	3	Ditch	.5 21401	Grass	Grass Bare W	Dru Shundijau
	16	unknown	S3 NW	54	Griass Red 12- Vioney lixust	61	brain	2(44)	HE-GUASS GIVASS	giverss	water -
	46	un Known	55	51,	GIVES GRR	10	Drain	1.5 1.5(mu)	- E-Maile G2	Bare	water (Auduch)
M	VG	un Known	1-51		The bulden Lid	10	Drain		HE- Moblen Rori	Bare	Drv

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Aquatic, Terrestrial and Wetland Biologists

Project	: 1184 Sauth K	ent		Location:	atho	m / Kent			Date: 🕄	20.22
Staff:	S Murray			Weather: _{USIN}	0.2	Cloud 100%	Temp	22°C @14:4	5 Page:	of
Loc'n		Pho	tos	Natural Corridor		Channel Morpho	ology	Vegetation		
No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditio
46	linknown	N 58	Sa	HE-Gulden Rod Grass- Mined	C	Drain	1.5(44)	HE-Groben Kor Givass	Barette.	Dry
146	wnknown	N GO	S	GR, HE-Golden R.	12	Drain	1.5	HE-Golden Kid, - Jewelweed Ormans & TR-Miller	Barres TD Grass	Dry
46	Unknown	62	63 G4	Grass Grass	14	Drain	1	HE Guiden Rock	DONERCIESS (South)	Water /
-26	unknown	65	 C	TR-Cedar	8	Drain	1.5(4)	HE-Gidden Rod	glass + typha	excert Quil
A7	un known	66	M S C	TR-Mixed	11	Drain	(HW)	3R TR. Mixed	grass Dave IV	Elaw And north
37	unknown	66	300	HE-Crolden Rod	12	Drain	25(Hw)	GR Mund	Tupha Rock D	Morth
C7	wnKnown	(eii#R)	Leitf 19 S	Grass	12	Drain	1.5 2(HW)	Grass HE-Golden Recl	algar	Standing
107	unknown	Gir#200	11-21 S	Grass	20	Droun	2. 1.5(HW)	Gerass HE-Crolden Rool	Bare D	turbid wat
127	UnKnown	Celi=221 N	611723 S	Grass	12	Drain	S(HW)	(arass HE-Golden Zool	grass	Slight Flor
+1	Unknown	611024C	S	Grass TR-Mixed	17	Drain	5(2)	HE-Golden Rod	Barre w	hybrine wasa
01	unknown	Q1#26	0122	HE-Golden Rod	-/	Prain	1	Phings res are	Mhragunides	Pry
									1	

Aquatic, Terrestrial and Wetland Biologists

	Project	1184 South Ke	int		Location: On	athan	n Kent			Date:	ct. 5'10
	Staff:	S. Murray			Weather: $W_{\hat{i}}$	nd: L	100% Cloud, +	Ar:13	°C, Light R	ഡ്റ്റ Page:	of
	Loo'n	1	Pho	otos	Natural Corridor		Channel Morpho	logy	Vegetation		
m	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Condition
\checkmark	11-1	440/100440	Na	à	HE-Golden Rod	10	Dail	Zittw)	HE-Golden Rod	Bare datatis	Slow Flow
1	41	UNIVER DUVI	N	5	HE Golden Rod	10	WCLAY +SPAR	2(HW)	HE-Golden Rod	Typha	very slow (H
\sim	I7	unknown	30	31	GR TR-Mixed	10	Drain	105	Carass	à watercress	Flow north
V	27	unknown	ES	33	TR-Mixed HE-Goldon Rod	15	Drain	3(Hw)	HE-Invelweed TR-Mixed	Bare in arass	Dry
X	K7	unknown Lo	E-	W2	Mrass	8	Drain	I(HW)	HE-Grocken Rog GIR ass	Bare to grass	Standingt water (Train
V	LT:	unknown	NB	SI	Grass	14	Prain	2(HW) 3.5	HE-Golda Rod TR-Mixed GR	Bare	Standing Turbid wat
	L700	unknown	3		Grass	5	Drain	1.	GIVESS	Bare w Givass	Dry
X	M7	un Known	E G	N7	Grass	5	Drain	.5(Hw)	GIVESS	Foress	Dry
V	NT	unknown	NW 8	q	Grass	25	Drain	2,5	HE-Golden Rod Grass	grass	North west
\checkmark	07	unknown	DE	NW	GIVASS	12	Drain	2,5(Hw)	GIVASS	Filimentous	North West
1	PI	unknown	SB	Nut	Grass	10	Drain	- SCHWI LoS	Grass HE-Golden Rod	Filiamenticus,	slow tions
~	67	un Known	55	N 16	GIVASS	10	Drain	Zitus)	GR-Mixed GR-cooldon Re	Bark W Grass	Standing
V	R 7	unknown	SE	NW	Grass	10	Drain	2(HW)	GR, HE-GolderRoo	Ugatercaess	SIDW FIOW NORTH WES
J	ST	Unknown	19	N 20	GIV ass TR-Mixed	15	Drain	24HW)	SH-Mixed HE-Cholden Pod	Bare	Slow Flor
V	T.7	Lun Known	521	N 22	HE-GoldenRod Grass	8	Drain	1.5(40)	CAR HE-Golden Rol	(Dry)	Dru
V	47	unknown	53	-	TR-Mixect GR3HE Golden	8	Drain	·schiw)	SH, TR-Mixed HC-Grolden Rod	Barre W debris Fortitis	Dry
1	V.7	unknown	24	s 25	SH-Sumack HE-Golden Rod	4	Drain		HE-Goiden Rod StE-Sumack	Baretu grassiente	Dry
21	IN7	unknown	\$1	346	St-Sumal F word	10	Drain	1.5	HE-Gedden Red GRS St. Sumac	Grass & Giolden Rod	Standing Water Trai
	χ7	UNKNOWN	59	90	GAR HE GUIDER	8	Drain	252	GR. St. HE (Growken)	61,955 2 Typhe 10,1	(Smull am

5 m 2 nu: true maple

Projec	t: 184 Sout Kei	rt		Location:	hathe	am / Ker	-t		Date:	ct.2110
Staff:	S.Murray:		-	Weather: Wi	nd 4	Cloud 90%;	10°C@	13:30 1/2 clou	ds wein Page:	of
Loc'n		Phe	otos	Natural Corridor	1	Channel Morpho	ology	Vegetation	1	1
No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Condition
147	(AD Knowsh	PG	S	SH, HELGolden.Ru	12	Deri	2(1+w)	HE-GOODEN Rood	(Some folimenting	Standing
1	disc	WE	SW	WIShrub IK	F.L.	train	2CHW)	HE Grolden Rud	Bare	2010 Flow
41	whichaun	93	94	GIRGS, HE-Goldin	010	Drain	1.5	Grass	Bare	North ees.
128	un Kanna	ac	g(Grass.	14	T and S	SCHW	HE-Golden'tod		Flow is Nort
61	Currentoush -	E	W	. HT Gaden 1200	17	Drain	2 (HW)	Grass.	Pare	Standing
140	Unknown	97	98	ONTESS	8	Drain	1	HE-Maple.	grass	Water (rain Wate
104	(1.2)(N	S	TR-Poplar GR	0		2,57+tw)	Grass willow	Bare w	
0	unnauri	E		HE-Golden Kod	FIL.	Drain	0.15(HN	HE-Gidden Kool	altritus	Noist Soil Some Sacke
DS	unknown	101	102	Bare	0.50m	Drain	0.25m	Bare	Bare	of staveling u
ES	Waknown	103	104	TR-Mixed SH-Sumat Grass HE-Goldeillo	25	Drain	2.5(++w) 4.5	HE-Mixed HE-Otoden Rod	(detritus) Pare	Slow Flow
2							1.2			
			-	-	1					
								25	and a second	
					- 14 ¹		5	R	1	
		-				1.12			-	1
	1999		-	-		-	2			
					24		-			
						1				
		-					1			
	1 P		1		- 12.	2		-		
				3.2	1	~	5.	-		
		-		-			100	del.		
							54	i i		
							-74- -74-			
							100	and the stage and		

Aquatic, Terrestrial and Wetland Biologists ct. 27'10 Project: 118/1 Location: Date: ent hattham Kent lacon Weather: eg: 00Page: Staff: S. Murray of É Sunni Clara Win Vegetation HAB Photos Natural Corridor Channel Morphology Loc'n Width Width **Flow Conditions** Watercourse Name US DS Туре Bank Channel No. Veg. Type Form (m) (m) H-Sumac N S TR-Mixed 2. SCHL Slow Flow TR-Mixed RRIP HE-Golden Rod 25 109 1.5 Bare porth HE- Grolden Rod UNKNOW 108 Juan SH-Sumac HE-GoldenRo HR-Mixed . SLHW W TR-Mixed E PRIN Bare At - Sumine ,5 2 Unknown Ditch 110 111 HE-GoldenRod TR-Poplar SCHW Phiagmites N TR-Mixed CH-Willow G.R. TR-Mixed ric-Golden Red 112 MNKNOWM 10 st-willaw Driv Train HE-Gulden Rod Standing 2(HW Kare w NB 2 TH Valercress water UNKNOWN HE-GoldenRod)varr 5 Gress Standing TZ- Mixed HE-Gulden Doch 21HW 5 N) Bare wate GTR-Grobben Rod SH-W:110W 5 116 MMOWE 115 rain Parelnorth TR. Mixed HE- Golden Roa standing S N 2(HW) SH-Sumac HE-Giddlen Rool turbiel Ś 9 Typhalsouth 117 unknown rair Grass Standing water D SH-Mixed SH-Shrink HE-Golden Rud SH-Sumac S S(Hr.) N HE-Cardden Ruch ID Bare 119 20 Unknown Drain 21< South Sid 2,51HW T2-Waxed Orrass SIOW FICES N S SH- CTULY Degar 54- Mixed UN KNOWM 5 Par-l 121 2 Drawn 2 nor tin HE Griden TR-IVLIKED 7 Htw CAVEL65 4 Slow Flow N 5 HE-Gulden Ru Lite- Cadden Kod Bare Unknown 123 124 .5 Divaux north TR-Mixed HE-Golden Roc 2(40) S Standing N Pros Mixed water F.C Bare UNKNOWN 175 126 ()Colvass rain Cce Sanding water liver IR-MXPO S 5(HW) HE-Hertallou NON Ste-Mixed (AR 2 K Unknown tare VIDYC HE-Golden Rod GIVASS S BIHW Grass Slow Flow 25 128 HE Adden Rood 27 rair 5 Save unknown novth 129 HE-Owden Rod SHW HE-Grolder Rod W RIS TR-Mixed 0 Stt-Hawthorr unknown 120 Irain Tupha Connel 5 N HE-Golden 2001 Oct. 25 12- Mixed 2LHW Flowing RK 33 18 Gruchs 3 Sr. trawthen Drain Dave 10, 14 Unknown Sur- Hauthrin 1 rout 2. SCHW HE-Golden Rod N 5 Iniass TR-MINO Flowing, U 5 arass north Sarp UN KNOWM 135 36 HE-GoverRed Dialip Girass 61055 standing 9 2.LHW Ty Dha D.POIL X R 34 HE-Gucken Rod 15 5 12this 2 iolo HE- GoldenRed COOWIC Nain WOODROUSS TR-Mixed S 1.S(HW CARASS N * Golden Rod 15 10 CXA: .5 3(HW) HE- Golden Rod 124 Chriss rain 11 Ina WY1. N 5 TR-Cedar CArass Rod HE-Chololon IN KNOW 171 Pha HE-1911 day RU rain m

00 2 ~ orte 0 e 10 Coundle Fort 20 observortich

BASIC AQUATIC HABITAT CHARACTERIZATION

NATURAL RESOURCE SOLUTIONS INC.

Staff.	ZU.	KEI	A	Weather	Ch	atham /	K-er	J-	Date: (9CT. 2 8
	2. Mirray CP	_ Leo	2COV	Natural Corridor	C, /C	0% Claud(aver U	ind 4/5	Page:	of
Loc'n No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width	Bank	Channel	Flow Condit
RR18	unknown	173	34	Grass	5	Ditch Drain	·SC++W	Grass	Orrass	Standin Walte
RR19	unknown	141	142	Grass	Co	Drain		HE-Goblen Kod Girass	Typha	Standin water @
RD	Unknown	143	144	GIVESS	6	Drain	.5 Z.SCHU	HE-Golden Rod	grasses +HE	water
RKU	unknown	145	146	HE-Cholden Roc TR-Mixed	18	Drain	1.5 3.5(Hu)	GARCESS HE-Oclden	Tipha	water
KKLL DDZ	Unknown	147	148	HE-Ercbler Rod TTZ-Wiked GR	10	Drain	24th	CIVELSS HIS-GOOLDEN Roa	Phragmites	Slow floc
RAY	Unknown -	149	150	HE- ColyanRod TR-Mix	20	Prain	2.5 3(++w)	GK HE-	Bare	Horth Ctur Slow + LE
R 25	uphadum	153	154	TR-Mixed HE-GTOLORN	15	Drain	2.5(1+10)	GIR HE-GIOKI	MOSTLY Bare	standing
RR 26	unknown	155	156	HE-Golden Rool GR	8	Drain	2.5(HW)	HE-Goold	Bare	Drti
3227	Unknown	157	156	SH-Mixed TR-Mixed CAR, HE-Goblen	18	Drain	2(40)	HE-Condol Grass	Bare.	Franstol M
R228	Unknown	159	160	TR-Mixed SH-Mixed	20	Drain	2.5(Hw) 2	HE-Golden Rad	Brure	slow + 10 north tu bid pr
R729	Unknown	Ìlci	162	HE-Golden TR-Mixed	20	Drain	2(10)	TRATINED	Pare	Standling water
KR-30	un Known	1103	164	HEAR SH-Mix	25	Drain	3.50HW)	HE-Golden Rod	Bare	Water Slow + 1
K-51	Un Known	165	166	HE-Gold TR-Mix	25	Droun	3	SH-Miy HE-Coold GR	filimentous algae	North Dery Jun Slow flow
KK 55	unkrown	167	168	HER CALD	30	Drain	3(44)	HE- GR	Bare	Slow Flo
DOZ	unknown	161	110	HE-Golden Rod	25	Dain	2 3CHtw)	HE-Gold GRE-Gordol	Ware W Some Priagnith	Slow fin
KN 65	unkhowri	115	116	GR, SH(Mixed)	18	Prain	1	ST-Mixed	Dare "	120,42



Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

	Projec	t: 1184 South	Ken	£	Location:	hat	am / Kens	A		Date: N	01 01 01
	Staff:	S. Murray			Weather: (J)	nol 2	Cloud ra	0%°, Ter	mploc Overs	ast Page:	of
TAB			Phe	otos	Natural Corridor		Channel Morpho	logy	Vegetation		
(-c.c.e.)	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
×	HRI;	Unknown	12 201	SE 6	HE-CHARLEN HO	10	drain	2(114)	HE-Galden Roch	Tupha	DR
×	ARIII	w. K. OWN	NET		Grass	6	ducin	.7 <i>5</i> ##	HE-Gulden Rod Orrass	Philagmittes	Day
×	HR Life	un Knawn	SW 8		Guass	24	ditch	-SCHW - 2.5	Greess	Bare	Day
×	AR2	unknown	20	ES	GNGSS	5	ditch	o Stiffay	GLASS	Grass	Pry
*	AR3	unknown	12	SE IS	Sti-Sumac Glvass	15	drein	2(4710)	HE-GOODEN ROO GIVENSS	grass	water weller +
×	AR4?	unknown	NW	-	Grass	8	Dain	1(++\u0)	Grass	Typha	Dry
×	AR4:	unknown	NES	5 V 10	(mrass	5	Ditch	·25	Oriass	OTVUSS	Dry
×	AB5	unknown	17	18	Grass	12	Drain	1697	- TROSEL	algale where Sival prick whe	Standing wat
*	ARLe	unknown	Ia	20	Chiass	12	Drain	1ctfla) .75	HIG- Gloden Rod Grass	Gilass	Day
1	ART	unknown	NW 21	22	HE-Golden Rod	12_	Drain	1.5(40)	FIE- Gronden Pool	Phragmites	Culver +-
7	ARS	unknown	23	SE 24	HE-Golden Rod TE-Mixed	8	Drain	i(+w)	Treases Carass	Typher	Dry
X	ARA	unknown	25	26	CAR HE- coolder Rec	4	Dravilly duy	.5	HE-GIOLOGI KOOL -WICHESSERARS GR. TEGSEL	Overgrown JU-1EEGR	Dry
*	AR10	unknown	E7	28	SH-Mixed Corass	7	Drain	-7564W	SH-Mixed	Dare (west), Orargravin (east)	Dry
X	ARI	unknown	E 29	W 30	Graps	5	drain	e viochan	Grass	Grass	Dry
Jou The X	PR12	UNKnown	BI		Grass	10	Drain	-75	HE-Golden Roch Grass	Pare	Dry
X	ARIB	unknown	32	33	HE-GRIDEN Rod	5	Drain	.5	45-Giolder, Rod GR	HE GR SH	Dry
N	ARIL	unknown	NE	35	Sti-Mixed GR	25	Drain	1.5	HE-Golden Rool	Himmentous	North cast
1	ARIS	IND KNOWN	NE Zi	27	54-Juired	25	Drain	2(th)	HE-Grolden Zod	fillmentais	How and

fresci

Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

12 man

-	Project:	1184 South	Ker	t	Location:	hatt	am Ke	int		Date: N	OV. 1710
	Staff:	S Murray			Weather: Wir	03.0	loud 5%	Temp (7°CQ9:10a	Page:	of
HAB [Loc'n		Pho	tos	Natural Corridor		Channel Morpho	ology	Vegetation		
Form	No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Conditions
4	AR16	inknown	N 38	5 39	Girass	5	Drain	.75(HW) .5	HE-Golden Rood Girass	Tupha	standing rain water
4	AR17	unknown	N 40	4	Grass	4	Ditch	.25(+u) .25	Grass	Grass	rain water
X	ARIS	unknown	En	343	54-Mixed HE-Golden Rod	6	(overgrown) Drain	i SCHW)	SH-Mixed	CARINE SH	DN
×	ARIA	Unknown	E 44	45	St-Sime CK HE-Golden Rod	5	Drain	-SCHW	HE-Golden 200 SH-Sumac GAR	GR, 46,54	Dry
X	AR20	unknown	46	47	Cold To: Mixed	3	Drown	.5	HE-Gooden Rod H-Sumac HE-Golden Da	TO HE COR	Dry
X	ARZI	unknown	48	-	SH-Mixed BRHE-moblen Pod	8	Drain	25740	SH-Misted Grass	Phragmites	Dry
X	9222	unknown	4a	350	Grass TR-Mixed	5	Drain	.5 1 (HW)	Chrass HE-Golden Rod	None (Weyr Evergrown)	rain water
×	AR23	unknown	51	57 5	FE-Golden Rid		Drain	-5	Grass HE-Giolon Roof	Bare 10 Southside	Standing voter
×	AR24	unknown	53 E	54	HC-Opelden Troch GR TR-Wxed	16	Drain	3(HW)	Orrass HE-Grolden Rod	Phran-es	Dauliert Standing
\checkmark	AR25	unknown	55 N	5	SH-IWIXED	20	Drain	1.5 2.5(HW)	GREASE! 45 Grolder Rod	Phramites	slow frow
	AKKO	unkinn	57 N	58	(grass SH-Mixed	15	Drain	2 3.52+W	GIRass HE-Croklen Rock	DETRITUS (1HS)	Slow flow
	Y7627	unknawn	59 N	60 S	HE-Grobby Rod TR-Maxed	25	Prain	2.5(Hw)	GR SH-Mired HE-Golden Rod	Detrituy is some	Very Still
	FIK28	unknown	61	62	HE-CACILENROCI TRUMINEN	15	Drain	1 3(++w)	HE-Golden Rod	filmendous alor Detritus	Still turbid
V	HK27	unknown	63 N	64	Givass Tease	10	Prain	I.SCHW)	SH-Wixed GR HE-Golden Rod	filimentais	water Standing
X	NO2	UNKNOWN	IN N	ES	HE Southen Red	X	Drain	1(HW)	HE-Golden Rod SH-Mixed	+nragmites	hater a survey
X	1231	UNKNOWN	N	5	HE- Teasel Rod	9	Drain	, 52m	SAT-MIXED HE-GOIDEN ROA	Tigipha	Dry
X	AN 12	Cho Coonno	WID	W -R	arris	96	Drain	1(40)	HE- rease i Goden 200	avergrown	Standing

HAB Form No. Watercourse N X AR3311 UNKNOWN X PR34 UNKNOWN X PR35 UNKNOWN	ame US 7 N TE T E 7 V 8	hotos S DS T T T T T T T T T T	Weather: Wiv Natural Corridor Veg. Type SHUMIXED TR. Mixed Grass Grass Grass HE Golden Rid Refined Treasel Refined Treasel Refined Treasel	Vidth (m) 3 25	Claud 80% Channel Morpho Type Drain Drain	Vidth (m) I(HW) I . S(HW) .25	Vegetation Bank HE-TEACE Cooloten Rod Grass	30 Page: Channel Typha Grass	_ of Flow Conditions
HAB Form No. Watercourse N X AR33: UNKNOWN X AR34 UNKNOWN X AR35 UNKNOWN	ame US	$\begin{array}{c c} hotos \\ \hline DS \\ \hline DS \\ \hline \\ $	Natural Corridor Veg. Type SH-Mixed TR-Mixed Carciss Grass Grass Grass REC Joed Rid R-Mixed TR-Mixed TR-Mixed	Width (m) 3 25	Channel Morpho Type Drain Drain	Vidth (m) I(HW) I(HW) I . S(HW) -25	Vegetation Bank HE-Teace I Cooloten Rod Grass Grass	Channel Typha Grass	Flow Conditions
X AR33 ii unknown X AR34 unknown X AR35 unknown	ame US 77 N 76 T E 70 8	B DS H S 7.0 N N N N N N N N N N N N N N N N N N N N N N N	Veg. Type SH-Mixed TR-Hixed Girass Girass HE-Gilden Rich TR-Mixed TR-Mixed	Width (m) 3	Type Drain Ditch	Width (m) /(#w)) . S(#w) .25	Bank HE-Teace I Cooldren Rod Grass Girass	Channel Typha Grass	Flow Conditions
X AR3311 unknown X AR34 unknown AR35 unknown	STNTET ET 28	1 - 5.0 370 7 7 8	Grass Grass Grass RECORDER	8 3 25	Drain Ditch	1(HW) 1 .5(HW) .25	HE-TEACE Godolen Rod Grass Olirass	Typha Grass	Dry
X HR34 unknown AR35 unknown	NTET ET 28	1 79 340	(Trass Grass HE-Golden Rodi TR-Minet Teasel TR-Mixed	3	Ditch	.5(4W) .25	Grass	Grass	
AR35 unknown	ET ET 28	1 78	TR-Mixed	25					100
	E728	7 40	TR-Mixed		Drain	5	HE-Golden Poch	Eare In filmentaise	How / Westharton
HK3U UNKNOWN	8		HE-Grolden Rod	12	Drain	1.5(HW)	HE-Golden Ro GR TEASE	grass.	flow (tartic)
X AR371 Un Known		-	-TR-Mixed GIK SH-Mixed HE-Gidden Rod	7	Drain	-75	HE-Golden Rod	GR HE	Dry
X AR3711 WINKNOWIN	N 8-	2 83	Grass	9	Drain	1	Grass	tilimentous algae	Water (rail?)
× AR38 unknown	E P	4 85	(X. ass	6	Drain	1.5(+w)	- TEASAL Oriciss	Phragnittes	standing.
X AR39 UNKnown	E Q	6 87	TR-Mixed arass	10	Drain	10+00	SH- Mised	Phragmites	Dry
AR40 unknown	8	8 89	SH-Mixed HE-Golden Rod GR	15	Drain	1.5	TR-Mixed GR.HE-GiddenRed	Bare w 10+5 of detitus	South west
ARHI unknown		> 91	- a-mixed HE-Crolden Rod	12	Drain	2.544	HE-Golden Rod	Marth-	South South
AR42 unknown	92	93	SH- HUXED GR HE-Groderika	12	Drain	.25 AHID	HE-Groben Rool Orciss BH-Urrent	The agnites	South South
AR43 unknown	9	4 95	TR-Mixed	20	Drain	1.5	HE-Crolden Rod	Bare	South. Slow flow
VAR44 unknown	GU	. 97 W	HE-GIDDENRO	25	Prain	1.5 (SCHW)	SH-145 red HE-Guiden Rod	Bare	South
X AR45 Whiknown	Q W	8 99	GR HE-CROIDENDOC TR-Mixed	5	Ditch	.25 1/HW)	GIVASS HEGIDDEN ROC	Girass	Dry Sous How
19246 unknown	10	2 101	HE-GoldenRa Grass T2-Mixed	12	Drain	.5 1/#W)	Grass HE-Golden Rock	Bare	Douth
XAR47 unknown	10	2 SW	HE-Mixed HE-GoldenRed TR-Wixed	10	Drain	1.5	Girass SH-Mixed	in HA GR Bare	Slov -File
ARUS unknown	10 E	3 104 W	of HE Golden Roc TR-Mixed.	15	Drain	3(HW)	HE-Goden act	Constant wentons algae Bare	South when
1AB49 withown	10	5 100	HE-Guden Rod	30	Prain	4m In	HE-Cicklen Rock		west

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

BASIC AQUATIC HABITAT CHARACTERIZATION

east west



Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

Projec	# 1184 South	Ke	t	Location: C	hath	am / Ken	t		Date: //)	01.181D
Staff:	S. Murray			Weather: Wh	not i	and: 95%, -	Temp1	7°C @ 14:00	Page:	of
Loc'n	1	Pho	otos	Natural Corridor		Channel Morpho	logy	Vegetation		
No.	Watercourse Name	US	DS	Veg. Type	Width (m)	Туре	Width (m)	Bank	Channel	Flow Condition
AREO	whiknown	N 107	E 108	GIRASS	8	Drain	1(40)	SH-Bucktion HE-Cholden Grass	Tupha	Dry
AR51	Unknown	ioq	-	Grass	10	Prain	1(HW) .5	HE-Golden Rog -teasel Grass	Typha	Dry
AR52	unknown	110	2	Grass	6	Drain	-75 CHW)	HE-GOLDEN Rod	tilimentous algae	roun white
AR53	unknown	112	113	Grass	5	Drain	~75 ~75	Girass	Typha	Dary
ARSY	unknown	114	15	Grass	20	Drain	1	Grass	Bare	towl west
ARSS	unknown	116	17	Grass	5	Drain	os (HW)	Grass HE-Tanker Bod	Phragmites	Dry
AR56	unknown	118	119	GIRASS	4	Drain	0,25 1(HW)	Grass SHUW Xeel	HE-Coolden Rod	Dry
AR57	uniknown	120		SH-Mixed Grass HE-Goblen Rad	6	Drain	1 1 LHUN	HE-Golden Rod Girass HE-Conlarn Kod	HE-Coulden Rod	Dry
HR58:	Unknaun	121		St-Mixed Correl	X	Drain	.5	st-luxed Grass		Pry
HR581.	unknawn	122	23	Grass	V	Drain	1.5 1/HW	GRASS	Typha	rain water
AR59	un Known	124 N	-	Grass TR-Mixed 01	8	Drain	1.5	HE-Golden Red	Phraymites	Dry
PR60	un Known	125	ple	Grass	6	Drain	12-5(HW)	Carass	Phragmines	Pry
ARIOI	Unknown	127	128	Girass HE-Canden Bool	3	Ditch	.25 1.5(4m)	Grass HE-Golden Roll	Grass	Small amoun
(AR62	unknown	129	130	GIRASS	5	Drain	3	Gruss	Phragmites	of water (ra



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nam	1e): 1184 500	TH KENT			and a second
Field Sta		JON, SIMUREA	<u> </u>		Nite Location:	
Station.	Diaman Diamana and		9-0011111111111111111111111111111111111		The Location.	- Easting: aurouizul
Vvalerboo	ly: Sustem:	an nagang dan magana an			PODO: 17-	13 Lasting. 0404457
Urainaye	System:		THE FILM	CHIAMUMAG	Junicipality: Cult	עשרטי שר איז
Appr Re:	n System.	HOKIUN ISEN	DEEN THINGS	2+ CROSS "	ot & Concession:	HAM KEN!
Appl. Not	ach Lengur (my.		Weather	Conditions:		
Time Star	tod: 10 SEMIC	21. II. II. II. II. II. II. II. II. II. I	Wind: (Cloud Cov	or (%).
Time Fini	iched:		Precinitat	T. ADADE		
	NT LANDS	Contla (2 5%)	Moderate	(5 15 ⁰)	24000 (> 15°)	
Valley	Siupe.	Genue (< 57)		(0 - 10) (10 to 20)	20 to 30	2 0⊤
	EXTERT OF INdura	Vegetation (m)	0-10	101020	201030	30+
	Vegetation Type.	GRASS - NW				
		GRASS SE THE	ars			
Diparian	Flood Plain - ext	ent of frequent flood	(m):	(0-10)	10 to 20 20	1 +2 20 30+
7one	Vegetation Type				01020	0.00 00.
Lyne	vegetation type	(JOLDENKUD, CHI	CORTENED =	1256N2		
	Vegetation Dens	ity/HMI)	TOLOGINICO	1		
Canopy	Type: NUD	WILLING SE TR	Der C	Quality and	1% shade: NW-	ADAL SE PROC
l and	Type. 15	DURDANI NURT	N YHOF		170 GHQ GU	NOINE EX ILER
Use	DKatura)	OYDEMU, TUDEL	JUURS			
Other	(groundwater, s	oils, pools, vegeta	tion, etc.)			
Notes	NW	- CHANNEL MG	ANDER			
	- Se	- STRAGHT DR	AIN			
CHANNE	I MORPHOLOGY	1				
Channel V	Width (range (m)):	15-2.5			Gradient (H/M/L):
Bank Hei	ght (range (m)):	0.75	DRAIN	BANK HT 3.5-	Um Meander/s	Straight
Bank Slop	pe (degrees from s	surface of water):	135. T	THAPE ZOIDHL	Bank Stab	ility: FAIR
Bank Veç	jetation Type:	GOLDYNROD, GRAS	SES, TREES	(SE ONU)	Bank Veg	. Density (H/M/L):
CHANNE	SUBSTRATE %	~				
Clav:)	· ·	Gravel:	/	Boulder:		Muck: 2° v
Silt	······································	Pebble:	······································	Bedrock:		Detritus:
Sand:	<i>V</i>	Cobble:		Marl:		Other:
INSTREA	AM HABITAT AND	COVER				
Dealet	. /		+ Banket	X	Boulder/R	ook X
POOIS.	······	Woody I	(Dalina. Dobrie:	V III	Cohhle:	
Rillica.		Vegetati	Jeuns.		Other:	
INICTOR		Vogotati	JII.		<u> </u>	- Т
Type (su	hmerg /emerg /fk	oating) Family/	Genus/spec	ies	Descripti	
1364 1	Diller ga entre. g	Jacing,	Jonnesser			
. Surgangan Alan			1			
	******	·····		***		
	an a			anna an t-stilling train	$C^{(1)}(\mu,\mu) = C^{(1)}(\mu,\mu) + C^{($	
CODES:		SWI Surface Wate	er Input	SCS Stream	n Cross Section	
AHP Aqua	atic Habitat Point	GWI Groundwater	Input	DOX DISSU	Ived Oxygen Stri	
ALIN AGUS	Citize Linebitet Area	OVO Crock Crock	*	Vee Viena	Curriou Stn	
AHY Aqua	atic Habitat Area	CKC Creek Cross	ing	VSS Visua WOS Wate	I Survey Stn r Quality Stn	

FLOW CONDITIONS

Pag	e	2	of	2
ay	6	~		~

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.5	15, 20, 24, 26, 28	RUN
2			
3			
4			
5	Quinten en e		

WATER QUALITY

	•			
Water Temp. (°C): 16	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters;
Air Temp. (°C):	20	D.O. (%):	TDS (ppm):	TURBD
Time Taken:	1416	Conductivity (µs/c	۶m):	
Location Taken:	IMMEDINIERY DOWNS	TREAM		
	OF BODGE			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
S	US		
6	D/S		
		1	

GENERAL COMMENTS

Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Name): 1194 Sour	H KONT				and the all some and
Field Sta	IT: DMC SPM				Cita Lagati		
Station:	e e e e e e e e e e e e e e e e e e e				Site Locati	on:	CONFLUENCE
vvaterbo	ay: Lock	C. S.	والمركبة والمستعلمة الكافع أحجج والأقراق	. Si interid Silasi	GPS Datun	1: NAD83 Eas	ting: 408615
Drainage	System: Gregar	t Drawn			Zone. /	HT NOIT	1119: 4640284
Location	in System. LAGO	ON RD - BEIWER	N HORTON + (THE CASER		· CHATHAM P	(ENT
Appr. Re	ach Length (m):	+ AT C	HARRING CROSS/	GAGNER.	Lot & Conc	ession:	
	Jate: SEPT,	8/10	Weather Co	onations	-		
Time Sta	inted. 1502		Vvind: 4	1		oud Cover (%).	15
			Precipitation	I. NON)E		
ADJACE			NA - 1 1 - //	4 5 9	01 /- 45	-0\	
valley	Slope:	Gentle (< 5"))	Moderate (5	5 - 15°)	Steep (> 15))	
r -	Extent of Natural V	regetation (m)	0-10	10 to 20	20	0 to 30 30+	
	Vegetation Type:	GRASS					
Riparian	I Flood Plain - exter	t of frequent flood	(m):	0-10	10 to 20	20 to 30	30+
Zone	Vegetation Type:	(maase (mo	NELLEOD HER	RC			
		<u> </u>		.62			
	Vegetation Density	(HML):					
Canopy	Type: No	NE		Quality a	nd % shade:	NONE	
Land	ACO	RICULTURAL -	SOYBEANS				
Use							
Other	(groundwater, so	ils, pools, vegeta	tion, etc.)				
Notes	1	ALGAE CLUM	PS				
CHANNE		WETTED				radiant (LI/M/L)	
Channel Book Hoi	width (range (m)).	1.2-	3		G	condor/Straight	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
Darik Hei Bank Slo	igni (range (m)).	0,10 WETTED,	HIGH WATE	RUM		eanuenotraignt.	
Bank Vor	pe (degrees from su	nace of water).	135 7188	PETDION		ank Stability. GO	
Dank veç		KONCEDUS	RANK HT	7. 10- 61		arik veg. Density	
CHANNE	EL SUBSTRATE %		DHIVE III	2M M CI	TARRING CR	055	
Clay:	r v	Gravel:	a an the second	Boulder:		Muck:	2" 1
Silt:	×	Pebble:		Bedrock:		Detritu	IS: V
Sand:				Mari:		Other:	
INSIREA	AMINABITAT AND C	JUVER					
Pools:	<i>.</i>	Undercu	t Banks:	V	B	oulder/Rock:	۲
Riffles:	X	Woody E)ebris:	(С	obble:	
Backwate	er: X	Vegetatio	on:	/	0	ther:	
	MVEGETATION						
Type (su	bmerg./emerg./floa	ting) Family/C	Senus/species	;	D	escription/Abund	lance
A	LGAE GLOB					PRESENT	
C	HITALL	TYP	HA.		V	ERY SPARSE, AT	- CHARPING CROSS
	1)			011011-11000			ningaaring this adda a thing - and
00050		014/1 0 0	- 1	000.01			
AUD Age	atic Habitat Daint	SWI Surface Wate	er input	SUS Stre	am Cross Se	ction	
	atic Habitat Area	CKC Creek Crossi	ng	VSS Vieu	al Survey Str	1.501	
TMP Tem	p Monitor Stn	WEL Well		WQS Wa	iter Quality St	n	
FLW Flow	v Monitor Stn	CUL Culvert					

FLOW CONDITIONS Page 2 c					
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes		
1	1,35	10	RUN		
2					
3					
4					
5					

WATER QUALITY

Water Temp. (°C): 19	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	SLIGHT FLOW
Time Taken: ISIS	Conductivity (µs/c	m):	PORLS WITH SHALLOW WATER CONNECTIONS
Location Taken: CONFLUENCE	/		

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
7	NW UPSTREAM		
8	SE UPSTREAM		
9	NE DOWNSTREAM TO BRIVE		
10	SW UPSTREAM FROMBRIDGE	4	
11	EAST CHARRING CROSS/GAGNER	Alati	

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

FISH OBSERVED

*OBSERVED AT CHARRING CROSS + GAGNER EPGT - CONDITIONS

AS ABOUE

CONFLUENCE 6408615 4690284



HABITAT **CHARACTERIZATION**

			Page 1 of
PROJEC	T (Number & Name): 118	4 SOUTH KENT	
Field Stat	ff: D.CALHOUN, S.	MORRAY	
Station:	\FI		Site Location:
Waterbod	ly:		GPS Datum: NAD 83 Easting: 407537
Drainage	System:		Zone: 17 T Northing: 4689669
Location i	in System: CHARIELI	UCE CROSS, NORTH OF 10TH	Municipality: CHATHAM - KENT
Appr. Rea	ach Length (m):	LINE	Lot & Concession:
Survey D	ate: SEP 8/10	Weather Condition	15:
Time Star	rted: 1600	Wind: 4	Cloud Cover (%): 90
Time Finis	shed:	Precipitation: NON	JE
ADJACE	NT LANDS	-	
Valley	Slope: Gentle	(< 5°)) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetatio	n (m) 0-10 10 to 2	0 20 to 30 30+
	Vegetation Type: GRI	155 7	
(
Riparian	Flood Plain - extent of frequ	uent flood (m): 0-10	10 to 20 20 to 30 30+
Zone	Vegetation Type: HERBH	ictous, 4	
	Vegetation Density ((HML):		
Canopy	Type: GRRSSES	Quality	and % shade: VODR-FAIR 25%
Land	REPRODUCTURAL -	CORN, PLOWED	
Use	(maximum days a still a seal		
Uther	(groundwater, soils, pool	s, vegetation, etc.)	
Notes	Lism Cul	LVERT UNDER ROAD	
Channel		Dave Cour 10	Gradient (H/M/L)
Bank Heir	abt (range (m)): 0.5	HIGH WATTR OF	Meander/Straight
Bank Slor	ne (degrees from surface of)	water): 1201 TRODUCE	Bank Stability Good
Bank Veg	etation Type: UPPRACI	Source Isa Isances	Bank Veg. Density (H/M/L):
OLIANNE		<u></u>	
CHANNE	L SUBSTRATE %	Pouldo	Muola 71
	Gravei.	Bodroc	
Sill.	Cobble	CONVERT The Mart	Other
		D ((OCUERT) ZN) Man.	Other.
	INTADITAT AND COVER		
Pools:		Undercut Banks:	
Riffles:	×	Woody Debris:	
Backwate		vegetation: CRAS	Sources.
Tune (au	hivi VEGETATION	Family/Gonus/anasian	Description/Abundance
i yhe (sui	omerg./emerg./noaung)	ranny/Genus/species	Description/Abundance
GRAS	5		ABUNDANCE

CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2	- C		
3			
4		/	
5	1		

WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	NO FLOW
Time Taken:	Conductivity (µs/cm):		STANDING WATER AT CULUERT
Location Taken:	میں میں اور		

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
12	EAST		

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT **CHARACTERIZATION**

Page	1	01

	T (1) 1 - 0 11	0.1		Page 1 o
PROJEC	I (Number & Nam	1e): 1184 So	with Kent	
Field Sta	II: D. Calhoun	1,5 Muray		
Station:	Summer and the second s			Site Location:
Vaterboo	y: Unknow	7		GPS Datum: NAD 83 Easting: 04 07291
Drainage	System:			Zone: 17T Northing: 4687048
ocation i	in System:			Municipality: Chatham Kent
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	Date: Sep. 811	2	Weather Conditions	
Time Star	rted: 16:55		Wind: 4	Cloud Cover (%): YO
Time Fini	shed: /7:22		Precipitation: Mon	٤
DJACE	NT LANDS			
/alley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	(0-10) 10 to 20	20 to 30 30+
	Vegetation Type:	TR-Bur (Jak	
		GR		
		HE- Crolde	n Rod a	
Riparian	Flood Plain - exte	ent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type:	GR	TUPHA	
		HE- Gelden	Rod	
	Vegetation Densi	ty (HML):		
Canopy	Type: Qecidi	LOUS, SH. TYPHI	A Quality a	ind % shade: 75%
and	Hq.	2		
Jse	0			
Other	(groundwater, se	oils, pools, vegeta	tion, etc.)	
Notes				
_				
HANNE	L MORPHOLOGY	,		
Channel \	Width (range (m)):	Im		Gradient (H/M/L)
Bank Heig	ght (range (m)): <	in high u	ater (2.5	Meander/Straight
Bank Slop	be (degrees from s	urface of water):	35	Bank Stability: (1001)
Bank Veg	etation Type: 12			Bank Veg. Density (H/M/L):
HANNE	L SUBSTRATE %			
lav:	_ 30_0110(1E /0	Gravel	Boulder	Muck.
Silt [.]	-francista de la constante cont	Pebble:	Bedrock:	Detritus
Sand ⁺		Cobble:	Marl	Other
NSTREA	M HABITAT AND	COVER	IVIGIT.	
		Undoreu	t Banka	Boulder/Pock
- JUIS. Diffloor			Daliks.	
Nilles.				Othor:
sackwate	s. /	vegetatio	on:	Other:

INSTREAM VEGETATION				
Type (submerg./emerg./floating)		Family/Genus/spe	cies	Description/Abundance
aanuum maaummonnin t				
	a : - anumanara			
00050	014// 0		202 0	
CODES:	SVVI SI	urface Water Input	SCS Stream	n Cross Section
AHP Aquatic Habitat Point	GWI G	roundwater Input	DOX Dissol	ved Oxygen Stn
AHY Aquatic Habitat Area	CKC C	reek Crossing	VSS Visual	Survey Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS Water	r Quality Stn
FLW Flow Monitor Stn	CUL C	ulvert		

FLOW CONDITIC	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4		/	
5			

WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/c	m):	
Location Taken:			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
20	sholos taken		
	# 18 \$ 19 - 18 assume	20	
	as being u/s &	19	
	as beille dis		

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* valloon tracks observed.



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION**

ualic,	renestrial	anu	vveuanu	Biologist

Page 1 of 2

PROJEC	T (Number & Name): 118-	t South Ke	nt	
Field Stat	ff: D. Calhoun, S.	Murray	Site 1	
Station:	K			Location:
Vvaterbou	V: panette's Creek		GF 3 Zone	$\frac{\text{Datum}}{7} \text{Northing: } \left(\left(\frac{8}{2} \right) \right) = \frac{1}{2}$
Location i	in System: ou and the line		Munic	cinality Chathan Licent
Appr Rea	ach Length (m)	2 M DIW LYKANT	Lot &	Concession
Survey D	lato Son Sun	Weather	Conditions:	
Time Star	ale. 010	Wind: 4		Cloud Cover (%): 7 5
Time Fini	shed: 17:5%	Precipitat	tion: Nlone	
			14	
Valley	Slope Gentle	(< 5°) Moderate	(5 - 15°) Steer	n (> 15°)
Vancy	Extent of Natural Vegetatio	n (m) 0-10	(10 to 20)	20 to 30 30+
	Vegetation Type: HF - (Tolden Pool		20.000 00
	TO-W	illine)		
		mou		
Riparian	Flood Plain - extent of frequ	uent flood (m):	0-10 (10 to	20) 20 to 30 30+
Zone	Vegetation Type: OR. H	E	\subseteq	/
	Vegetation Density (HML):			
Canopy	Type: HE Golden R	od	Quality and % s	shade: 50
Land	Agriculture.			
Use				
Other Notes	(groundwater, soils, pools	s, vegetation, etc.)		
CHANNE	L MORPHOLOGY			
Channel \	Width (range (m)): 15			Gradient (H/M/C)?
Bank Heig	ght (range (m)): 5 h;	gh water	(2.5m	Meander/Straight:)
Bank Slop	pe (degrees from surface of	water): 135		Bank Stability: Grood
Bank Veg	jetation Type: HE - Golde	n Rod		Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %			
Clay: V	Gravel:	V	Boulder:	Muck:
Silt:	Pebble:	Manana ana amang ang ang ang ang ang ang ang ang ang	Bedrock:	Detritus:
Sand: V	Cobble	\checkmark	Marl:	Other:
INSTREA	M HABITAT AND COVER			
Pools:		Undercut Banks: V	/	Boulder/Rock:
Riffles:		Woodv Debris:		Cobble: V
Backwate	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1972 - 1975 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 -	Vegetation:	den Somenen er	Other:
INSTREA	MVEGETATION			
Type (sul	bmerg./emerg./floating)	Family/Genus/spec	ies	Description/Abundance
CODER		face Weter Input	CCC Stream Cr	and Chatian
AHP Aqua	atic Habitat Point GWL Gr	nace water input	DOX Dissolved	Oxygen Stn
AHY Aqua	atic Habitat Area CKC Cr	eek Crossing	VSS Visual Surv	vev Stn
TMP Tem	p Monitor Stn WEL W	ell	WQS Water Qua	ality Stn
FLW Flow	Monitor Stn CUL Cu	lvert		

PLOW CONDITIC		E Danilla annal	here and freed	Disala	Fage 2 0
Cross-Section	wetted width (m)	5 Depths, equal	ly spaced (cm)	Discha	arge/Pool/Riffle/Run/Notes
1					
2					
		······································			
4					
5					
WATER QUALIT	Y				
Water Temp. (°C)	<u>,</u>	D.O. (ppm):	pH:	Visible Char	acteristics/Other Parameters:
Air Temp. (°C):		D.O (%):	TDS (ppm):		
Time Taken:		Conductivity (µs/cm):		Dr	Y
Location Taken:					
SITE DRAWING					
nclude: watercou	urse and name, flow o	direction, riffle/pool/run	habitat, side tributa	ries, station lo	cation, approx. reach length,
channel modificat	ions, adjacent landus	e, roads & road name	s, bridges, culverts,	north arrow, e	tc
		5041)	\leq	
				Luci	
1 1				T esc as	1 / 2
1 1	· - 1	A < 1			a (
1 1		VE SVERVL	Willows		9-121
	ALAD	TENS	X N		15
		C. H. V. I.	9race		S G
Soytea	ins Cuil	and the	15 Deve	(1817
)	10 - 1 - 1 -	1 mars V		tz C
)		1310
	1	talls 1 :	0		
		hivitin ha	r UL		
			0 00		
	101		- Constant		
	5 1,11		The Di	1.1Z	
	5/1	7×7	CT DIS	~ 1	N/ N/ N/
	1.13		202 5950	1 8 14	SI SINI
	1811		12 Za 1	1 3 7	3/1 1/2 11
- indi-	T \ \ \	1 1 pox -	N. Small	1 7 4	N/N/N/
		Upp of t	1 1 1 1 1 1		
		135 T' N	('al. 1		abun
\searrow	500		' biz	-117-	50000
			K.P		

PHOTOS TAKEN

Photo #	Description		Photo #	Description
	-#20,21			
	70 assumed	as uvs		
	19 assumed	as dis		
		. /-		

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

1 Cat Skeleton



HABITAT **CHARACTERIZATION**

1						Page 1 of 2
PROJEC	T (Number & Name):	84				
Field Stat	ff: DICALHOUN,	5. MURRAY				
Station:	'L'			Site Location	:	
Waterbod	ly:			GPS Datum: /	VAD83 Easting:	
Drainage	System:			Zone: 171	Northing:	
Location i	n System: 🛛 😒	HOD + 7th LINE		Municipality:	CHATHAM-KENT	
Appr. Rea	ach Length (m):			Lot & Concess	sion:	
Survey D	ate: 9 SEPT IC	Wea	ather Conditions:			
Time Star	ted: 915	Win	d: 3	Clou	d Cover (%): 10	
Time Finis	shed:	Pre	cipitation: NONE			
AD.IACE						
Valley	Slope: Gent	$e(<5^{\circ})$ Moo	lerate (5 - 15°)	Steen (> 15°)		
unoy	Extent of Natural Vegeta	tion(m)	0-10 10 to 20	20 to	30 30+	
	Vegetation Type:		15	2010		
	VEYELANDIT TYPE. CEDAR HELYTEKOW					
		INVO, ENCO III N	D			
Riparian	Flood Plain - extent of fre	quent flood (m)	0-102	10 to 20	20 to 30 30)+
Zone	Vegetation Type:	Contras Roo de	DR C-RA-S	10 10 20	2010000000	
	regetation type.	iccuero nas, na	ROJ CALASSE 2			
	Vegetation Density (HMI).				
Canopy		PIR LARR	Quality ar	nd % shade:	GAAN SOL	
Land	AFRICIATAR	E E	a danity a		accep not	
Use	PILINICOLLOR	<u>C.</u>				
Other	(groundwater, soils, po	ols, vegetation, et	tc.)			
Notes		DPV	CULIRIE	avaund	lun mido	
CHANNE						
Channel V	Width (range (m)):	-1.5		Grad	ient (H/M/D)	
Bank Heid	aht (range (m));	3. 1161	WATTER NOGW	15 Mear	nder/Straight	
Bank Slop	be (degrees from surface of	of water): 135		Bank	Stability: GDOD	
Bank Veg	etation Type:	AC SURUP GAR	DOUNE	Bank	Veg. Density (H/M/L)	
CHANNE		10 2100, 410	110, 1100			
	L JUDJIRAIE 70		Pouldor		Muok: P	1
Ciay.	P V Gravi	51. lo:	Bodrock		Detritue:	
Sill.	V Febb		Mort:	190-300-0-31804-0-8048-004	Othor:	
			Man.		Other.	
INGIREA						
Pools:		Undercut Banks	S: X	Bould	der/Rock:	
Riffles:		Woody Debris:	51.1	Cobb	ole:	
Backwate	r:	Vegetation:	X	Othe	r:	
INSTREA	M VEGETATION					
Type (sub	omerg./emerg./floating)	Family/Genus/	species	Desc	cription/Abundance	
(RAS	<			CPI	IRSE	
GINID		(01010-01010-1010-1010-10-06.074620-10-0441		(1000 100 100 100 100 100 100 100 100 10	100-1 91/120 -1-0	

i in a anne anne anno anno anno anno anno a	unuturun ana sistema inana astrona inana a	
CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

FLOW CONDITIONS

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		/	
2			
3		/	
4		/	
5		/	

WATER QUALITY

Water Temp. (°C):	– D.O. (ppm):	pH;	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	DRU
Time Taken:	Conductivity (µs/	em):	
Location Taken:			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
22	V/S TOWARD 7" LINE		
23	d/s TOWARD 401	1	
		I	

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* RED LINE ON DFO MAPPING

* THIS DRAIN HAS SEASONAL USE



CODES:

AHP Aquatic Habitat Point

AHY Aquatic Habitat Area

TMP Temp Monitor Stn

FLW Flow Monitor Stn

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

SWI Surface Water Input

GWI Groundwater Input

CKC Creek Crossing

WEL Well

CUL Culvert

HABITAT **CHARACTERIZATION**

Page 1 of 2

				raye i u
PROJEC	T (Number & Name): 1184	SOUTH KENT		
Field Sta	IFT: D.CALHOUNS, S. MI	JRRAY		
Station:	'M'		Site	Location:
vvaterboo	ay:		GPS	Datum: NAD 83 Easting: 398084
Drainage System:				: 17 T Northing: 4686042
Location	IN SYSTEM: SHADD P	ROAD, WEST SIDE	Muni	ICIPALITY: CHATHAM-KENT
Appr. Rea	ach Length (m):		Lot 8	
Survey L	Date: 9 SEPT 10	Weather Co	onditions:	
Time Sta		Wind:	3	Cloud Cover (%): 10
l ime Fini	ished: 1010	Precipitation	I: NONE	
ADJACE	NT LANDS			
Valley	Slope: Gentle	(< 5°) Moderate (8	5 - 15°) Stee	p (> 15°)
	Extent of Natural Vegetation	on (m) (0-10)	10 to 20	20 to 30 30+
	Vegetation Type: CARAS	S, QUEEN ANNE'S LA	E, GOLDEN I	ROD
	LHERE	ACEOUS PLANTS		
Riparian	Flood Plain - extent of freq	uent flood (m): 4	0-10 10 to	20 20 to 30 30+
Zone	Vegetation Type: Que	EN ANNE'S LACE, ST	RAWBERRY, C	ADLDEN ROD
	SPARSE-CAUTAIL	S, PHRAGMITES		
	Vegetation Density (HML):			
Canopy	Type: HERBACEOUS		Quality and %	shade: FAIR 30%
Land Use	AGRICULTURE, RL			
Other	(groundwater, soils, poo	s, vegetation, etc.)		
Notes	DRY			
CHANNE	L MORPHOLOGY			
Channel \	Width (range (m)):	Im		Gradient (H/M/C)
Bank Heig	ght (range (m)):	05 m HIGH W	ATER 1.5m	Meander/Straight
Bank Slop	pe (degrees from surface of	water): 135	TRAPEZODAC	Bank Stability: GOOD
Bank Veg	etation Type: HERB			Bank Veg. Density (Ĥ/M/L):
CHANNE	L SUBSTRATE %			
Clay:	F Gravel	/	Boulder:	Muck: 2 V
Silt:	V Pebble		Bedrock:	Detritus:
Sand:	Cobble	1	Marl:	Other:
INSTREA	M HABITAT AND COVER			
Pools:	1	Indercut Banks:	/	Boulder/Bock:
Riffles [.]		Woody Debris		Cobble:
Rackwate		Vegetation:		Other:
INSTREA			÷	
Type (sul	bmerg./emerg./floating)	Family/Genus/species		Description/Abundance
C ATTA	115			SPARCE
PHRM	GMITES			SPARSE
HERF	ACEDIX PLANTS			REENT
1.000 Ba	DACCES	an a		Come 1-1-

SCS Stream Cross Section

DOX Dissolved Oxygen Stn

VSS Visual Survey Stn

WQS Water Quality Stn

FLOW CONDITIC	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		/	
2		/	
3		/	
4		1	
5		1	

WATER QUALITY

Water Temp. (°C):	 D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	 D.O. (%):	TDS (ppm):	Doi/
Time Taken:	Conductivity (µs/	çm):	DRY
Location Taken:	 /		

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

,	CORN	
	HE GR STRAWBERRY GOLDENROD DRY -> (FLOW)	Hw 40
The cive	HERB QUEEN ANNELS CACE MILICUEED GREASS	
	SHADD RD.) I

PHOTOS TAKEN

Photo #	Description	Photo #	Description
	US TOWARD 7" LINE		
	NS TOWARD 401		

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:





HABITAT CHARACTERIZATION

	<u> </u>		Page 1 of 2		
PROJEC	T (Number & Name): 1184 So.	th Kent			
Field Staf	IT: D. Calhoun S. M.	wralf			
Station:			Site Location:		
Waterbod	Jy:		GPS Datum: NAD 83 Easting:		
Drainage	System:		Zone: 17 Northing:		
Location i	IN System: STH LINE WES	ST OF DILLON	Municipality: CHITTHAM-KENT		
Appr. Rea	ach Length (m):		Lot & Concession:		
Survey D	late: 9 SEPTIO	Weather Condition	S:		
Time Star	rted:	Wind: 3	Cloud Cover (%): 1()		
Time ⊢inis	shed:	Precipitation: N	IONE		
ADJACE	NT LANDS	0			
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural Vegetation (m)	0-10 (10 to 20	D 20 to 30 30+		
	Vegetation Type: SHRVB - WIL	LOW, ASPEN, SUMAC	HERB - GOLIEAROD, GRAPE VINE		
	TREE, ASPEN, PINE GREASS				
Disasian	The second of frequent floor	0.10			
Riparian	Flood Plain - extent of frequent flood	I (m):	10 to 20 20 to 30 30+		
ZUIIE	vegetation type: willow, Grizass,				
	Vegetation Density (HML):				
Canopy	Type TRAY CLIPIC	Quality	and % shade 10 % Poor		
and	Deplayment				
Use	The success pace				
Other	(groundwater, soils, pools, veget/	ation, etc.)			
Notes	STANDING WATER	> IN POCKETS /	4 ANG WATERCOURSE		
	3×15,	4.5m h	lab flow		
CHANNE			0		
Channel V	Width (range (m)): 05-2-4		Gradient (H/M/L)		
Bank Heig	ght (range (m)): 0, 5	HIGH WATER 3	4.5m Meander/Straight:		
Bank Slor	pe (degrees from surface of water):	110 TRAPET	2010 Bank Stability: GrooD		
Bank Veg	jetation Type: GrRASS, REET	5	Bank Veg. Density (H/M/L):		
CHANNE	L SUBSTRATE %				
Clay:	Gravel:	Boulder	m / Muck:		
Silt:	Pebble:	V BRIDGE Bedrock	κ: Detritus: Lenues		
Sand:	Cobble: 5 v	NORTH, MORE Marl:	Other:		
INSTREA	M HABITAT AND COVER				
Pools:	Underc	ut Banks: X	Boulder/Rock:		
Riffles:		Debris:	Cobble: V		
Backwate	r: X Vegeta	tion:	Other:		
INSTREA					
Type (sul	bmerg./emerg./floating) Family/	/Genus/species	Description/Abundance		
		/			
		aministrain inina provinsione			
443.1					
	an entries of lots in the descent production of the later and product and some				
CODES:	SWI Surface Wa	tor Inplit SCS Str	ream Cross Section		
AHP Aqua	atic Habitat Point GWI Groundwate	ar Input DOX Di	ssolved Oxvgen Stn		
AHY Aqua	atic Habitat Area CKC Creek Cross	sing VSS Vis	sual Survey Stn		
TMP Temp	ρ Monitor Stn WEL Well	WQS W	/ater Quality Stn		
FLW Flow	Monitor Stn CUL Culvert				

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
5			

WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	рЙ:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	POOLS STANDING WATER
Time Taken:	Conductivity (µs/c	:m);/	2my6m, 3x ISm
Location Taken:		/	

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



PHOTOS TAKEN

Photo #	Description	Photo #	Description
27-	NORTH FROM SHLINE BRIDGE		
28	SOUTH FROM 8TH LINE BRIDGE		
29	CATERPILLAR AT SHLINE BRIDGE		

GENERAL COMMENTS

. ALL BLACKS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use * raccoons tracks@qthline * From qth line observedion O * standing water@didge@qth line are standing pods of water * Standing water@didge@qth line are standing pods of water * DEAGONIFY NYMALS, WATER BEENCE, MORDLES FROM RACCOON + NERMAN DOLLARS, MORDLES, FROM and vegetation, etc.: RACCOON + HERON PRIASTS RUTERC, WHITE MONAVER · YELLOW IN WHITE



HABITAT **CHARACTERIZATION**

							Page 1 of 2
PROJEC	T (Number & Name)	1					
Field Stat	ff: D. Calhoun.	S. Hurvar	1				
Station:	5				Site Loca	ation:	
Waterbod	ly:				GPS Dati	um:NAD83 E	asting: 401990
Drainage	System:	ana gana ana ang sa			Zone: \	7 T No	orthing: 4684340
Location i	in System: E. side (of Dillion just	N at 11	othline	Municipal	lity: Chathan	n Kent
Appr. Rea	ach Length (m):	ł			Lot & Cor	ncession:	
Survey D	ate: Sep.9/10		Weather C	Conditions:			
Time Star	rted:	010110101100111101010000000000000000000	Wind: 3		10000000000000000000000000000000000000	Cloud Cover (%):	75
Time Finis	shed:		Precipitatio	on: None			
ADJACE							
Valley	Slope: (Gentle (< 5°)	Moderate	(5 - 15°)	Steep (>	15°)	
	Extent of Natural Ve	egetation (m)	0-10	(10 to 20)		20 to 30 30+	
	Vegetation Type: (Trasses, Tree	!5				
Riparian	Flood Plain - extent	of frequent flood (m	ו):	(0-10)	10 to 20	20 to 30	30+
Zone Vegetation Type: Grasses He		55					
	Vegetation Density	(HML):					
Canopy	Type: GR, HE			Quality ar	nd % shad	le: Poor	10%.
Land Use	Agriculture on East. Road on west						
Other Notes	(groundwater, soil	s, pools, vegetatio	n, etc.)				
CHANNE	L MORPHOLOGY						
Channel V	Nidth (range (m)):				Ŋ	Gradient (H/M/L):	
Bank Heig	ght (range (m)): 3					Meander/Straight	2
Bank Slop	be (degrees from sur	face of water):	Bank Stability: Groec		Good		
Bank Veg	etation Type: Herb	15, grasses.				Bank Veg. Densit	ty (H/MAL):
CHANNE	L SUBSTRATE %	U					
Clay:	i	Gravel:		Boulder:		Muc	x:
Silt: 🗸	1	Pebble:		Bedrock:		Detr	ritus:
Sand: 🗸		Cobble:		Marl:	0.000	Othe	er:
INSTREA	M HABITAT AND CO	OVER					
Pools: 🗸	1	Undercut B	Janks: 🗸			Boulder/Rock: U	/
Riffles:		Woody Del	oris:	Search State and	and training and a	Cobble:	A REPORT OF A DESCRIPTION
Backwate	11111111111-11111111111111111111111111	Vegetation:	: / Carac	515	Preserve representation	Other:	
INSTREA	M VEGETATION						
Type (sub	omerg./emerg./float	ing) Family/Ger	nus/specie)S		Description/Abu	Indance
MIC	2010		/				
, V V 🗸	γ.ω		/				
D-8		/	finan an	melline entry with		/	
	and an electron for the second se	/	all designation of the second s	itter		······	in the second
CODES:		SWI Surface Water In	nput	SCS Stre	am Cross 5	Section	
AHP Aqua	tic Habitat Point	GWI Groundwater Int	put	DOX Dise	solved Oxygen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossing		VSS Visu	al Survey S	Stn	
TMP Temp	o Monitor Stn	WEL Well		WQS Wa	ter Quality	Stn	
FLW Flow	Monitor Stn	CUL Culvert				10	

FLOW CONDITIONS

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		37.8.7.5.4	Pool
2			
3			
4			
5			

WATER QUALITY

Water Temp. (°C): 73	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters;
Air Temp. (°C): 20@ 13:36	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/cm):	/	
Location Taken:			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

			Curver K	Smolt Shinds, Shinges, out		N
		Dan KS	and much and	2 Sando Sando	Field of	
Kon Ka	. SS.	teep toler cust	1 strates	Chand	C K o I	
$\tilde{)}$	9.0	Sugsee	Grad Chard			
		15	a ch in			

PHOTOS TAKEN

Photo #	Description	Pho	oto #	Description
-	Photo = North			
	Philo 2 - Soud			
			meeti berrin oo maa	
				-4

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* At least loofish in a 1x 5m pool Lo creek churts & you supprinteds Some up to locim long * Northern Hog Sucker Caught w hands!



HABITAT **CHARACTERIZATION**

	0				Page 1 of		
PROJEC	T (Number & Name):	1184 50	with Ker	it			
Field Stat	ff: D. Calhoun	, S. Murv	au				
Station: ⁽	Vi		• •	ni: mininiimin	Site Location:		
Waterbod	ly:				GPS Datum: NAD & Easting:		
Drainage	System:				Zone: 77 Northing:		
Location i	n System: 1st drain w	Jest of Bloom	afield on 1	eld on 10th Line Municipality: Chatham /Kent			
Appr. Rea	ach Length (m):				Lot & Concession:		
Survey D	ate: Sep 91'10		Weather C	onditions:			
Time Star	ted: 14:35		Wind: 3		Cloud Cover (%): 75		
Time Finis	shed: 14:55		Precipitation	n: None	9		
ADJACEN	NT LANDS						
Valley	Slope: (G	Sentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural Veg	getation (m)	0-10	10 to 20	20 to 30 30+		
	Vegetation Type: Q	russes		\smile			
				\sim			
Riparian Zone	Flood Plain - extent of	of frequent flood	(m):	0-10	10 to 20 20 to 30 30+		
Lono	Shrub-		n mool				
	Vegetation Density	AML):					
Canopy	Type: Hechocoon	5		Quality an	nd % shade: POOR & 5.1 (South)		
Land	par and dure	1 2000		sector in the	20: (mod & SOM (Mlouth)		
Use	1. Coortone	a llandet					
Other	(groundwater, soils	, pools, vegeta	tion, etc.)				
Notes	Dool 3m	wide une	der oulve	1+ 8 (disappears 1 goes water grand		
	feet prive						
CHANNE	L MORPHOLOGY						
Channel V	Width (range (m)):), C	5			Gradient (H/M/Q):		
Bank Heig	ght (range (m)): 31	5			Meander/Straight> meanders @ Pd-feet		
Bank Slop	be (degrees from surfa	ace of water):	135		Bank Stability: (3000)		
Bank Veg	etation Type: Herb.	- Golden Ro	d		Bank Veg. Density (H/M/L):		
CHANNE	L SUBSTRATE %				/		
Clay: 🗸	G	Gravel:		Boulder:	Muck:		
Silt: V	P	ebble:	Bedrock:		Detritus:		
Sand:	C	obble:		Marl:	Other:		
INSTREA	M HABITAT AND CO	VER					
Pools:		Undercu	t Banks: 🗸		Boulder/Rock:		
Riffles:		Woody D	Debris:		Cobble:		
Backwate	а на полно се	Vegetati	on:		Other:		
INSTREA	M VEGETATION						
Type (sul	bmerg./emerg./floatir	ng) Family/C	Genus/species	6	Description/Abundance		
A	igae	175, 1977 (1994) 					
CODES:	S	WI Surface Wate	er Input	SCS Strea	am Cross Section		
AHP Aqua	tic Habitat Point G	WI Groundwater	Input	DOX Diss	solved Oxygen Stn		
AHY Aqua	tic Habitat Area C	KC Creek Crossi	ing	VSS Visual Survey Stn			
TMP Temp	o Monitor Stn W	VEL Well		WQS Wa	ater Quality Stn		
LVV FIOW	wonitor Stn C	UL CUIVERT					

	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	/	/	
2		/	
3		/	
4			/
5 /		/	
NATER QUALITY	(
Nater Temp. (°C)	: /	D.O. (ppm): pH://	Visible Characteristics/Other Parameters
Air Temp. (°C):		D.O. (%): TDS (ppm):	
Time Taken:	/	Conductivity (µs/cm).	
Location Taken:	/		
nclude: watercou	Irse and name. flow	direction, riffle/pool/run habitat, side tribut	aries, station location, approx, reach length
	\sim		L Field.
		a confiction creat box curver +	

PHOTOS TAKEN

Photo #	Description	Photo #	Description
	1st Pic - North		
	2nd Pic- South.		
	· · · · · · · · · · · · · · · · · · ·		

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: A water striders observed



FLW Flow Monitor Stn

CUL Culvert

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nar	ne): 1184 Sourt	h Kent			
Field Stat	ff: D. Calhoun	S. Hurray	and a second provide the second s			
Station:	w	1		Site Location:		
Waterbod	ly:			GPS Datum: NHD & 3 Easting:		
Drainage	System:			Zone: 17 Northing:		
Location i	n System: 10 🗠	~ 2nd drain f.	rom Bloomfield.	Municipality: Chatham / Kent		
Appr. Rea	ach Length (m):	()))))))))))))))))))))))))))))))))))))		Lot & Concession:		
Survey D	ate: Sep.9110	>	Weather Condition	5		
Time Star	ted: 15:08		Wind: 3	Cloud Cover (%): つつ		
Time Finis	shed: 15:30		Precipitation: Non	۲. «		
ADJACE						
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natura	Vegetation (m)	0-10 10 to 20	20 to 30 30+		
	Vegetation Type	: lle che Crotele	in Red			
		Trop - Willow	11001			
		The windus		2		
Riparian	Flood Plain - ext	ent of frequent flood (m): 0-10	(10 to 20) 20 to 30 30+		
Zone	Vegetation Type	Herb-Coolder	a Rod			
		CALASSAS	(
	Vegetation Dens	ity (HML):				
Canopy	Type: Decidu	as Trees.	Quality	and % shade: 40% South, 70% North		
Land	Laviculture	a wind fa	1 WAS			
Use	1 g 1 court					
Other	(groundwater, s	oils, pools, vegetati	on, etc.)			
Notes			•			
CHANNE	L MORPHOLOG	Y				
Channel V	Vidth (range (m)):	3		Gradient (H/M/L):		
Bank Heig	ght (range (m)):	25 cm		Meander/Straight:		
Bank Slop	e (degrees from s	surface of water):	35	Bank Stability: Cacod		
Bank Veg	etation Type: He	13. Golden Roc		Bank Veg. Density (H/M/L):		
CHANNE	SUBSTRATE %	, 				
Clay: V	/	Gravel	Boulder	Muck		
Silt:		Pebble ⁻	Bedrock	Detritus:		
Sand:	********	Cobble:	Marl	Other:		
INSTREA		COVER	indii.			
Dealer /		The second	Basking /			
POOIS: V	anana anin' amin'ny a	Undercut	Banks:	Boulder/Rock:		
Rimes:		vvoody De	edris: 🗸			
Backwate		Vegetation	1:	Other:		
INSTREA	W VEGETATION			Description (Abundance		
Type (sur	omerg./emerg./nd	Dating) Family/Go	enus/species	Description/Abundance		
	None (Turbi	<u>d</u>)				
		() (ale of some -1100 - 1110 - 1100	00110110400-00040001a-04a-009)			
CODES:		SWI Surface Water	Input SCS Str	eam Cross Section		
AHP Aqua	tic Habitat Point	GWI Groundwater I	nput DOX Dis	solved Oxygen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossin	g VSS Vis	ual Survey Stn		
TMP Temp Monitor Stn WEL Well		WQS W	WQS Water Quality Stn			

FLOW CONDITIONS

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	3.5	11, 19 21 24, 23	Pool
2			
3			
4			
5			

WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 1(6	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/c	:m):	
Location Taken:			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ... Villaws C willows Eord . 1.3.1(00) (05) rain acks Concrete Culvert 10th ine Concrete Culvert Soviers) NOW J. 70

PHOTOS TAKEN

Photo #	Description	Photo #	Description
#9	SG 1st Pic - East		
49	57 2nd Pic - West		
-1)9	8 3rd Pic-Turbine - Dlade		4.
	over lag.		

SAGEN

1850AV

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.

* Very Tinisid



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nan	ne): 184 Soudt	Kert			
Field Sta	ff: D. Calhoun	S. Murray	(
Station: Y				Site Location:		
Waterbod	ly:			GPS Datum: \\\\ 동고 동국 Easting:		
Drainage	System:			Zone: 17 T Northing:		
Location i	n System: 10th 1	. 1st drain West	of Bloomfield	Municipality: Chatham Kent		
Appr. Rea	ach Length (m):	وبواوية بالبريان ويتبايه والمهارية والمرابع		Lot & Concession:		
Survey D	ate: Seo 9th	1/O	Weather Condit	ons:		
Time Star	ted: /6:00		Wind: 7	Cloud Cover (%): 50 %		
Time Finis	shed: 16:21		Precipitation: No	× .		
ADJACE		\sim				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15) Steep (> 15°)		
- unoy	Extent of Natural	Vegetation (m)	0-10 10 fc	20 10 30 30+		
	Venetation Type: Crucoccac		010	A 313, 201000 000		
	109-110-170-	0.10.52)				
			A	×		
Riparian	Flood Plain - exte	ent of frequent flood (m): (0-10	10 to 20 20 to 30 30+		
Zone	Vegetation Type:	Herb- Csolden	Roch Jen	retuined		
		Pland Contact	the officers			
	Vegetation Densi	ty (HML):				
Canopy	Type:	0.0	Qua	ity and % shade: South - 10% Mouth 90%		
Land	Hav. Custu	11 - South	Woodlot .	Nouth		
Use	0		V.250001121			
Other	(groundwater, s	oils, pools, vegetati	on, etc.)			
Notes						
		-				
CHANNE		2		Or direct (UMAG)		
Channel Width (range (m)): 3			adminine antication and	Gradient (H/M/L):		
Dank Heig	int (range (m)): 2	2 	25	Deall Otability		
Bank Slop	e (degrees from s	surface of water):	رن در	Bank Stability: (3000)		
bank veg	etation Type. Her	Daleous		Bank Veg. Density (H/W/L):		
CHANNE	L SUBSTRATE %					
Clay:		Gravel:	Boul	der: Muck:		
Silt: V	annan senanna an a	Pebble:	Bedr	ock: Detritus:		
Sand:		Cobble:	Marl	Other:		
INSTREA	M HABITAT AND	COVER				
Pools: /		Undercut	Banks: 🗸	Boulder/Rock:		
Riffles: Woody De		ebris: 🗸	Cobble:			
Backwater: Vegetation:			ו:	Other:		
INSTREAM VEGETATION						
Type (sub	omerg./emerg./flo	eating) Family/G	enus/species	Description/Abundance		
[]	philips	grade	Chickweed	very abundant		
V 010000			Chool Street of	and the second		
V						
		······				
CODES		SWI Surface Water	Input SCS	Stream Cross Section		
AHP Aquatic Habitat Point GWI Groundwater Ir		nput DOX	Dissolved Oxygen Stn			
AHY Aquatic Habitat Area CKC Creek Crossing		y VSS Visual Survey Stn				
TMP Temp Monitor Stn WEL Well			WQS Water Quality Stn			
FLW Flow	Monitor Stn	CUL Culvert				
FLOW CONDITIONS

Page 2 of

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	3	333351	Pool
2			
3			
4			
5			

WATER QUALITY

Water Temp. (°C): 21	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Standing
Time Taken: 16:14	Conductivity (µs/c	m):	Warent
Location Taken: In Stream			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



FRUIUS IA			T 22 22 4	
Photo #	Description	Photo #	Description	n and a second s
	#91-2 U15 & South			
	#912-2015 & North			
	dt 2			

GENERAL COMMENTS

* green froms observed



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION**

				Page 1 of 2			
PROJEC	T (Number &	Name): 1184 Sou	Jh Kent				
Field Sta	#: D.Calh	oun, S. Mirra	1				
Station:	FF: FFii		ł	Site Location:			
Vvaterboo	ay:			GPS Datum: NHV 63 Easting: 4102.61			
Drainage	System:	0.1		Zone: 17 T Northing: 4691711			
Location I	in System: Her	ton Koad in tetween	+ civgo & Conversion cation	Municipality: Chatham Kent			
Appr. Rea	ach Length (m	i);. ·	Weather Conditions				
Time Stor	tod: up 10	210	Wind:				
Time Star	shed: 10:36	s arm	Brecipitation: 1 la c				
Time Tim	siled. 10.5	2 avre	Frecipitation. None				
ADJACE							
valley	Siope.	Gentie (< 5-)	Moderate (5 - 15°)	Steep (> 15 ⁻)			
	Extent of Na	tural vegetation (m)	0-10 10 to 20	20 to 30 30+			
	vegetation 1	ype: Orasses					
			~				
Riparian	Flood Plain -	extent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+			
Zone	Vegetation Type: Chrosses and Hech						
	TOTAL TRADE TRADE						
	Vegetation D	ensity (HML):					
Canopy	Type: Give	15585 & Heit	Quality a	nd % shade: P006 10%			
Land	Agricul-	ture					
Use	0						
Other	(groundwate	er, soils, pools, vegetat	tion, etc.)				
Notes							
CHANNE	L MORPHOL	OGY					
Channel V	Nidth (range (m)): 1-71 1.5m	-7 11	Gradient (H/M/L):			
Bank Heig	ght (range (m)): 4m		Meander/Straight:			
Bank Slop	be (degrees fro	om surface of water):	35	Bank Stability: 61000			
Bank Veg	etation Type:	Grasses and H	erb	Bank Veg. Density (H/M/L):			
CHANNE	L SUBSTRAT	Е %					
Clay: 🗸		Gravel:	Boulder:	Muck:			
Silt:		Pebble:	Bedrock:	Detritus:			
Sand:		Cobble:	Marl:	Other:			
INSTREA	M HABITAT A	AND COVER					
Pools:		Undercut	: Banks:	Boulder/Rock:			
Riffles:		Woody D	ebris:	Cobble:			
Backwate	r:	Vegetatio	on: J grasses	Other:			
INSTREA	M VEGETATI	ON	0				

Type (submerg./emerg./fl	oating)	Family/Genus/spe	cies	Description/Abundance
		Phragmites	5	Phot very abundant only
				small patches on
and a second state of the second	1			western side of (FF;i)
CODES:	SWI S	urface Water Input	SCS	Stream Cross Section
AHP Aquatic Habitat Point	GWI G	Froundwater Input	DOX	C Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC C	reek Crossing	VSS	Visual Survey Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS	S Water Quality Stn
FLW Flow Monitor Stn	CUL C	ulvert		

1

FLOW CONDITIC	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			L DKY
4			1 - I
5			

WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH.	Visible Characteristics/Other Parameters:
Air Temp. (°C): 20°C	D.O. (%):	TDS (ppm):	
Time Taken: 10.52	Conductivity (ps/cm	1):	
Location Taken: Roadside			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Field	processos + Hartz	nonnel C. OroESES	St.	Field	
FFii		SHEET -	grasses Herb	PHPACOMITE	5
	BARE Chanr avasses Harb	ret to gro	isses T-k- (ingrasses Harbs	1/12
	+lor-tom	Ra			

PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1=FF: - South		
	#2 =>FFII - east		
	#3.7FF11 - 225-	¥-	
		E	

GENERAL COMMENTS



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Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

Page 1 of 2

PROJEC	T (Number & Name): \\ 상식	south Kent			
Field Stat	ff: D. Calpour, S. hurro	И			
Station:	(nGri, CrGri	Site Location:			
Waterbod	lý:	GPS Datum: NAF	D&3 Easting:		
Drainage	System:	Zone: ィイ	Northing:		
Location i	n System: Horton Rd. last to	it the Communication Municipality: Che	atham Kent		
Appr. Rea	ach Length (m):	Lot & Concession	1:		
Survey D	ate: Sep. 101 10	Weather Conditions:			
Time Star	ted: 11,00 am	Wind: (Cloud C	Cover (%): 25		
Time Finis	shed: 11:36 am	Precipitation: None			
ADJACEN	NT LANDS	<			
Valley	Slope: Gentle (< 5	Moderate (5 - 15°) Steep (> 15°)			
	Extent of Natural Vegetation (n	n) 0-10 10 to 20 20 to 30	20 to 30 30+		
	Vegetation Type: (ees-	Priduous			
	Grasse	S			
Riparian	Flood Plain - extent of frequent	flood (m): 0-10 10 to 20	20 to 30 30+		
Zone	Vegetation Type: Lerbau	OUS Grasses			
	Vegetation Density (HML):				
Canopy	Type: Tree & Heits	Quality and % shade: Poo	15%		
Land	LAgriculture, Resi	dential			
Use	0				
Other	(groundwater, soils, pools, v	egetation, etc.)			
Notes					

CHANNEL MORPHOLOGY

Channel Width (range (m))	: 2.5		Gradient (H/M/L):	
Bank Height (range (m)):	5 High Waler =	= 1.5m	Meander/Straight:	
Bank Slope (degrees from	surface of water): 135		Bank Stability: Group	
Bank Vegetation Type: 14	chaceous, Giras	Ses	Bank Veg. Density (H/M/L):	
CHANNEL SUBSTRATE %	/0/			
Clay:	Gravel: 🗸	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	70.000,003
Sand:	Cobble:	Marl:	Other:	
INSTREAM HABITAT AND	COVER			
Pools:	Undercut Banks	1	Boulder/Rock:	
Riffles:	Woody Debris:		Cobble:	
Backwater:	Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./fl	oating) Family/Genus/s	pecies	Description/Abundance	
None - Turbid				
CODES:	SWI Surface Water Input	SCS Stream Cros	ss Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved C	Dxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Surve	ey Stn	
IMP Temp Monitor Stn	WEL Well	WQS Water Qua	lity Stn	
FLW Flow Monitor Stn	CUL Culvert			

FLOW CONDITIONS

Faue Z UI Z

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.23	24.35 33 26.11	Pool
2			
3			
4			
5			

WATER QUALITY

Water Temp. (°C): 7°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Standing Pools
Time Taken:	Conductivity (µs/cm):		0
Location Taken: In Stalam			V

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx, reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Cable /R N Residential 20 willow Residential Gilii Hedge row Dryce Herton Roi (C: 5/9/ 3.00 yours 5 5011

PHOTOS TAKEN

Photo #	Description	Photo #	Description
	* Pic-> South = 115		
	#2 Ric = north adis		
	#3Dic 7 west = il chann	e \	

GENERAL COMMENTS

* Cyprinids observed * water striders * Cedar wax wing/



ì

Aquatic, Terrestrial and Wetland Biologists

Page	1	of	2
1 ayu	_		~

PROJEC	T (Number & Nar	ne): 1184 Sout	th Kent	
Field Sta	aff: D Callon	O S. Murra	~	
Station:	'IJ' Call)		Site Location:
Waterboo	dy:			GPS Datum: NATU 83 Easting:
Drainage System: hucas Drain				Zone: TT Northing:
Location	in System:			Municipality: Clathown Kent
Appr. Re	ach Length (m):			Lot & Concession:
Survey D	Date: Ser. 1011	O	Weather Conditions	S:
Time Sta	rted: 12:30	x)===)================================	Wind: 3	Cloud Cover (%): 70 °/.
Time Fin	ished: 12:53		Precipitation:	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natura	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type	Trees - Mix	ed	
				\frown
Riparian	Flood Plain - ext	ent of frequent flood	I (m): 0-10 (10 to 20 20 to 30 30+
Zone	Vegetation Type	Herb (Jewelw	ceo (Golden Rool)	
		vines (wild)	Cive De)	Struto Willow
	Vegetation Dens	ity (HML):		
Canopy	Type: Tree 14	south) Hortac	Lons (North) Quality a	and % shade: North-Poor, 1011 - South-Great 9016
Land	Agricultu	<u>ve</u>		
Use				
Other	(groundwater, s	oils, pools, vegeta	ation, etc.)	
Notes				
		-		
CHANNE	L MORPHOLOG	/		
Channel	vvidtn (range (m)):	m 4m		Gradient (H/M/L)!
Bank Hel	gnt (range (m)): ~	7	2	Meander/Straight:
Dank Sio	pe (degrees nom s	surface of water):	13)	Bank Stability: 61000
Darik veg	jetation Type. File	13- (solden Koa	Shut- willow	Bank Veg. Density ((H/)W/L):
CHANNE	L SUBSTRATE %			
Clay: 🗸	No granden en en rentras	Gravel: 🗸	Boulder	Muck:
Silt: V	/	Pebble:	Bedrock	: Detritus: 🗸
Sand: V		Cobble:	Marl:	Other:
INSTREA	M HABITAT AND	COVER		
Pools: v		Undercu	ut Banks: 🗸	Boulder/Rock:
Riffles: V		Woody	Debris: 🗸	Cobble:
Backwate	er:	Vegetat	ion: 🗹	Other:
INSTREA	M VEGETATION		Ale and a second se	
Type (su	bmerg./emerg./flo	pating) Family/	Genus/species	Description/Abundance
11	·	Phy	agnites (ii)	
		WO	der cress (i)	
CODES:		SWI Surface Wat	er Input SCS Stre	eam Cross Section
AHP Aqua	tic Habitat Point	GWI Groundwate	r Input DOX Dis	solved Oxygen Stn
AHY Aqua	tic Habitat Area	CKC Creek Cross	ing VSS Vis	ual Survey Stn
IMP Temp	p Monitor Stn	WEL Well	WQS W	ater Quality Stn
-LVV Flow	wonitor Stn	CUL Culvert		

FLOW CONDITIONS

Page 2 of 2

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.75	11, 19,20,20,16	200
2		1 1 1	
3			
4			
5	1		

WATER QUALITY

Water Temp. (°C): ノー・し	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 20°C	D.O. (%):	TDS (ppm):	Slow Flow
Time Taken:)2:47	Conductivity (µs/c	:m):	
Location Taken: In stream			

SITE DRAWING

In	lude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,	
ch	nnel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	
	Residential - Vines Vines Willing 32 7 Field N	
	Manual Contractors Cobble & Co	ike,
C	Bridge Duillen	>
	Drug Line	
	1 Bridge 1 D/2	
	(minut) source and and source for the source of the source	
	KI KZY STAT	,

PHOTOS TAKEN

Photo #	Description	Photo #	Description
1	# - North		
	1t-Conth		
3	F-West		
<i></i>			
1 - 0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			

GENERAL COMMENTS

* Cyprinic's observed



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJECT	(Number & Name	1: 1184 Sold	h Kent			
Field Staf	f: S. Murra	1				
Station:	LL: LLII)	Site Location:			
Waterbod	V: WAKNOWS		GPS Datum: NAD&3 Easting:			
Drainage System: Zone: 7 Northing:						
Location in	System: Pt trib	off of Commu	in cation to Curelle	Municipality: Charlann /Kent		
Appr. Rea	ch Length (m):			Lot & Concession:		
Survey Da	Survey Date: Sop. 1310 Weather Conditions:					
Time Star	ted: 12:59		Wind: 3	Cloud Cover (%): 0 %		
Time Finis	hed: 13:33		Precipitation: Man	l.		
ADJACEN	IT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural V	egetation (m)	0-10 10 to 20	20 to 30 30+		
	Vegetation Type: -	Trees - Coda	r. Elm, Bass	wood		
	Y	terb - Gold	en Rod			
			~			
Riparian	Flood Plain - exten	t of frequent flood (m	ı): <u>(0-10)</u>	10 to 20 20 to 30 30+		
Zone	Vegetation Type: 1	terb- Grold	en Kod			
		Orasse 5				
0	Vegetation Density	(HML):	Quality			
сапору	Type: The g	+lip	Quality as	in $\%$ shade. $(3080) \rightarrow 50\%$		
Use	Hgriculture					
Other	(groundwater, soi	ls, pools, vegetatio	on, etc.)			
Notes						
	MORPHOLOGY					
Channel V	Vidth (range (m)):	7.5		Gradient (H/M(L))		
Bank Heig	ht (range (m)): 🛛	1.5 -7 2.	5 High wo	ter Meander/Straight:		
Bank Slop	e (degrees from sur	face of water):	0	Bank Stability: Grood		
Bank Vege	etation Type: Her	6- Golden 7	2001 Trees-Goda	Bank Veg. Density (Ĥ/M/L):		
CHANNEL	SUBSTRATE %	1	Lp	Basswood		
Clav:		Gravel:	Boulder:	Muck:		
Silt:	Lancardo	Pebble:	Bedrock:	Detritus:		
Sand:	/	Cobble:	Mari:	Other:		
INSTREAM	HABITAT AND C	OVER				
Pools:	/	Undercut E	Banks:	Boulder/Rock:		
Riffles:	11	Woody Del	bris:	Cobble:		
Backwater		Vegetation	and the second sec	Other:		
INSTREAM VEGETATION						
Type (submerg./emerg./floating) Family/Genus/species Description/Abundance						
Nor	re-surbid					
CODES:	N	SWI Surface Water I	nput SCS Stre	am Cross Section		
AHP Aquat	ic Habitat Point	GWI Groundwater In	put DOX Diss	olved Oxygen Stn		
AHY Aquat	ic Habitat Area	CKC Creek Crossing	VSS Visu	al Survey Stn		
TMP Temp	Wonitor Stn	VVEL VVell	WQS Wa	ter quality Stn		

FLOW CONDITIONS

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.79	10.18.19.27 21	Pco
2		- 1 1 2 July - 1 J	
3			
4		and the second provide the second	- for a la successive a state of the second se
5	0 () () () () () () () () () () () () ()		

WATER QUALITY

Water Temp. (°C): 19	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 25	D.O. (%):	TDS (ppm):	
Time Taken: 13:20	Conductivity (µs/c	m):	
Location Taken: In Stream			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



Photo #	Description	Photo #	Description	
#1	- UIS North (14)			
#2	- dis south (141));		
Ŧ2	east (1, hii)		11 11 11 11 11 11 11 11 11 11 11 11 11	
4-1	= eyest (14ii)	and the second s	nang menerati seta na salaman sa manang menerati sa manang	
		1		

GENERAL COMMENTS

- lots of littler - water Striders seen. - vaccoon track.

- cyprinids Seen



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nar	ne): 1184 South	Kent		
Field Sta	ff: S Murral	1	and and the second s		
Station:	00			Site Location:	
Waterboo	dy:			GPS Datum: NAD 8:	3 Easting:
Drainage	System: Tr.5 H	of white Dre	in (most eastern	Zone: T	Northing:
Location	in System: last +	rib on Drug tel	ore Harwich	Municipality: Chock	ham / Kent
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	Date: Sep. 13	10	Weather Conditions	: Swnny	
Time Sta	rted: 14:40		Wind: 7	Cloud Cove	r (%): 5º/e
Time Fini	shed: 15:17		Precipitation: Mona		
ADJACE	NT LANDS				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natura	Vegetation (m)	0-10 (10 to 20) 20 to 30	30+
	Vegetation Type	Grass, Tree	- Cedar		
		Wild Grage			
Diseries		f f f	010	10 - 00 - 00 -	- 00 - 001
Kiparian	Flood Plain - exte	ent of frequent flood (m):		0 30 30+
ZUNG	vegetation Type	(Mrassos Her	Dareous - Unic	len nog	
	Vegetation Dens	ity (HML):	- Jeu	selwera	
Canopy	Type: Grasspe	Higher Cours Tra	Quality a	nd % shade: Door	- 15%
Land	Aquicutur	a			
Use	0				
Other	(groundwater, s	oils, pools, vegetatio	n, etc.)		
Notes					
CHANNE	L MORPHOLOG	1			1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
Channel V	Width (range (m)):	211	Δ	Gradient (H	/M/L)2
Bank Hei	ght (range (m)):	4.5 +119	the water =>	Meander/S	raight:
Bank Slop	be (degrees from s	surface of water): 13	5	Bank Stabil	
Bank veg	etation Type: the	rbaceaus, gr	asses shruc	bank veg.	
CHANNE	L SUBSTRATE %	D			
Clay: V	e Zennementen i entre entre entre entre entre entre	Gravel:	Boulder:		Muck:
Silt: 🗸	1	Pebble:	Bedrock:		Detritus:
			Mari:		Otner:
INSIREA	MABITATAND	COVER			
Pools: ✓		Undercut B	anks: 🧹	Boulder/Ro	CK:
Riffles:		Woody Der	oris:		and a subsection of the second sector of the second s
Backwate		Vegetation:	V grasses	Other	
INSTREA	M VEGETATION			Descriptio	n/A hundanaa
Type (su	omerg./emerg./m	Dating) ranniy/Gei	lus/species	Descriptio	
Nov					
	24		- <u>anaz</u> - a - a - a - a a	and a summer and the second	on a second s
	1. 41 (1				the second designs to station of a local
			200.0		
CODES:		SWI Surface Water Ir	nput SCS Stre	am Cross Section	
	tic Habitat Point	GWI Groundwater int		solved Oxygen Str	
TMP Tem	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn	
FLW Flow	Monitor Stn	CUL Culvert			

FLOW CONDITIONS

|--|

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.42	9 15.14 1311	Poo
2		an anima 2 a sa sa Jacas In Indaile. Istan para ana ana ana an	
3		andre den annen ha ar dia ar star schedulen ar an ait i star stratigent b	
4		3) (0)4-307-370 (0) (4-3)4) (4-375) (4-375) (4-375) (3-375)	Contraction of the second
	Anna an an an an an a train	provide a state and table as an an an an an and a state of the state o	the second s

WATER QUALITY

Water Temp. (°C): 16°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 27°C	D.O. (%):	TDS (ppm):	
Time Taken: 15.00	Conductivity (µs/cm)		
Location Taken: 1 Stream			

SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,	1
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	
Field Server Bod minister Shrubo N Starts N Golden Bod minister Shrubo N Golden Bod minister Shrubo Shrubo N Grasses Cedar Field.	Har
	È
Drug Line	C
Herdoscos	5 thoad.

PHOTOS TAKEN

Photo #	Description	Pho	oto #	Description
ی مستقد میل میں در در مراجعہ است	#1 - 415 (sout) #2 => djs (north) 		
	enter e un Paren anda	nolonie a constructor component filitari	· · · · · · · · · · · · · · · · · · ·	parantana series and a second series and an an an analysis and an and a second series of the second s
C CALL AL CALLER CALL			THE REPORT OF ANY	

GENERAL COMMENTS

A dead mudminnow I ran into land owner says there are lots of frogs



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Name): 1184 5	outh Kent			
Field Stat	ff: S. Murral	- v			
Station:	(yy call)		Site Location:		
Waterbody: Drainage System: 1955 Frits on twick before Harwich Location in System: Appr. Reach Length (m):			GPS Datum:NAD 83 Easting:		
			Zone: 17 T Northing:		
			Municipality: Chatham I Kent		
			Lot & Concession:		
Survey D	ate: Sep 1310	Weather Conditions			
Time Star	ted: 16;45	Wind: 4	Cloud Cover (%): 5-0/ *		
Time Finis	shed: 17:05	Precipitation: Mon	l		
ADJACE	NT LANDS	2			
Valley	Slope: Gentle (< 5°	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural Vegetation (m)	0-10 10 to 20	20 to 30 30+		
	Vegetation Type:				
Riparian	Flood Plain - extent of frequent f	lood (m): 0-10	10 to 20 20 to 30 30+		
Zone	Vegetation Type:				
	Vegetation Density (HML):	2 11			
Canopy	Type: Her baceous, grass	ses tree Quality a	nd % snade: Yoor - 15 %		
Land Use	figriculture				
Other	(groundwater, soils, pools, ve	getation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel V	Nidth (range (m)): 1.5-3	As	Gradient (H/M/L):		
Bank Heig	ght (range (m)): 3-5	High waler @ L	Meander/Straight		
Bank Slop	be (degrees from surface of water): 🔍	Bank Stability: Glogo		
Bank Veg	etation Type: Herbaceous, gr	asses tree	Bank Veg. Density (H/M/L):		

CHANNEL SUBSTRATE %

Clay:	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	
Sand:	Cobble:	Marl:	Other:	

INSTREAM HABITAT AND COVER

Pools: P Riffles:	Woody Debris	Cobble:
Backwater:	Vegetation:	Other:
INSTREAM VEGETATIC	DN	

Type (submerg./emerg./flo	oating)	Family/Genus/spe	cies	Description/Abundance
grasses	+			Andrease a constraint of the state of the st
				and a second product of the second
and a second				the second
CODES:	SWI S	urface Water Input	SCS Stream Cross	Section
AHP Aquatic Habitat Point	GWI G	Groundwater Input	DOX Dissolved Oxy	/gen Stn
AHY Aquatic Habitat Area	CKC C	Creek Crossing	VSS Visual Survey	Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS Water Quality	/ Stn
FLW Flow Monitor Stn	CUL C	Culvert		

FLOW CONDITIC	INS		Page 2 of
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
		- A particular interaction of the second	
2	a de la companya de la competencia de l		
ame3	Million and the second states and second		
4		An and a second	
5			
WATER QUALITY	(
Nater Temp. (°C)		O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	26°C D	O. (%): TDS (ppm):	
Time Taken:	6:55 C	onductivity (µs/cm):	
_ocation Taken:	/		
SITE DRAWING			
nclude: watercou	irse and name, flow dir	ection, riffle/pool/run habitat, side tribut	aries, station location, approx. reach length,
channel modificati	ons, adjacent landuse,	roads & road names, bridges, culverts	, north arrow, etc
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PHOTOS TAKEN			
Photo #	Description	Photo #	Description
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	12 US next	~	
	IT3 - last		
	HH- West		

GENERAL COMMENTS



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

Cobble: 🗸

Undercut Banks: 1

Woody Debris:

Sand: 🗸

Pools: 🧹

Riffles:

INSTREAM HABITAT AND COVER

HABITAT **CHARACTERIZATION**

Other:

Boulder/Rock:

Cobble: 1

				Page 1 of 2
PROJEC	T (Number & Na	me): 1184 Sou	th Kent	
Field Sta	Iff: S. Hurray	[
Station:	22		and a many standard and an and a second	Site Location:
Waterboo	dy:			GPS Datum: NAD & 3 Easting:
Drainage	System:			Zone: IT T Northing:
Location Appr. Rea	in System: 15+ +v ach Length (m):	its on Welch g	joing west	Municipality: Chatham / Kent Lot & Concession:
Survey D	Date: Sep. 13	10	Weather Conditions	
Time Sta	rted: 17:20		Wind: 2	Cloud Cover (%): <u>S</u>
Time Fini	ished: 17:47		Precipitation: Mon	Q
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natura	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type	Tree - Bur	Oak ledar	
		Grasses	1	
		Herbareous	Golden Bod	
Riparian	Flood Plain - ext	tent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type	: Grasses, -	tertaceous (C	Golden Kod, Jewelweed)
		Shrut	A Minister Comment	
•	Vegetation Dens	sity (HML):		
Canopy	Type: Shrut	2, Herbaceous	S, Orases Quality a	ind % shade: 400 - 15 10
Land Use	Hgricul	Juce		
Other	(groundwater,	soils, pools, vegeta	tion, etc.)	
Notes				
CHANNE	L MORPHOLOG	Y		<u>`</u>
Channel	Width (range (m))	- 5		Gradient (H/M/L)
Bank Hei	ght (range (m)):	3-6 419	h water >	Meander/Straight
Bank Slo	pe (degrees from	surface of water): ()		Bank Stability: Grood
Bank Veg	getation Type: Gi	rasses, Herby	Shrut.	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE	6		
Clay: V	/	Gravel:	Boulder:	Muck:
Silt:		Pebble:	Bedrock	: Detritus:

Other: Vegetation: Backwater: **INSTREAM VEGETATION Description/Abundance** Family/Genus/species Type (submerg./emerg./floating) water cress SCS Stream Cross Section SWI Surface Water Input CODES: AHP Aquatic Habitat Point DOX Dissolved Oxygen Stn GWI Groundwater Input VSS Visual Survey Stn AHY Aquatic Habitat Area CKC Creek Crossing TMP Temp Monitor Stn WQS Water Quality Stn WEL Well FLW Flow Monitor Stn CUL Culvert

Marl:

Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Noter 1 2 3 4 5 WATER QUALITY Water Tamp, (°C): D.O. (ppm): pH: Visible Characteristics/Other Paramete Mater Tamp, (°C): Z o C D.O. (%): TDS (ppm): Garden and the condition of the condition	FLOW CONDITIC	NS			Page 2 of 2
1 1 3 4 5 UNATER QUALITY Water Temp. (*C): D.O. (ppm): pH: Visible Characteristics/Other Parameter Air Temp. (*C): 2.0 c/c/c D.O. (ppm): TDS (ppm): Visible Characteristics/Other Parameter Location Taken: STE DRAWINO Grand and Rest of the tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, cutVerts, north arrow, etc Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. reach length Grand and the tributaries Marker H Restored in the tributaries, station location, approx. re	Cross-Section	Wetted Width (m)	5 Depths, equally	/ spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2 3 4 5 WATER QUALITY Usible Characteristics/Other Parameter Air Temp, (*C): 2, Goc D.O. (#p): DBS (ppm): Unit Temp, (*C): 2, Goc D.O. (%): TDS (ppm): Conductivity (µs/cm): Conductivity (µs/cm): Conductivity (µs/cm):	1	ligner and an in the late			
3 4 S Water Temp. (*C): D.O. (ppm): pH: Visible Characteristics/Other Paramete Air Temp. (*C): Z.G°C. D.O. (%): TDS (ppm): Garaday from used Location Taken: /11:3.0 Conductivity (µs/cm): Garaday from used Location Taken: SITE DRAWING Garaday from used Garaday from used Channel modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, pridges, culferts, north arrow, etc Garaday from used Garaday from used Matter and the modifications, adjacent landuse, roads & road names, product a	2		· · · · · · · · · · · · · · · · · · ·	A CONTRACTOR OF THE OWNER	
4 5 WATER QUALITY Water Temp. (°C): D.O. (ppm): pH: Visible Characteristics/Other Parameter Air Temp. (°C): Z. G°C. D.O. (%): TDS (ppm): Garady for under Conductivity (µs/cm): Conductivity (µs/cm): Garady for under Garady for under SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length For under Garady for under Shanel modifications, adjacent landuse, roads & road names, oridges, culferts, north arrow, etc Welch Welch Garady	3			California anaramana and	
5 WATER QUALITY Water Temp, (*C): D.O. (ppm): pH: Visible Characteristics/Other Parameter Air Temp, (*C): Z.G.*C D.O. (%): TDS (ppm): Clanding Part under Location Taken: ////////////////////////////////////	4	L			
WATER QUALITY Water Temp, (*C): D.O. (ppm): pH: Visible Characteristics/Other Paramete Air Temp, (*C): Z G C D.O. (%): TDS (ppm): Garacteristics/Other Paramete Time Taken: /1:300 Conductivity (µs/cm): Garacteristics/Other Paramete Location Taken: /1:300 Conductivity (µs/cm): Garacteristics/Other Paramete SITE DRAWING Include: Garacteristics/Other Paramete Garacteristics/Other Paramete Include: Visible Characteristics/Other Paramete Garacteristics/Other Paramete SITE DRAWING Include: Garacteristics/Other Paramete Include: variable Garacteristics/Other Paramete Channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Garacteristics/Other Paramete Welch Welch Welch Garacteristics/Other Paramete Welch Location Garacteristeri	5				
Water Temp. (*C): D.O. (ppm): pH: Visible Characteristics/Other Parameter Air Temp. (*C): 2.6°C D.O. (%): TDS (ppm): Standard Stan	WATER QUALITY	1			
Air Temp. (*C): Z (s°C D.O. (%): TDS (ppm): Grading Portuge Conductivity (µs/cm): Conductivity (µs/cm): Condu	Water Temp. (°C)		D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Time Taken: /1:30 Conductivity (µs/cm): Location Taken: SITE DRAWING Include: watercourse and name, flow direction, nffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Fetto Resolution Welch Line Welch Line HOTOS TAKEN Photo # Description Photo # Description Photo # Description	Air Temp. (°C): 🦙	2600	D.O. (%):	TDS (ppm):	Glanding Port under
Location Taken: SITE DRAWING Include: watercourse and name, flow direction, niffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, cuiverts, north arrow, etc Heaton and the second second name, bridges, cuiverts, north arrow, etc Heaton and the second second name, bridges, cuiverts, north arrow, etc Heaton and the second second name, bridges, cuiverts, north arrow, etc Heaton and the second second name, bridges, cuiverts, north arrow, etc Heaton and the second second name, bridges, cuiverts, north arrow, etc Heaton and the second s	Time Taken: 17	:30	Conductivity (µs/cm):		
SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Fation of the second seco	Location Taken:				Cempher auvert
nclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	SITE DRAWING				
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	nclude: watercou	rse and name, flow	direction, riffle/pool/run	nabitat, side tributa	ries, station location, approx. reach length,
Welch Line From from Grass South of States of the states	Cont /	And And	ement where the	1271	Residential
PHOTOS TAKEN Photo # Description Photo # Description Photo # Description		V	letch hin	e Mura	
PHOTOS TAKEN End Photo # Description Photo # Description MIS - South Photo # MIS - South MIS - Nor H	Codeputero of	lement line	to only of the	Tollis)	Creass Creass Creass Creass Creass Creass Creass Creass Creass Creass Creass
Photo # Description Photo # Description	PHOTOS TAKEN			(()	& TAR
#1 - U15 - South #2 - d15 - Nor H	Photo #	Description		Photo #	Description
	91 - 92 -	US - South d/S - Nor H	fin where an and the second		

GENERAL COMMENTS

- lots of green frogs observed - raccoch & heron tracks seen.



							Page 1 of 2
PROJEC	T (Number & Nar	ne): 1184 Sout	h Ken	1t	- 11 - 11 16 - 1400 Mar		
Field Sta	ff: S. Murra	e/					
Station:	AAA				Site Locati	on:	
Waterboo	Jy: Mull Dra	C V SI CONTRACTORIO CONTRACTORIO DE CONTRACTORICO DE CONTRACTORIO DE CONTRACTORICO DE CONTRAC	NALE SHID + OC-1004 (OC-1007)		GPS Datum	n:NAD83 East	ing:
Drainage	System:				Zone: 17	T North	ing:
Location	in System: * + 4	ib on burke pa	ST Hull.	zeast	Municipality	: Chatham	Kent
Appr. Rea	ach Length (m):	1			Lot & Conce	ession:	
Survey D	Date: Sep 14'1	>	Weather C	Conditions			
Time Star	rted: 9:15		Wind: \		CI	oud Cover (%):	01/6
Time Fini	shed: 9:35		Precipitatio	on: None			
ADJACE	NT LANDS						
Valley	Slope:	Gentle (< 5°)	Moderate	(5 - 15°)	Steep (> 15	°)	
	Extent of Natura	Vegetation (m)	0-10	(10 to 20) 20) to 30 30+	
	Vegetation Type	Tree-Maple, h	Dillow	V12			
		Herbaceous-G	olden 7	Rod			
		Orrass		-			
Riparian	Flood Plain - ext	ent of frequent flood (m	ר):	(0-10)	10 to 20	20 to 30	30+
Zone	Vegetation Type	Hertraceous- (DIO CLEV)	ROC			
		Shrub					
	Vegetation Dens	ity (HML):		2416.2			57 0/19/2au 1
Canopy	Type: Wee	1 Hertaceous	0	Quality a	nd % shade:	Excellent -	75010
Land	Agricultu	ire Residentio	al				
Use	(groundwater colle people vegetation etc.)						
Other (groundwater, soils, pools, vegetation, etc.)							
Notes							
	a						
CHANNE	L MORPHOLOG	(110 m	
Channel \	Width (range (m)):	05-1.5	ang a sea - ang		G	radient (H/M/L):	
Bank Heig	ght (range (m)):	1-5m	on provinsion if he			eander/Straight	V-Straglick S-Meangle
Bank Slop	be (degrees from s	surface of water): 72	55		Ba	ank Stability: C%	
Bank veg	etation Type: Hey	taceous, Shrub	1-Tree		Dè	ank veg. Density (H/WI/L).
CHANNE	L SUBSTRATE %				/		1
Clay:	e (i=10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	Gravel:		Boulder:		Muck:	a supremultane and a supremultane and
Silt: V				Bedrock:		Detritu	S. 🗸
				Mari:		Other:	
INSIKEA		COVER	1				
Pools:	<i>a - 1</i>	Undercut E	Banks: V	1-1450 N.	Bo	oulder/Rock:	seen a chiving on third of a second
Riffles:		Woody De	bris: 🗸		C	obble: 🗸	
Backwate	r:	Vegetation	:		0	ther:	
INSTREA	M VEGETATION						
Type (sul	bmerg./emerg./flo	oating) Family/Ge	nus/specie)S	D	escription/Abund	ance
		1		x8101410-00104104744			1000100000-000000000000000000000000000
No	ne	an in the second second second				A line is seen warman in the line is	en man ann an Calanna (alamh a ann an
1			(i) = (i)				
CODES:		SWI Surface Water I	nput	SCS Stre	am Cross Sec	ction	
AHP Aqua	tic Habitat Point	GWI Groundwater In	put	DOX Diss	solved Oxyger	n Stn	
AHY Aqua	tic Habitat Area	CKC Creek Crossing		VSS Visu	al Survey Stn		
IMP Temp	Monitor Stn	WEL Well		wQS Wa	iter Quality St	n	
FLVV FIOW	WOHILOF STI						

FLOW CONDITIO	DNS		Page 2 of
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			and the second s
2			Dry
3		(1.171)(1))((1.171)(1.1	
4		and an international states of the states of the states of the states of	
5		· · · · · · · · · · · · · · · · · · ·	
ATER QUALIT	Y	~	
/ater Temp. (°C)	i / D	.O. (ppm): pH:	Visible Characteristics/Other Parameters:
r Temp. (°C):	14°C D	.O. (%): TDS (ppm):	
me Taken: 9	:30 C	onductivity (µs/cm):	
ocation Taken: (oadisiou -		
TE DRAWING			
clude: watercou	urse and name, flow dir	ection, riffle/pool/run habitat, side tribu	taries, station location, approx. reach length,
iannel modificat	ions, adjacent landuse,	roads & road names, bridges, cuiverts	s, north arrow, etc
	Herde		a deans
1	CA III	A MAT LASSE	Sayber
6.1	(a) OPIS	- Charles and a start	< N
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	· X	A Printed	
		Come light on Hail	
		Current Son V.	
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0		Conduct Control 1	
	R	wike hine	
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		Convent culvert	
12	N 11	Joy	
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12	Doit House	5 Conages 1 20 WILLAND	
Té	1 1/7	1 + 1 a when the	
	1 V S	SOSTAL TREASULA	15th CTT
	Sing Sung	\$1/1 Jozenso Millor	an which is
dentials	1 Color	PAR INS	0
HOTOS TAKEN	Description	Dhata #	Description
	Description	Photo #	Description
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# 2	- 100Y-17- 1.C.15	adarana i sana ang sa	
······ I · · · · · · · · · · · · · · ·	and the last of the second second		
1.500. Hitting rates - 0		and the second s	
h observed un	IENIS	rences from previous site visit landow	mer comments, topography, general land use
d vegetation. etc	0.: 0.:		ner commente, topography, general land use
V.	very well she	aded	Chois if those was wat
7	into a copp	le mareas looking like	ANTICO IN THE MENT WITH
*	tots on coop	and lich institut i	P there was used?
×	looks like ve	y good won value in	-1. C. C. Contes - Contes
F	(10)4 (no. 12002), (J)	i (/	



						Page 1 of 2
PROJEC	T (Number & Name): 1/8	4 South K	ent		alas (+	0.001= (444444 = 551.0000 in Cartragal 11.001=
Field Sta	ff: S. Murray					
Station:	EEE (all)	II. AND THE DESIGNATION IN THE	a manufacture a suprementation of the	Site Location		www.www.internet.com/statistics.com
Waterbod	vunnamed	10-10-10-10-10-000-00-00-00-00-00-00-00-	An 1914 - Olico Bourte (1904 - 19	GPS Datum:	NAD 83 East	ing:
Drainage	System:		and William Commission	Zone: MT	North	ing:
Location i	n System: last trit on	Burke - before B	DADR	Municipality:	Chotham	Kent
Appr. Rea	ach Length (m):			Lot & Conces	sion:	
Survey D	ate: Sp. 14/10	Weath	ner Conditions:			
Time Star	ted: 10'330	Wind:	1	Clou	Id Cover (%):	Dr1,
Time Finis	shed: 10:55	Precip	itation: None			
ADJACE	NT LANDS	\sim				
Valley	Slope: Gentle	e (< 5°) Moder	rate (5 - 15°)	Steep (> 15°)		
•	Extent of Natural Vegetati	on (m) 0-	10 (10 to 20	20 to	o 30 30+	
	Vegetation Type: True	POTOLAKASI				
	Shrid	s-walow				
	Hert	- Giolden Bod		\bigcirc		
Riparian	Flood Plain - extent of free	uent flood (m):	0-10	(10 to 20)	20 to 30	30+
Zone	Vegetation Type: Herbe	rooms - Carolde	n Rod			
	Shru	b- Millous	D/			
	Vegetation Density (HML)	:				
Canopy	Type: Type & Her	bacoous	Quality ar	nd % shade:	ar - 15°	0
Land	Hariculture					
Other	(groundwater soils not	ls vegetation etc)			
Notes	(groundhator, cono, pot	no, regetation, etc.				
				Carlo International Internation		
CHANNE						
Channel V	Vidth (range (m)): $5 \sim 2$	* 213		Gra	dient (H/M/L):	
Bank Heic	the (range (m)): $7 - (a + a)$	High work	or @ 2m	Mea	nder/Straight:	
Bank Slop	ϕ (degrees from surface of	fwatery r36	CI (13/ 51/)	Ban	k Stability: G	2000 - 0.1
Bank Veg	etation Type: Wart acar	S. ANRIS, SW	ut (without	Ban	k Veg. Density (Ĥ/M/L):
	SUPSTDATE %	1311740331 -00	n of wathout			
	Crove	/	Boulder:		Muck	/
	Babble		Bodrock:		Detritu	
Sill. V	Cabbl		Marl	<u> </u>	Othor	D .
		3. ~	Ivian.		Other.	
NOTREA	MINADITAL AND COVER		/			
Pools: V	n anna a mar anna a	Undercut Banks:		Bou	Ider/Rock-	Paral level and a state of the state
Riffles:		Woody Debris: 🗸		Cob	ble: V	11. 2
Backwater	aterbody::umichine.dl GPS Datum: Mpr 23 Easting: anage System: Zone: rt 7 Northing: bailinge System: Zone: rt 7 Northing: bailinge System: Zone: rt 7 Northing: bailinge System: Lot & Concession: I/Concertsion: reveal Length (m): Lot & Concession: I/Concertsion: reveal Length (m): Weather Conditions: Cloud Cover (%): 071, ne Finished: // 255 Precipitation: Name JACENT LANDS Moderate (5-15°) Steep (>15°) Extent of Natural Vegetation (m) 0-10 10 to 20 20 to 30 Vegetation Type: True Poptack (PS) Struct (MUL): 0 to 20 20 to 30 parian Flood Plain - extent of frequent flood (m): 0-10 0 to 20 20 to 30 Vegetation Density (HML): Moderate (Sond (m): 0-10 0 to 20 20 to 30 30+ Vegetation Density (HML): Moderate (Sond (m): 0-10 0 to 20 20 to 30 30+ Indem Height (range (m)): Sond (m): 0-10 0 to 20 20 to 30 30+ Moderate (revealson (moderate (m)): Sond (m): 0-10					
NSTREA				······································		
Type (sub	omerg./emerg./floating)	Family/Genus/sp	ecies	Des	cription/Abund	ance
Na	ne		00.101100000000000000000000000000000000			4104+0+0 (Prove-1444)(4)
117 U 1				and the second second second		

CODES:	SWI Surface Water Input	SCS Stream Cross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn	
FLW Flow Monitor Stn	CUL Culvert		

FLOW CONDITIONS

-LOW CONDITIC)N3		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.75	8,20,21,18,9	Pool
2		- and a set of the second difference of the second se	and the second
3		107	
4	1		

5 WATER QUALITY

Water Temp. (°C): 14°C	D.O. (ppm):	pH:	Visible Characteristics/Oth	er Parameters:
Air Temp. (°C): 16°C	D.O. (%):	TDS (ppm):	Still -turbal	12 An C
Time Taken: 10:35	Conductivity (µs/c	m):		, Wall
Location Taken: 10 Pool				

SITE DRAWING

nclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach len channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	gth,
(or FEEL) Bunt for some field w	
Rucke Line	
diates and convert cuesting of discontrol	Res R
E ord monorange Bar (Bar Bar) lever prod	

PHOTOS TAKEN

Photo #	Description	Photo #	Description
1	Al- Couch ILUS)	the second secon	
1	12- Worth (MS)	1 June 1	
	43- east		
	#4- West		
	and the second sec		

GENERAL COMMENTS

* accontracks *All observed in EEEI

Page 2 of 2



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION**

	9			Pag	je 1 of 2
PROJEC	T (Number & N	ame): 1184 South	n Kent		
Field Sta	iff: S.Murra	И			
Station:	HHH			Site Location:	
Waterboo	dy: Union -	Drain		GPS Datum: NAD 83 Easting:	
Drainage	System:	÷		Zone: 17 T Northing:	
Location	in System: ۶+ 🌙	it on Holdaway	from Base Pol	Municipality: Chatham / Kent	The state of the state
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	Date: Sep 14 1	0	Weather Conditions		
Time Sta	rted: 11.51		Wind: 2	Cloud Cover (%): つ '/。	
Time Fini	shed: 12:11		Precipitation: None		
ADJACE	NT LANDS	\sim			
Valley	Slope:	(Gentle (< 5°))	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natur	al Vegetation (m)	0-10 (10 to 20	2 15 20 to 30 30+	
	Vegetation Typ	e: Tree-Maple	\sim	13	
		Shrub-Sumo	ick		
			\frown		
Riparian	Flood Plain - e	xtent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+	
Zone	n Flood Plain - extent of frequent flood (m): O-10 10 to 20 20 to 30 30+ Vegetation Type: Herbaceous- Goden Shrub-Suynack Vegetation Density (HML): Type: Type: Type (mode) Shouth Medianus (R) Quality and % shade: Group (S) (HO)				
	L	Shrub-Suma	ck		
17 2	Vegetation Der	nsity (HML):		· · · · · · · · · · · · · · · · · · ·	
Canopy	Type: Tree (W	laple), Shrub, Hert	ACERUS OR Quality:	and % shade: $(100 \text{ C}) \rightarrow 40\%$	
Land	Agricultu	re - Kesiden	hal		
Use	0				
Other	(groundwater,	soils, pools, vegetat	tion, etc.)		
Notes					
Channel	L MORPHOLO			Gradient (H/M/)	
Bank Hoi	abt (range (m)):	115- 2m1	stor (a) 1100	Meander/Straight:	
Bank Slo	gni (lange (m)). oe (degrees from	Om High V	the a 4m	Bank Stability:	
Bank Ver	etation Type:		Sus (1. Her D. d) (Bank Veg. Density (H/M/L):	
OLIANINE		NOT THE FEETBALLA	2002 LIGIDIACH ADDI / L	Participation and a second sec	
CHANNE	LSUBSIRATE	70 Croval:	Pouldor	Muck	
	lan, and a second second	Graver. Dobbio:	Bodrock	Detritus	
Sand: 1/	fran en anna menan ser	Cobble:	Mari	Other	
INSTREA			IVICIT).	outer.	
Deele			Ponko:	Rouldor/Rook:	
POOIS: V					X = 1844
Rines:	(1)()((Vvoody L		Other:	
Dackwate	SI.	vegetatio	л .	Other.	

INSTREAM VEGETATION Type (submerg./emerg./floating) Family/Genus/species **Description/Abundance** duckweed Floating CODES: SWI Surface Water Input SCS Stream Cross Section AHP Aquatic Habitat Point GWI Groundwater Input DOX Dissolved Oxygen Stn VSS Visual Survey Stn AHY Aquatic Habitat Area CKC Creek Crossing TMP Temp Monitor Stn WQS Water Quality Stn WEL Well FLW Flow Monitor Stn CUL Culvert

a second as a second of the second seco	Wetted Width (m)	5 Depths, e	qually spaced (cm)	Discharge/Pool/Riffle/Run/Notes	
1 2 3				Small standing Pools	
4					
5					
VATER QUALITY	/				
Vater Temp. (°C):		D.O. (ppm):	pH:	Visible Characteristics/Other Parameters	
Air Temp. (°C):	anna agus anna an a	D.O. (%):	TDS (ppm):	Dry Some Standing	
ime Taken:		Conductivity (µs/c	:m):	water in tools 6	
ocation Taken:					
ITE DRAWING					
nclude: watercou	rse and name, flow o	lirection, riffle/poo	l/run habitat, side tribut	aries, station location, approx. reach length	
namer mounicau	ons, aujacent lanuus	e, roads à road na	ames, bridges, cuivens		
C.W		LA XXXXX	21 4/1 195	1000 Acron	
- Car	grass	Goldes	d State C State	top - months ??	
- A A	grass Brus	h L	d state de la state	top - mondar &	
	grass Bruss Bruss Bruss Tomponats Hows Doit	Horas Contractor	a send o control	San of Codars	

Photo # Description #1- M/S Sauth #2-alis Nor-th

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* Yoy cyprimids observed in small pool on north side



HABITAT **CHARACTERIZATION**

Page 1 of 2

Field Staff: Sturrau Station: TT Station: TT Carlon in System: Zone: Location in System: Zone: Location in System: Control time Municipality: Crack over 1 Kern Apr. Reach Length (m): Weather Conditions: Survey Date: Sp. (1):0 Weather Conditions: Time Finished: Time Finished: Silo Precipitation: What ADJACENT LANDS Weather Conditions: Valley Slope: Gentle (<5) Moderate (5 - 15) Step (> 15) Extent of Natural Vegetation (m) 0-10 10 to 20 Vegetation Type: (1):0:0:0 Vegetation Type: (2):0:0:0 Vegetation Type: (2):0:0:0 Vegetation Type: (2):0:0:0 Bank Keight (range (m)): 0:5 -	PROJEC	<mark>Г (Number & Name)</mark> ։ լլ	54 South Ken	t		
Station: TIT (all) Site Location: Waterbody: GPS Datum()(paper) Easting: Drainage System: Zone: [] [] Northing: Location in System: Archoon Nut): Rd Narth Line Municipality: Crock work [Keyn Lot & Concession: Survey Date: Specified Sirvey Date: Specified Municipality: Crock work [Keyn Lot & Concession: Survey Date: Specified Sirvey Date: Specified Weather Conditions: Time Started: [2:3,0 Wind: 2 Cloud Cover (%): 0r/. ADJACENT LANDS Precipitation: Work ADJACENT LANDS Valley Slope: Gentle (< 5') Moderate (5 - 15') Steep (> 15') Extent of Natural Vegetation (m) 0-10 10 to 20 20 to 30 30+ Vegetation Type: (Prass - 11, 11) Trefe (1) - 0 ark Trefe (1) - 0 ark 30+ Vegetation Type: (Prass - 14, 11) Crock (1) - 0 ark State (1) - 0 ark 30+ Vegetation Type: (Prass - 14, 11) Quality and % shade Rever Struct(1) State (1) - 0 ark State (1) - 0 ark Vegetation Type: (Prass - 14, 11) Quality and % shade Rever Struct(1) Cloud Struct(1) State (1) - 0 ark State (1) - 0 ark State (1) - 0 ark Vegetation Type: (Prass + 4 archord Struct(1), 3m(ft	Field Stat	ff: S. Murray				
Waterbody: GPS Datum(Na) SS Easting: Drainage System: Zone: In the Northing: Location in System: Appr. Reach Length (m): Appr. Reach Length (m): Weather Conditions: Survey Date: Drainage System: Time Started: D:: 0 D:: 0 Precipitation: Multicipatify: Cloud Cover (%): 0*/ ADJACENT LANDS Weather Conditions: Yalley Slope: Gentle (< 5") Valley Slope: Gentle (< 5") Valley Slope: Gentle (< 5") Vegetation Type: (Iracis): 10 to 20 Vegetation Type: Gracis, Hertacould Precipitation: 0-10 10 to 20 20 to 30 Vegetation Type: Gracis, Hertacould Type: Vegetation Type: Gracis, Hertacould Type: Vegetation Density (HML): Quality and % shade Rear 5*// (Ithertic) So// (I) Land Apr: 0L-for (L So// (Ithertic) Gradient (H/ML): Channel Width (range (m)): 0.5 - 2. Gradient (H/ML): Gradient (H/ML): Channel Width (range (m)): 0.5 - 2. <th>Station:</th> <th>III (all)</th> <th></th> <th>a</th> <th colspan="2">Site Location:</th>	Station:	III (all)		a	Site Location:	
Drainage System: Zone: T Northing: Location in System: Archited from the Municipality Code on procession: Municipality Code on procession: Municipality Code on procession: Survey Date: Device on procession: Use a Concession: Cloud Cover (%): 0*7. Time Finished: [2:3,0] Wind: Z Cloud Cover (%): 0*7. Time Finished: [2:3,0] Precipitation: Whet ADJACENT LANDS Stepe: Gentle (< 5°) Moderate (5 - 15°) Valley Slope: Gentle (< 5°) Moderate (5 - 15°) Extent of Natural Vegetation (m) 0-10 10 to 20 12 20 to 30 Vegetation Type: (Prass - 11, 10) 10 to 20 20 to 30 30+ Vegetation Type: (Prass - 11, 10) 10 to 20 20 to 30 30+ Vegetation Type: (Prass - 14, 10) Quality and % shade Poor 5 14 (11, 11) (20 or 3 0 - 10) Land Image: Image: Image: Image: Image: Vegetation Density (HML): Chansel Width (range (m)): 5 - 2 Gradient (H/ML): Image: Channel Width (range (m)): 5 - 2 Gradie	Waterbod	y:			GPS Datum: NAD 83 Easting:	
Location in System: A bon Mull Rd Acan de Grant Line Municipality: Chadhoarn J. Keuri Appr. Reach Length (m): Survey Date: Spontiers of Wind: 2 Cloud Cover (%): Or /o Time Started: [2:30 Wind: 2 Cloud Cover (%): Or /o Time Finished: [3:10 Precipitation: What ADJACENT LANDS Valley Slope: Centle (< 5°) Moderate (5 - 15°) Steep (> 15°) Extent of Natural Vegetation (m) 0.10 10 to 20 12 20 to 30 30+ Vegetation Type: (hrass if	Drainage	System:			Zone: 17 T Northing:	
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Extent of Natural Vegetation (m) 0-10 10 to 20 12 20 to 30 30+ Vegetation Type: Grass - 11 110 10 to 20 10 to 20 10 to 20 30+ Riparian Flood Plain - extent of frequent flood (m): 0-10 10 to 20 20 to 30 30+ Zone Vegetation Type: Grass - Herbacous	Valley	Slope: Gen	tle (< 5°) Mode	erate (5 - 15°)	Steep (> 15°)	
Vegetation Type: Grass-ii iii Trills (i) - Oak Riparian Flood Plain - extent of frequent flood (m): 0-10 10 to 20 20 to 30 30+ Zone Vegetation Type: Grass, Herbaceus Aquatic (ii) - Africanhead, Type: Aquatic (iii) - Africanhead, Type: Vegetation Density (HML): Quality and % shade: Rear 5 % (iii, iii) (stood 50% (i)) Land Agric (U-furle) Use (groundwater, soils, pools, vegetation, etc.) Notes (groundwater, soils, pools, vegetation, etc.) Notes Gradient (H/ML): Bank Height (range (m)): o5- 2. Gradient (H/ML): Bank Slope (degrees from surface of water): 135 Bank Stability: Grood Bank Vegetation Type: (grass + Hurbaceus Bank Veg. Density (H/ML): CHANNEL SUBSTRATE % Clay: Gravel: Boulder: Muck: Stit: Sit: Pebble: Bedrock: Detritus: Sit: Pebble: Mari: Other: INSTREAM HABITAT AND COVER Mari: Other:		Extent of Natural Vegeta	ntion (m) 0	-10 10 to 20)-12 20 to 30 30+	
Trilles (i) - Oaik Riparian Zone Vegetation Type: (grass, Hertaceous) Aquatic (ii) - Africanteau Vegetation Density (HML): Canopy Type: Trac(i) + Grass, Hertaceous) Vegetation Density (HML): Canopy Type: Trac(i) + Grass, Hertaceous) Vegetation Density (HML): Canopy Type: Trac(i) + Grass, Hertaceous) Use Other (groundwater, soils, pools, vegetation, etc.) Notes CHANNEL MORPHOLOGY Channel Width (range (m)): 65-2 Bank Height (range (m)): 65-2 Bank Slope (degrees from surface of wated): 135 Bank Slope (degrees from surface of wated): 135 Bank Vegetation Type: Grass + Hurtaceous Bank Vegetation Type: Gravel: Boulder: Muck: Vegetation Clay: Gravel: Boulder: Bedrock: Detritus		Vegetation Type: Gra	55-11,111			
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Zone Vegetation Type: Grass, Herbacous Aquatic (ii) -> Herbacous Vegetation Density (HML): Canopy Type: Tree(i) + Grass, Herbacous Use Quality and % shade Poor 5% (ii), iii) (Jood 50% (i) Land Agri Cul-Hule Use Other (groundwater, soils, pools, vegetation, etc.) Notes CHANNEL MORPHOLOGY Channel Width (range (m)): 05-2 Gradient (H/M/L): Bank Height (range (m)): 05-2 Bank Height (range (m)): 05-2 Bank Slope (degrees from surface of wated): 135 Bank Vegetation Type: (grass + Herbacous Silt: Pebble: Bedrock: <	Riparian	Flood Plain - extent of fr	equent flood (m):	(0-10)	10 to 20 20 to 30 30+	
Aquatic (ii) = Arrawhead Type Vegetation Density (PML): Canopy Type: Typ	Zone	Vegetation Type: Gras	s, Herbaceous	S		
Vegetation Density (HML): Canopy Type: T		Aqua	tic (??) >Hrve	whead, Ty	pha	
Canopy Type: T		Vegetation Density (HMI	_):			
Land Use Other (groundwater, soils, pools, vegetation, etc.) Notes CHANNEL MORPHOLOGY Channel Width (range (m)): 05-2 Bank Height (range (m)): 55-2 Bank Jope (degrees from surface of water): 135 Bank Stability: Grood Bank Vegetation Type: Grass + Hurtacous Bank Vegetation Type: Grass + Hurtacous Bank Vegetation Type: Grass + Hurtacous CHANNEL SUBSTRATE % Clay: Gravel: Boulder: Muck: Silt: Pebble: Bedrock: Detritus: Sand: Cobble: Marl: Other:	Canopy	Type: Tree(?) + Gire	iss, Herb (11, 111)	Quality ar	nd % shade: Poor 5% (11,111) (1000 50% (1)
Use (groundwater, soils, pools, vegetation, etc.) Other (groundwater, soils, pools, vegetation, etc.) Notes Channel Width (range (m)): 05-2 Gradient (H/M/L): Gradient (H/M/L): Bank Height (range (m)): 5-2 Gradient (H/M/L): Bank Slope (degrees from surface of water): 135 Bank Stability: Grood Bank Vegetation Type: Grads + Hurbaceus Bank Veg. Density (H/M/L): CHANNEL SUBSTRATE % Clay: Clay: Gravel: Bedrock: Detritus: Silt: Pebble: Band: Cobble: Marl: Other:	Land	Agricul luie				
Other Notes (groundwater, soils, pools, vegetation, etc.) Notes CHANNEL MORPHOLOGY Channel Width (range (m)): 05-2 Gradient (H/M/L): Bank Height (range (m)): 5M High watur @2m(i), 3m(ii), m(iii) Meander/Straight: Bank Slope (degrees from surface of water): 135 Bank Stability: Grood Bank Vegetation Type: Grass + Hertaceous Bank Veg. Density (H/M/L): CHANNEL SUBSTRATE % Clay: Gravel: Silt: Pebble: Sand: Cobble: Marl: Other: INSTREAM HABITAT AND COVER	Use	0				
Notes CHANNEL MORPHOLOGY Channel Width (range (m)): 05-2 Bank Height (range (m)): 5-7 Bank Height (range (m)): 5-7 Bank Slope (degrees from surface of water): 35 Bank Slope (degrees from surface of water): 35 Bank Vegetation Type: (170, 35, 100, 100, 100, 100, 100, 100, 100, 10	Other	(groundwater, soils, po	ools, vegetation, etc	c.)		
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Channel Width (range (m)): 5 - 2 Gradient (H/M/L): Bank Height (range (m)): 5 M High watur @2m(i), 3m(ii), M(iii) Meander/Straight: Bank Slope (degrees from surface of water): 135 Bank Stability: Bank Vegetation Type: Gradient (H/M/L): Bank Veg. Density (H/M/L): CHANNEL SUBSTRATE % Boulder: Muck: Clay: Gravel: Boulder: Muck: Silt: Pebble: Bedrock: Detritus: Sand: Cobble: Marl: Other: INSTREAM HABITAT AND COVER Complexity Marl:	CHANNE	L MORPHOLOGY				
Bank Height (range (m)): Image: High water (2m(1), 3m(ii)) Meander/Straight: Bank Slope (degrees from surface of water): Image: High water (2m(1), 3m(ii)) Meander/Straight: Bank Slope (degrees from surface of water): Image: High water (2m(1), 3m(ii)) Meander/Straight: Bank Vegetation Type: Grass + Herraceous Bank Vegetation Type: Grass + Herraceous Bank Vegetation Type: Gravel: Silt: Pebble: Bedrock: Sand: Cobble: Mari: INSTREAM HABITAT AND COVER Mari:	Channel V	Vidth (range (m)): 05-	2		Gradient (H/M/L):	
Bank Slope (degrees from surface of water): 35 Bank Stability: Bank Stability:<	Bank Heig	ht (range (m)): 5M	High wat	(@2m(i), 3n	m(ii) m(iii)Meander/Straight:	
Bank Vegetation Type: Grass + Herbaceous Bank Veg. Density (H/M/L): CHANNEL SUBSTRATE % Clay: Gravel: Boulder: Muck: Muck: Clay: Pebble: Bedrock: Detritus: Other: Sand: Cobble: Marl: Other: INSTREAM HABITAT AND COVER Example of the state	Bank Slop	e (degrees from surface	of water(): 135	· /	Bank Stability: Grood	
CHANNEL SUBSTRATE % Clay: Gravel: Boulder: Muck: Silt: Pebble: Bedrock: Detritus: Sand: Cobble: Marl: Other: INSTREAM HABITAT AND COVER Code to the code to t	Bank Veg	etation Type: Grass -	+ Herbaceous		Bank Veg. Density (H/M/L):	
Clay: Gravel: Boulder: Muck: Silt: Pebble: Bedrock: Detritus: Sand: Cobble: Marl: Other:	CHANNE	L SUBSTRATE %				
Silt: Pebble: Bedrock: Detritus: Sand: Cobble: Marl: Other:	Clay: V	Grav	rel:	Boulder:	Muck:	
Sand: Cobble: Marl: Other: INSTREAM HABITAT AND COVER	Silt: 🗸	Pebl	ole:	Bedrock:	Detritus:	
INSTREAM HABITAT AND COVER	Sand: 🗸	Cob	ple: V	Marl:	Other:	
	INSTREA	M HABITAT AND COVE	R			

Pools:	Undercut Banks:	Boulder/Rock:
Riffles:	Woody Debris: 🗸	Cobble:
Backwater:	Vegetation: / (arrownead, -upha)	Other:
INSTREAM VEGETATION		

Type (submerg./emerg./floating)		Family/Genus/species		Description/Abundance
		annanead		
		typha		and all shows the second
CODES:	SWLS	urface Water Input	SCS Str	ream Cross Section
AHP Aquatic Habitat Point	GWI G	Groundwater Input	DOX Dis	ssolved Oxygen Stn
AHY Aquatic Habitat Area	CKC C	reek Crossing	VSS Vis	sual Survey Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS W	/ater Quality Stn

FLOW CONDITIC	Wotted Width (m)	5 Dopths, aquall	v cpaced (om)	Dischar		Page 2 of 2
1		5 Deptits, equal		Discilar	gerrooi/Rime	Runnotes
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4	and an	an and a second s	C/1024-1	tre	n. 1 1100 martin 1	
5			And the state of the second			e ierre l'inne internation anna
WATER QUALITY	1					
Water Temp. (°C)	: 2100	D.O. (ppm):	pH:	Visible Chara	cteristics/Othe	r Parameters:
Air Temp. (°C):	X°C	D.O. (%):	TDS (ppm):	Gland	ng what	l v
Time Taken: 12	45	Conductivity (us/em):			ach .	
Location Taken: \	A Pool (south)		500551 (10055 STOL 101 - 10155)		V C-FURT	5101)
SITE DRAWING		/				
Include: watercou	irse and name, flow o	direction, riffle/pool/run	habitat, side tributar	ies, station loc	ation, approx.	reach length,
channel modificati	ons, adjacent landus	e, roads & road names	bridges, culverts, r	north arrow, etc	0	
	III	TYMAN	fishes channel	Cield		
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			<u>N</u>			
PHOTOS TAKEN						

Photo # Description Photo # Description #1 - pact (1) #2- west (ii) #3- Gouth (ii) - North (???

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use * cyprinids observed (found I deed for head minion of) * green flogs observed I alive brook sticke back) * drain is possibly dug over & m-clone and vegetation, etc.:



	9					Page 1 of 2
PROJEC Field Sta	T (Number & Nar ff: S Muyva e	ne): 1184 South	Kent	and an and a second of		
Station:	111	1		Site Location:		
Waterbod	W Mull Dea	- Alle and the second second second second	A product to the second s	GPS Datum: MOT	82 Fasting	1124797
Drainade	System:		and the state of the second	Zone: 17 T	Northing	· 468/9226
Location i	in System Ord	china contractor and a contractor	4/	Municipality:	orth a	1001000
Appr. Por	nob l ongth (m):	5 on cols line from	MULLIKA	Lot & Concession	annen	/ Kerst
Appl. Rea		<u>`</u>	Weather Conditions			
Time Star	ted: 12, 14 1"	\mathcal{Q}_{ij} , where is a set of the left of the set of	Wind: O	· Cloud Cr	OVAL (%): 00	
Time Star	teu. 13:56			Cloud Co		Онин
	sneu. 14,25		Frecipitation. Nons			
		0	Madagata (E 15%)	Stoop (> 150)		
valley	Siope:		Moderate (5 - 15)	Steep (> 15)	20.	
	Extent of Natura	Vegetation (m)	0-10 7 10 to 20	20 to 30	30+	
	Vegetation Type	Hertacouls- (bolden had			
		Grass				
Diseries	Elecal Disia - aut	ant of from contificant (10 to 20	20 to 20	201
Zone	Vegetation Type			101020 2	2010-30	-00 -
Lone	vegetation type	Herbaulais	Growen Root			
	Vegetation Dens	in (HMI):	nac ~			
Canony	Type: Line Dells		Quality a	nd % shade:	51	
Land	Nor Alex-Bac	eoust gass	Guanty a	ind 70 Shade. 100	3 10	
Use	Figniciation					
Other	(groundwater soils nools vegetation etc.)					
Notes	(3.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1					
CHANNE	L MORPHOLOG	1				
Channel V	Nidth (range (m)):	\$-2m		Gradient	t (H/M/L):	
Bank Heig	ght (range (m)): 1	+ High wad	ur @ 2m	Meande	n(Straight:	
Bank Slop	e (degrees from s	surface of water):	35	Bank Sta	ability: Glog	3
Bank Veg	etation Type: He	tha ceous-Gold	en Rod Shrub-s	Sumack Bank Ve	g. Density (H/	M/L):
CHANNE	L SUBSTRATE %	, D				
Clay: 🗸		Gravel:	Boulder:		Muck: 🛩	
Silt: V		Pebble:	Bedrock		Detritus:	
Sand: 🗸		Cobble: 🗸	Mari:		Other:	
INSTREA	M HABITAT AND	COVER				
Pools:		Undercut	Banks:	Boulder/	Rock:	
Riffles:	10-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Woody De	ebris:	Cobble:		and the second second second second
Backwate	с	Vegetation	n: Concepter T	uchuse or Other:		
INSTREA	M VEGETATION	\sim				
Type (sub	omerg./emerg./fle	oating) Family/Ge	enus/species	Descrip	tion/Abundan	ce
		Contra	les Quer and			
n		O.r.e.	ARE DUCKWERE			
		And the second second		Analar in store store is a second		a nama na 2010 ila dana d
CODES:		SWI Surface Water	Input SCS Stre	am Cross Section		
AHP Aqua	tic Habitat Point	GWI Groundwater In	nput DOX Dis	solved Oxygen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossing	g VSS Visu	ual Survey Stn		
TMP Temp	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn	a state to the state of the state	
-LW Flow	Monitor Stn	CUL Culvert				

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.25	20,26,26,21,26	Paul
2	formation a serie of f	· · · · · · · · · · · · · · · · · · ·	
4	a fan de ser de la constant de service de service de service de la constant de la constant de la constant de la	The set of	n - an
5	(1200-000-0000-0000-0000) 	THE REPORT OF THE	

WATER QUALITY

Water Temp. (°C): 16°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 72.°C	D.O. (%):	TDS (ppm):	Standing water Th
Time Taken: 14%	Conductivity (µs/c	:m).	the talk have not
Location Taken: In Stream/ro	adside		anecular analysed.

SITE DRAWING



PHOTOS TAKEN

Photo #	Description	Photo #	Description
1	H- UIS (South)	1	
	t-2- east	· · · · · · · · · · · · · · · · · · ·	
4	F3-west		
	#4- old channel?		The second
	0		

GENERAL COMMENTS

Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: - by looking @ the map seems like waterbody /drain has been altered, it so the possible 'old channel' has been marked. channel south is hardly visible in the middle of what appears to be a pasture. Therefore channel could have been eroded due to cattle grasing & many green frogs observed



				Page 1 of 2
PROJEC	T (Number & Nar	ne): 184 South Ke	nt	
Field Sta	ff: S. Murrau	1		
Station:	NNIN		Site	Location:
Waterboo	ly:		GPS	Datum: NAD 83 Easting:425825
Drainage	System:		Zone	a: ロイ Northing: 4690301
Location i	n System: 15++	bon Edsline from Kern	Eridge Rol Muni	icipality: Chathern Kent
Appr. Rea	ach Length (m):		Lot 8	& Concession:
Survey D	ate: Sep 14'	O Weathe	r Conditions:	
Time Star	ted: 15:07	Wind:		Cloud Cover (%): 00%
Time Finis	shed:	Precipita	ation: None	
ADJACE	NT LANDS	\frown		
Valley	Slope:	(Gentle (< 5°)) Moderat	te (5 - 15°) Stee	p (> 15°)
	Extent of Natura	Vegetation (m) 0-10	(10 to 20)-15	20 to 30 30+
	Vegetation Type	Tree-White Pine	Ash, Willow	J
		Herbaceous - Giold	en Rod	
		Orass		
Riparian	Flood Plain - ext	ent of frequent flood (m):	(0-10) 10 to	20 20 to 30 30+
Zone	Vegetation Type	: Hertsaceous - Giolder	Rool, Jewelu	seed
		Qurass		
	Vegetation Dens	ity ((HML):	0	
Canopy	Type: Tree th	ertaceaus corrass	Quality and %	shade: Exallent 85 1/0
Land	Agricultu	se		
Use	(alle meeter testerien eter		
Other	(groundwater, s	solis, pools, vegetation, etc.)		
Notes				
		. 020		
Channel	Nidth (range (m))			Gradient (H/M(I))
Bank Heir	t (range (m)):		\mathcal{P}	Meander/Straight
Bank Slor	e (degrees from	surface of water: 125	2 4 4 1	Bank Stability: Grood
Bank Veg	etation Type: Ura	xball appress (landers Dad	1 Jane wed) Gros	SS Bank Veg. Density (H/M/L):
CHANNE		and the construction and	Contraction Joseph	
Clay:	L SODSTIATE /	Gravel	Boulder	Muck:
Silt:	/ = = = =	Pehble:	Bedrock:	Detritus: V-Dung negations
Sand:		Cobble	Marl:	Other:
INSTREA		COVER		
Poole:	/	Undercut Banks	1	Boulder/Bock:
Riffles	$a_{2}^{+}a_{2}^{+}a_{3}^{+}a_{4}^{-}a_{4}^{-}a_{4}^{+}a_{5}^{+}a_{5}^{-}a$	Woody Debris:		Cobble:
Rackwate	r	Vegetation:		Other:
INSTREA		vegetation.		
Type (sub	omera./emera./fl	oating) Family/Genus/spe	cies	Description/Abundance
.) (
11/0	ne	ana ana amin'ny sora-amin'ny sora-desira		
14-11-14-1		$ A_{i} = A_{i} A_{i} A_{i} = A_{i} = A_{i} A_{i} = A_{i} A_{i} A_{i} A_{i} = A_{i} A_{i} A_{i} = A_{i} A_{i} A_{i} = A_{i} A_{i} A_{i} A_{i} A_{i} = A_{i} A_{i} A_{i} A_{i} A_{i} A_{i} = A_{i} A_{i}$	H = 1 - (1 - 17 - 17 - 17 - 17 - 17 - 17 -	
		0	m	a and a first sector of the
00050			000 0t 0	roce Section
AUD Agus	tic Habitat Daint	SVVI Surrace VVater Input	DOX Dissolved	l Oxygen Stn
	tic Habitat Area	CKC Creek Crossing	VSS Visual Su	rvey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Water Qu	uality Stn
FLW Flow	Monitor Stn	CUL Culvert		

TRACA Reafian	Mattad Midth ()	5 Doptho aqually opposed (Page 2 0
JUSS-Section	wetted width (m)	5 Depths, equally spaced (
2	1.71	15, 11, 19, 25, 15	tool (turbia)
2			The second s
3	lan ing a caracteria and a caracteria de la		and an dealer for the second constrained and the second second second second second second second second second
5	000-000-00 00-000 pt-		na seconda de la companya de la comp
			4
ater Temp (°C)	1601		Visible Characteristics/Other Parameters:
r Temp. (°C).	100	D.O. (%): TDS (ppr	n) - tucked Claudina
me Taken	(a.a. a	Conductivity-fus/cm):	Turbic Standing
cation Taken:	TOO ((suths de		water U
	per (sharts in y		
lude: watercour	se and name flow	direction riffle/pool/run habitat sid	le tributaries station location approx reach length
could ferre	ing (100) Golden Ro	COL Start	Janess.
(010	part promision	nnon - 2 Broth	Hedger ow
Mo: Mo:	power poor	Marine Brokes	proves proved
Mai Mai	boar pourtant	A Source of the	provis provid
HOTOS TAKEN	barbarting bourbook	Photo #	Description
HOTOS TAKEN	beg portion powerby bourbold bourbourbourbourbourbourbourbourbourbour	Photo #	Description

and vegetation, etc.: * many green frogs observed. * Catbird seen * turbid water



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

				Page 1 of 2		
PROJEC	T (Number & Nar	ne): 1184 South	Kent			
Field Stat	ff: S. Murree	U				
Station:	000)			Site Location:		
Waterbod	iy: UnKnow	\sim	· · · · · · · · · · · · · · · · · · ·	GPS Datum: NAD 83 Easting: 425257		
Drainage	System:			Zone: 17 T Northing: 4689765		
Location i	in System: middl	etrib on Eds line	DIN Mull & Kent bridge	Municipality: Chatham / Kent		
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	ate: Sep. 14 '1	0	Weather Conditions:			
Time Star	rted: 15:50	11 - mart 11 - 11 - 11 - 11 - 11 - 11 - 11 - 11	Wind: 3	Cloud Cover (%): 💍		
Time Finis	shed: 16;10		Precipitation: None			
ADJACE	NT LANDS					
Valley	Slope:	(Gentle (< 5°))	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natura	Vegetation (m)	0-10 (10 to 20)	-12 20 to 30 30+		
	Vegetation Type	Tree-Maple				
		Horbaceous-G	olden Rod			
Riparian	Flood Plain - ext	ent of frequent flood (m)): (0-10)	10 to 20 20 to 30 30+		
Zone	Vegetation Type	: Hertaleas- (golden Rod	, Euglweed		
	v		210 10101-1-0-0-0)		
	Vegetation Dens	ity (HML):				
Canopy	Type: North (H	erbaceous, shrub) South(Tree Herbaces Quality a	nd % shade: North (Poor 50/2) South ("50%)		
Land	Haricutto	Ne	<u> </u>			
Use						
Other	(groundwater, s	soils, pools, vegetatior	n, etc.)			
Notes						
CHANNE	L MORPHOLOG	Y		2		
Channel V	Nidth (range (m)):	.5-1.5		Gradient (H/M/L)		
Bank Heig	ght (range (m)):	In high wat	er a 3m	Meander/Straight.		
Bank Slop	be (degrees from :	surface of water): 12	5	Bank Stability: Grossof		
Bank Veg	etation Type: He	vtaceous Wewelve	red Grolden Rool)	Styass Bank Veg. Density (H/M/L):		
CHANNE	L SUBSTRATE %	, 0		· · ·		
Clay: V		Gravel:	Boulder:	Muck:		
Silt: 🗸		Pebble:	Bedrock:	Detritus:		
Sand: 🧹		Cobble: 🗸	Marl:	Other:		
INSTREA	M HABITAT AND	COVER	7			
Pools:		Undercut Ba	anks:	Boulder/Rock:		
Riffles: V		Woody Deb	ris:	Cobble:		
Backwate	r.	Vegetation:	eren an	Other:		
INSTREA		······································				
Type (sul	omerg./emerg./flo	oating) Family/Gen	us/species	Description/Abundance		
10	~ 0					
W.	one	an a substantian and a substantian and				
10 ((· · · · · · · · · · · · · · · · · · ·	4)) ()) () () () () () () () () () () ()				
		and the second		er en er		
00050.		OVALL Overfree A Minter In	4 909 Stre	O Pastian		
CODES:	tie Usbitet Point	SWI Sufface water in		am Cross Section		
	tic Habitat Area	CKC Creek Crossing	VSS Visu	al Survey Stn		
TMP Tem	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn		
W Flow	Monitor Stn	CUL Culvert				

FLOW CONDITIO	NS		Page 2 o
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.75	7,16,17,8,4	
2		T AN- INC. MICH. & March 1979 AND MICH.	
3		and and harmonic and harmonic definition of the material and the	
5		00000000000000000000000000000000000000	· · · · · · · · · · · · · · · · · · ·
	(×
Nater Temp. (°C)	:16°C	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 🤈	40 [D.O. (%): TDS (ppm):	turtid in tour
fime Taken: ///.c	\$5 (Conductivity (µs/cm):	
ocation Taken:	o ((Ni water sole) to addide	/	Very Slow How
SITE DRAWING		14 april 10	
nclude: watercou	irse and name, flow di	rection, riffle/pool/run habitat, side tributa	aries, station location, approx. reach length,
hannel modificati	ons, adjacent landuse	e, roads & road names, bridges, culverts,	north arrow, etc
		grasses A Kall	shrubs Arawin
14	1207	+ Ooden i const	1 tacing
Carle	9	200 AN 120 AC	South C C South
~ 1		10 standing at	The southeans
		water Water	Surracks
		gross the CAL	10-grasses. DHON
TPI+C	H		The state
	(Eds hine	
			NAC
	55mAb	Constant Constant	O MAR MOHICI
4823	= Tourols	and a set of the	Service of Art of
1117		- 0000000000000	81,111
Alt	6		0
ALC 1	K O	Hen Rod notes	v
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ISA L	IC .	N	rihos
AL IE	BODINS		Uro front
$\forall [, 1, 1]$	3×1		
)		
HUIUS TAKEN			

Photo #	Description	Photo #	Description	
	#1- South 015			
1111 - 11 110 Tard - 100 - 1	#2-north uls			i isiii =#or5ior.#mi
		Here () Here (1)		
	ing you want of the state of th			unterna linguta any adaman-distanti w

GENERAL COMMENTS

* adult cyprinial seen . * very sow flow south



_	9	-	Page 1 of			
PROJECT	T (Number & Name): \\8	54 South Kent				
Field Stat	ff: S Hurray					
Station: (QQQ '		Site Location:			
Waterbod	ly:		GPS Datum: NAD 83 Easting: 422046			
Drainage	Drainage System:		Zone: 77 Northing: 4(498332			
Location i	n System: 1st trib on St	rewdurg north of one	Municipality: Chatham / Kent			
Appr. Rea	ach Length (m):	0	Lot & Concession:			
Survey D	ate: Sep. 14/10	Weather Con	nditions:			
Time Star	ted: 16:55	Wind: 📿	Cloud Cover (%): 🔿			
Time Finis	shed:17:15	Precipitation:	None			
ADJACEN	NT LANDS	\sim				
Valley	Slope: Gentle	e (< 5°)) Moderate (5 -	- 15°) Steep (> 15°)			
	Extent of Natural Vegetation	on (m) 0-10 (1	10 to 20 - 7 20 to 30 30+			
e 1	Vegetation Type: Tree	- mix-eal				
	Hert	acoust Cardon (Rad			
	Girca	55 -				
Riparian	Flood Plain - extent of free	uent flood (m): 0	0-10) 10 to 20 20 to 30 30+			
Zone	Vegetation Type: 110 vt-	200005 - Guilden	Ren			
	Trol- Nived					
	Vegetation Density (HML):					
Canopy	Type: T(00 Herback	eous C	Quality and % shade: Fx cellent 90%			
Land	Dariculture					
Use	- Mg. (Charlowing					
Other	(groundwater, soils, poo	ls, vegetation, etc.)				
Notes						
CHANNE	L MORPHOLOGY					
Channel V	Vidth (range (m)):	Zm	Gradient (H/M/L))			
Bank Heig	ght (range (m)): 5m	High water @	3m Meander/Straight:			
Bank Slop	be (degrees from surface of	water):	Bank Stability: Grood			
Bank Veg	etation Type: Herba ceou	is (nolden Rod) Tree	Bank Veg. Density (H/M/L):			
CHANNE	USUBSTRATE %	conserver the server so				
Clav:	Grave	B	Boulder: Muck			
Silt:	Pebble	e // B	Bedrock: Detritus:			
Sand: V	Cobble	e: M	Marl [.] Other			
INSTREA	M HABITAT AND COVER					
Pools:	/	Undercut Banks:	Boulder/Rock:			
Pifflos:	101101-0110-01-2000-01-01-2000-010-01-01-01-01-01-01-01-01-01-01-01	Woody Dobris:	Cobble:			
Rackwata		Vocatation:	Othor:			
		vegetation.				
Type (sub	omerg./emerg./floating)	Family/Genus/species	Description/Abundance			
.) PO (out						
	Wrue (Thursday)					
	11117111111111111111111111111111111111	14 a [a, 1, 1,				

CODES:	SWI Surface Water Input	SCS Stream Cross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn	
FLW Flow Monitor Stn	CUL Culvert		

FLOW CONDITIONS Page 2 of 2 Wetted Width (m) Discharge/Pool/Riffle/Run/Notes 5 Depths, equally spaced (cm) Cross-Section Pool on South last side 1 1.76 11,16,9,10,5 2 3 4 5 WATER QUALITY Visible Characteristics/Other Parameters Water Temp. (°C): 6% D.O. (ppm): pH:_ furbid, Still water (south east side TDS (ppm): Air Temp. (°C): 23°C D.O. (%): Time Taken: 17:05 Conductivity (us/cm): Location Taken: mpo) & roadside SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ... Λ Say bearn S Lives, auteans al-asse Dru GoldenRed Greatel courble Cement Culturt GIVESS >++-C++ Culvert SSDAL (ement 5501.67 s most has guosphoes boy redden Rod mds **PHOTOS TAKEN** Photo # Description Description Photo # A1 - South east (#2 - North VEST (

GENERAL COMMENTS

* green fings observed * water striders observed. * apprintides observed



HABITAT **CHARACTERIZATION**

			Page 1 of 2		
PROJECT	「(Number & Name): \\&+ So	who Kent			
Field Stat	F: S. Murray				
Station:	555'		Site Location:		
Waterbod	y:		GPS Datum: NAD 63 Easting: 420 506		
Drainage	System:		Zone: 17 T Northing: 4695833		
Location in	n System: 1st trib on Deechwood	od off Kent Bi	dyp. Municipality: Chotham / Kent		
Appr. Rea	ch Length (m):		Lot & Concession:		
Survey D	ate: Sep. 14110	Weather Condit	ions:		
Time Star	ted: 17:34	Wind: 3	Cloud Cover (%): ⊘		
Time Finis	shed: 17:45	Precipitation: N	ons		
ADJACEN	AT LANDS				
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15	^o) Steep (> 15 ^o)		
Ĩ	Extent of Natural Vegetation (m) 0-10 10 to 20 - 20 to 30 30+				
	Vegetation Type: Till Show	t			
	Girass				
	Hertaceer	is (Golden	Rod)		
Riparian	Flood Plain - extent of frequent flood	(m): 0-10	> 10 to 20 20 to 30 30+		
Zone	Vegetation Type: Hectriceous	Istolden Roo	Jeine (1) peod)		
	Guass	Shrutz	1,		
	Vegetation Density (HML):				
Canopy	Type: Henbaceous Shrut, (Tress Qua	ality and % shade: Glood 50%		
Land	fariculture :				
Use					
Other	(groundwater, soils, pools, vegeta	tion, etc.)			
Notes					

CHANNEL MORPHOLOGY

Channel Width (range (m)):	Gradient (H/M/L):
Bank Height (range (m)): Sm High water a 2m	Meander/Straight:
Bank Slope (degrees from surface of water):	Bank Stability: Gaocod
Bank Vegetation Type: Herbaceas (Golden Rod, Jewelwerd)	Gurass Bank Veg. Density (H/M/L):
CHANNEL SUBSTRATE %	

CHANNEL SUBSTRATE 7	0			
Clay:	Gravel:		Boulder:	Muck:
Silt: V	Pebble:	1	Bedrock:	Detritus:
Sand: V	Cobble:		Mari:	Other:
INSTREAM HABITAT AND	OVER		1	
Pools:		Undercut Banks:		Boulder/Rock;
Riffles:		Woody Debris: V		Cobble:
Backwater:		Vegetation:		Other:
INSTREAM VEGETATION				
Type (submerg./emerg./fl	oating)	Family/Genus/species		Description/Abundance
Done				
		110		
		(*************************************		
CODES:	SWI Su	rface Water Input	SCS Stream Cr	oss Section
AHP Aquatic Habitat Point	GWI Gr	oundwater Input	DOX Dissolved	Oxygen Stn
AHY Aquatic Habitat Area	CKC Cr	eek Crossing	VSS Visual Sur	vey Stn
TMP Temp Monitor Stn	WEL W	ell	WQS Water Qu	uality Stn
FLW Flow Monitor Stn	CUL Cu	lvert		

LOW CONDING	JNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			N914
4			
5			
WATER QUALIT	Y		
Water Temp. (°C)		D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):		D.O. (%): TDS (ppm):	
Time Taken:		Conductivity (µs/cm):	Nry
Location Taken:			((
SITE DRAWING	/		
nclude: watercou	urse and name, flow o	direction, riffle/pool/run habitat, side tribu	taries, station location, approx. reach length,
channel modificat	ions, adjacent landus	e, roads & road names, bridges, culvert	s, north arrow, etc
Gov	n rass	Cement un vert	Corn N Rende grass
	1	Beech wood him	
55	on B qua	- Bing and the	SSDAB
	*~•) 4	port of the chowing	Corr

PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1- South		
	#2-north		
		1	
100 m pictur mornino n			

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: # dry channel [SAR watch-yellow] # vaccoon tracks



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nan	1e): 1184 Soluti	n Kent			
Field Sta	ff:S. Murray					
Station:	XXX (all)			Site Location:		
Waterboo	iy:			GPS Datum: NA	D83 Eastin	9:383856
Drainage	System:			Zone:	Northin	9:4670344
Location i	in System: 15t -tr	bon 5th Corression	n from Cannotell R.d.	Municipality:	athoun /	Kent
Appr. Rea	ach Length (m):	971	,	Lot & Concession	1:	
Survey D	ate: Sep. 15 19	2	Weather Conditions			
Time Star	rted: 10:56		Wind: 🔿	Cloud C	over (%): 🔿	
Time Finis	shed: 11112		Precipitation: None			
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural	Vegetation (m)	0-10 10 to 20	-12 20 to 30) 30+	
	Vegetation Type:	Shrub-Sumar	V			
		Heitman -1	guiden Rod			
		(marches)	NOINCY May			
Riparian	Flood Plain - exte	ent of frequent flood (m): (0-10)	10 to 20	20 to 30	30+
Zone	Vegetation Type:	Hartacons-	Carblen Dod			
		Mass	O e voi sou			
	Vegetation Densi	ty (HML):				1
Canopy	Type: Havbacor	us Shrut Giv	ass Quality a	nd % shade: Poo	v - 15	10
Land	Aavicultur	(l				
Use	10.1000000					
Other	(groundwater, s	oils, pools, vegetati	on, etc.)			
Notes						
CHANNE	L MORPHOLOGY	- 1		Oradian	4 (11/04/03)	
Channel V	/viotn (range (m)):	05-1M		Gradier		
Bank Heig	gnt (range (m)):	-Sm Highwa	tir (wom(1)1),5	((iii) Meande	straight	r
Bank Slop	be (degrees from s	urface of water):	Q No 14 1	Bank S	tability: Grow	Α
Bank Veg	etation Type: Here	Jaceous (Canden	Knd 1Shn D (Sumarch	() (grass Bank V	eg. Density (H)	M/L):
CHANNE	L SUBSTRATE %					/
Clay: V/		Gravel:	Boulder:		Muck: 🛩	
Silt: 🗸	Construction and an and an arrival	Pebble:	Bedrock	Addie	Detritus:	- 3 Selection of the line of the selection of the selecti
Sand: 🗸		Cobble: 🗸	Marl:		Other:	
INSTREA	M HABITAT AND	COVER				
Pools:		Undercut	Banks:	Boulder	/Rock:	
Riffles:	1 - 11 - 11 - 11 - 11 - 11 - 11 - 11 -	Woody De	ebris:	Cobble		
Backwate	r:	Vegetation	n:	Other:		+K666C+H+H===\$297421491111425===-4
INSTREA		, egetado				
Type (sub	omera./emera./flo	ating) Family/G	enus/species	Descrip	otion/Abunda	nce
			Commentation of the commentation of the			
	Vorse		nin it will it in allowing a line of the			an a
· · · · · · · ·		come and have a set				
	a (1997) a second contract (1997) a second (1997)					en a des l'antés à la solution de la composi
CODES		SWIL Surface Mictor	Input 000 04-	am Cross Section		
CODES:		SVVI Surrace VVater	nput SUS Stre	am Gross Section		
			NDUL DUA DIS	STORED STANDED STO		
AHP Aqua	tic Habitat Point	CKC Creek Crossin		al Survey Stn		
AHP Aqua AHY Aqua MP Temp	tic Habitat Point tic Habitat Area Monitor Stn	CKC Creek Crossin WEL Well	g VSS Visu WQS Wa	al Survey Stn Iter Quality Stn		

FLOW CONDITIC	ONS				Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally	y spaced (cm)	Discharge	/Pool/Riffle/Run/Notes
1					
2				Pry	
3			entre au plantina		
4					n 1. us. v. a minimum analasaaaaaaaa
5	/				
WATER QUALITY	(
Water Temp. (°C)	: (Ory)	D.O. (ppm):	pH:	Visible Characte	ristics/Other Parameters:
Air Temp. (°C):	8.0	D.O. (%):	TDS (ppm):	17	
Time Taken:	:05	Conductivity (µs/cm):		Dr	
Location Taken: 7	ondside			1	1
SITE DRAWING					
channel modificati	beans s Girass	se, roads & road names Golden Roal	bridges, culverts	, north arrow, etc	Saybeans Ditch Paulo
AND SSTALL	Charles a	Lonces:	SI ON JOL	A could a	Tec.
Coleren Rod	Proved Proved	STPANOS ST	mel & Sale	Sapanns 1	psig
PHOTOS TAKEN		. 🗸	U		
Photo #	Description		Photo #	Description	

Photo #	Description	Photo #	Description	
41.	- Worth ()			
#2	- sadh (i)		ar((-)	
#3	- east (iii)	1		
-thit.	-west (ii)	international in		
~	6 . /			

GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

n, etc.: Drain was split in 3 sections D/c N/s was different from roadside drain but east side was a ditch, therefore was seperated from west side which was a drain.



HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Nam	e): 1184 Sout	h Kent						
Field Stat	ff: S. Hurray								
Station:	yyy (all)		Site Location: GPS Datum:NAD 83 Easting: 384753 Zone: 17 Northing: 4671139						
Waterbod	iy:								
Drainage	System:								
Location i	in System: 3rd -	is on 5th conc	ession from Campbell?	Municipality: Chod	tham / Keni	t			
Appr. Rea	ach Length (m):			Lot & Concession:					
Survey D	late: Sep. 15' 10		Weather Conditions	Conditions:					
Time Started: 1123			Wind: O	Cloud Cover (%): ()					
Time Finished: 11:40			Precipitation: Now	2					
ADJACE	NT LANDS	\frown							
Valley	Slope:	(Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)					
	Extent of Natural Vegetation (m)		(0-10 - Y 10 to 20	20 to 30	30+				
	Vegetation Type:								
	Hertaceous- (nolder) food								
Riparian	Flood Plain - extent of frequent flood (m): 0-10 10 to 20 20 to 30 30+								
Zone	Vegetation Type: Gyras S, Herbaleous (Colden Rod)								
	Phyaamites								
	Vegetation Density (HM):								
Canopy	Type: Herbaroous, Grassii) Phragmites (ii) Quality and % shade Poor 5-10 (i) Good Horo (ii)								
Land	Agriculture (south) & (north west)								
Use	(wind twrbine (north east)								
Other	(groundwater, soils, pools, vegetation, etc.)								
Notes									
CHANNE									
Channel V	Width (range (m)):	5-1		Gradient	(H/M/L):				
Deals Lieis	abt (renge (m)):	2 Car ilini	at (Do Far .)	Meander	Straight	11110101010000000000000000000000000000			

Channel Width (range (m))	.5 -1		Gradient (H/IVI/L).	
Bank Height (range (m)):	3-5 m High water (225m) ImC	Meander/Straight	
Bank Slope (degrees from	surface of water) 135		Bank Stability: Chooc	
Bank Vegetation Type:	balenus (Indden Rod) Phragmites	S Bank Veg. Density (H(M)L):	
CHANNEL SUBSTRATE %	6	0	/	
Clay: V	Gravel:	Boulder:	Muck:	
Silt: V	Pebble:	Bedrock:	Detritus:	-
Sand: V	Cobble:	Marl:	Other:	
INSTREAM HABITAT AND) COVER	1		
Pools:	Undercut Banks: 🗸		Boulder/Rock:	
Riffles:	Woody Debris: 🗸		Cobble:	
Backwater:	Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./fl	oating) Family/Genus/spe	cies	Description/Abundance	
nland			/	
1.00,0-		Contraction - and a second		
	C			• > •
		eren eren marrin a		
CODES:	SWI Surface Water Input	SCS Stream C	ross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved	l Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn		
TMP Temp Monitor Stn	WEL Well	WQS Water Q	uality Stn	
FLW Flow Monitor Stn	CUL Culvert			
			Page 2 01	
--------------------------	---	---	---	
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)) Discharge/Pool/Riffle/Run/Notes	
1				
	and the second secon	and the second se	m - p	
4 E		(
ater Temp (°C)	· - Dect		Visible Characteristics/Other Parameters	
r Temp (°C): /	10/	D.O. (%): FDS (nnm):	visible onaradiensiles/other r arameters.	
me Taken: 1112		Conductivity (ris/cm):	Dru	
cation Taken	adside	contractivity (porciti).		
clude: watercou	urse and name. flow	direction, riffle/pool/run habitat side tri	butaries, station location, approx, reach length	
annel modificati	ons. adiacent landus	e, roads & road names, bridges, culve	erts, north arrow, etc.	
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 Photo #
 Description

 Pic#1 = North (i)

 #2 = South(i)

 #3 = east (ii)

 #4 = west (iii)

GENERAL COMMENTS

Hwind - turbine on north east side of sth Concession.

		* needs	Still Marchatty
NATURAL	RESOURCE	SOLUTIONS	INC.

HABITAT **CHARACTERIZATION**

·····	

Aquatic, Terrestrial and Wetland Biologists

Page 1 of 2
and a second
Site Location:
GPS Datum: NAD 83 Easting: 385258
Zone: 17 Northing: 4669692
erts Municipality: Chatham / Kent
Lot & Concession:
nditions:
Cloud Cover (%): 🔿
: None

ADJACENT LANDS

Valley	Slope:	(Gentle (< 5°))	Moderate (5 - 15°)	Steep (> 15°)		
_	Extent of Natural	Vegetation (m)	(0-10) 8 10 to 20	20 to 30	30+	
	Vegetation Type:	Hertaceous- G	rolden Rod			
		Grass				
Riparian	Flood Plain - exte	ent of frequent flood (m): 0-10	10 to 20 2	0 to 30	30+
Zone	Vegetation Type:	Hertaceous - (solden Rud			
	Vegetation Densi	Spruts, Typhe ty (HML):	a, Grass			
Canopy	Type: Typha L	ter bareous (Unolden :	Rod) Grass Quality a	nd % shade: (31000	- 50%	
Land	Dariculture	/ Residentia	2 "			
Use	0	/ ///				
Other	(groundwater, se	oils, pools, vegetati	ion, etc.)			
Notes						

CHANNEL MORPHOLOGY

Channel Width (range (m)):	5-105m		Gradient (H/ML))	
Bank Height (range (m)): <	m High water (a	23m(south) 1.5(north) Meander/Straight:	P 14
Bank Slope (degrees from su	urface of water): 13/5		Bank Stability: Good	
Bank Vegetation Type:	aceous laolden Rod Shuch	Invass .	Bank Veg. Density (H)M/L):	
CHANNEL SUBSTRATE %				
Clay:	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	
Sand: V	Cobble:	Marl:	Other:	
INSTREAM HABITAT AND	COVER			
Pools:	Undercut Banks: V	/	Boulder/Rock:	
Riffles:	Woody Debris:		Cobble:	
Backwater:	Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg,/emerg,)floa	ating) Family/Genus/spec	ies	Description/Abundance	
	Tubha			
	170			
	Construction of the second sec			
	a the second part of the second			
CODES:	SWI Surface Water Input	SCS Stream C	Cross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolve	d Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Su	irvey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water G	luality Stn	
FLW Flow Monitor Stn	CUL Culvert			

FLOW CONDITIC	ONS					Page 2 of
Cross-Section	Wetted Width (m)	5 Depths, equally space	ed (cm)	Discha	rge/Pool/Riffl	e/Run/Notes
1	1.27	C		Pool	north s	side
2			une agre a magnad			
3	(m)			1 		
4		1 			- Kardin	
5						
VATER QUALITY	Y					
Vater Temp. (°C)	: 14°C	D.O. (ppm): pH:		Visible Chara	acteristics/Oth	er Parameters:
vir Temp. (°C):		D.O. (%): TDS ()	ppm):	(urdsic	a stan	ning
ime Taken: 12	13°	Conductivity (µs/cm):		w	ster	V
ocation Taken: \	n pool N side					
ITE DRAWING						
nclude: watercou	urse and name, flow	direction, riffle/pool/run habitat,	side tributari	es, station loc	cation, approx.	reach length,
nannel modificati	ions, adjacent landus	se, roads & road names, bridge	s, cuiverts, n	orth arrow, et	.C.,,,	7(
h. I	La X	(Grager)	actor)			
ne der	him 1	Land III and the state	SECT	Sól	HEANS	
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		1 A grand	2	1		
HOTOS TAKEN	Description	Photo		Description		
1010 #	Description	Photo)#	Description		-
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ENERAL COM	IENIS	ferences from previous sito vis	it landowney	commente (tonography ge	neral land use
nd vegetation etc		incremees norm previous site vis		somments, t	copography, ye	and and use
	augua fra	, s observed				
*	green no	Y-				
. 11	111105					

* Swallow nest underside of onlivert.



	9			Page 1	of 2
PROJEC	T (Number & Nan	ne): 164 Sauth V	port		
Field Stat	ff: Murred	M N I COUNTE	C		
Station:	HAMI- (all)		Site	e Location:	
Waterbod	v:	A CONTRACTOR OF A CONTRACTOR O	GP	S Datum: NA0 83 Easting: 383891	
Drainage	Svstem:		Zor	Northing: 4679867	10.01
Location i	n System: 15t-	D DO Davidson Rd tate	a Pelhiokine, Mul	nicipality: Chatham /Kent	
Appr. Rea	ach Lenath (m):	o or a resolution of the	Lot	& Concession:	anom
Survey D	ate: 50.151	O Weat	her Conditions:		
Time Star	ted: 14:07	Wind	······································	Cloud Cover (%):	
Time Finis	shed: 14:15	Preci	pitation: None		
ADJACE					
Valley	Slope:	(Gentle (< 5°) Mode	erate (5 - 15°) Ste	ep (> 15°)	
	Extent of Natural	Vegetation (m) 15-0.	10 10 to 20	20 to 30 30+	
	Vegetation Type	GIVASS	1		
		14(+70100).5- (70)	den Rock		
		Shart	weit inder		
Riparian	Flood Plain - exte	ent of frequent flood (m):	0-10 10	to 20 20 to 30 30+	
Zone	Vegetation Type	Hostacoous - C	solden Roc		
		GIRASS			
	Vegetation Dens	ity (HML):		(7), (1)	
Canopy	Type: Herbace	2045, grass, Shru-	+ Quality and %	shade: Yoov S-/-	
Land	Agricult	rre '			
Use	10				
Other	(groundwater, s	oils, pools, vegetation, etc	.)		
Notes					
CHANNE	L MORPHOLOG	(
Channel V	Width (range (m)):	.5 - 105	044	Gradient (HAVIA)?	
Bank Heig	ght (range (m)):	2-Sm High wat	r ([(i) 35(Nieander/Straight:	74199
Bank Slop	be (degrees from :	surface of water)	0	Bank Stability: Grood	
Bank Veg	etation Type: He	Haccous- Graden	food, Garass	Bank Veg. Density (H(MpL):	
CHANNE	L SUBSTRATE %	0			_
Clay: V/	1	Gravel:	Boulder:	Muck:	
Silt:	/	Pebble:	Bedrock:	Detritus:	
Sand: V		Cobble:	Marl:	Other:	
INSTREA	M HABITAT AND	COVER			
Pools:		Undercut Banks:	V	Boulder/Rock:	15
Riffles:		Woody Debris:	**	Cobble:	
Backwate	r:	Vegetation:		Other:	
INSTREA	M VEGETATION				
Type (sul	bmerg./emerg./flo	oating) Family/Genus/s	pecies	Description/Abundance	
Ne	S NE				
- 11 AC - 11 - 11 - 11 -					
CODES:		SWI Surface Water Input	SCS Stream	Cross Section	_
AHP Aqua	tic Habitat Point	GWI Groundwater Input	DOX Dissolve	ed Oxygen Stn	
AHY Aqua	itic Habitat Area	CKC Creek Crossing	VSS Visual S	urvey Stn	
TMP Temp	Monitor Stn	WEL Well	WQS Water (Juality Stn	
FLW Flow	Monitor Stn	CUL Culvert			_

	0105			Page 2 of
Cross-Section	Wetted Width (m)	5 Depths, equal	ly spaced (cm)	Discharge/Pool/Riffle/Run/Notes
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3			numero commune della c	pry
4	an and a second and a second of			
Vater Tomp (°C)			nH-	Visible Characteristics/Other Parameters
valer remp. (°C):)°[D.O. (%):	TDS (ppm) [,]	visible characteristics/Other Parameters.
Time Taken:	15	Conductivity (us/cm):	TDO (ppin).	Dru
ocation Taken: y	oudside	Conductivity (porciny.		
nclude: watercou	irse and name, flow	direction, riffle/pool/run	habitat, side tributa	aries, station location, approx. reach length,
hannel modificati	ons, adjacent landus	se, roads/& road names	pridges, culverts,	north arrow, etc
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South	of service	1 Storent	add colden	Field
		144 131 7	HAT +Shrubs	
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É CE	BARE Corra	Channel 55/+ Jan	alden R	d AAD
É CY	BARE CONTROL	Channel 55/+ AG	alden R.	d DDD
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É C	BARE CONTR	Channel 55/+ AG	alden R	a da da da
Á A	BARE Corra	Channel 55/+ G	alden R	a and a

# Photo # Description #1-(i) #2-north (ii) #3-south (ii)

### GENERAL COMMENTS

C	
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NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

	0	,	5			Page 1 of 2
PROJEC	T (Number & Nar	me): 1184 South Ke	2Nt			
Field Stat	ff: S. Hurv	au				
Station:	KKKK Call	Š	5	ite Location:	Contraction - Restronger	
Waterbod	ly:	/ 1	(	SPS Datum: 🕅	AD83 Easti	ng:388747
Drainage	System: Burge	ss Drain	2	ione: 17 T	Northi	ng:4679192
Location i	n System: 15+14	ribon Charp Rol fro	an Middle line	Aunicipality: 🔿	nathown	IKent
Appr. Rea	ach Length (m):	Complete Com		ot & Concess	on:	/
Survey D	ate: Sep 15 '	⊖ Weathe	er Conditions:			**************************************
Time Star	ted: 14,50	Wind:	3	Cloud	Cover (%):	δ
Time Finis	shed: 14:58	Precipit	ation: Nons			
ADJACEN	NT LANDS	$\frown$				
Valley	Slope:	(Gentle (< 5°)) Moderation	ite (5 - 15°) S	Steep (> 15°)		
	Extent of Natura	Vegetation (m) 0-10	5 10 to 20	20 to	30 30+	
	Vegetation Type	Qrass				
		Herbaceous- Gro	Iden Roc			
Riparian	Flood Plain - ext	ent of frequent flood (m):	0-10	0 to 20	20 to 30	30+
Zone	Vegetation Type	Grass				
		Herbaceous - Golde	n Kod			
	Vegetation Dens	sity (HML)	0 11		- 0	
Canopy	Type: terbac	pais, Grass	Quality and	1 % snade: +	20r 2	%
Land	Agri Cult	are				
Use	U Caravanduratar a					
Other	(groundwater, s	solis, pools, vegetation, etc.)				
NOLES						
CHANNEL	MORPHOLOGY	<b>v</b>				
Channel V	Vidth (range (m))			Grad	ent (H/M/L))	
Bank Heid	aht (range (m)):	200 high wothly (G	2 Im Li	dii) Mean	der/Straight	N
Bank Slop	e (dearees from	surface of water): 135		Bank	Stability: Or	ood
Bank Veg	etation Type:	rtacedis ( Goldon Re	2) Gras	< Bank	Veg. Density (I	H/M(L)
CHANNE	SUBSTRATE %	/0				
Clay:	/	Gravel:	Boulder:		Muck:	
Silt: V	1	Pebble:	Bedrock:		Detritus	S:
Sand: 🗸		Cobble:	Mari:		Other:	
INSTREA	M HABITAT AND	) COVER	1			
Pools:		Undercut Banks:	(Small)	Bould	ler/Rock:	
Riffles:	and a second	Woody Debris:	contrart	Cobb	le:	The second second second second second second
Backwate	• • • • • • • • • • • • • • • • • • •	Vegetation:	and the surger of the state of the	Other		It is not the second of the second se
INSTREA	M VEGETATION					
Type (sub	omerg./emerg./fl	oating) Family/Genus/spe	cies	Desc	ription/Abund	ance
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		· · · · · · · · · · · · · · · · · · ·	An an an among the back	6	24 ANN 118	
CODES:		SWI Surface Water Input	SCS Streat	n Cross Section	1	
AHP Aquat	tic Habitat Point	GWI Groundwater Input	DOX Disso	lved Oxygen St	n	
AHY Aquat	tic Habitat Area	CKC Creek Crossing	VSS Visua	Survey Stn		
TMP Temp	Monitor Stn	WEL Well	WQS Wate	r Quality Stn		
FLW Flow	Monitor Stn	CUL Culvert				

Cross-Section 1 2	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Deel/Diffle/Dun/Meter
1 2		5 Deptilis, equally spaced (cill)	Discharge/Fool/Rime/Rum/Notes
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10 - 11 - 11 - 11 - 11 - 11 - 11 - 11 -	and the second second second		Dry
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5			
VATER QUALITY			Visible Characteristics/Other Parameters:
ir Tomp (°C):	0	D.O. (ppm): pn.	
imo Takon:	11-5	Conductivity (us/cm):	
ocation Taken	iso and en	sonductivity (parent).	
ITE DRAWING	ALASI COM		-
clude: watercours	se and name, flow d	irection, riffle/pool/run habitat, side tri	butaries, station location, approx, reach length.
nannel modification	ns, adjacent landuse	e, roads & road names, bridges, culve	ertş, north arrow, etc
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0			530× £
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# PHOTOS TAKEN Photo # Description

Photo #	Description	Photo # Description
	# - last (i)	
	#2- West (?)	
	#3- North (ii)	
	14-South (iii)	

### GENERAL COMMENTS

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NATURAL RESOURCE SOLUTIONS INC.

HABITAT CHARACTERIZATION

Page 1 of 2

Aquatic, Te	errestrial	and	Wetland	Biologists
-------------	------------	-----	---------	------------

CUL Culvert

FLW Flow Monitor Stn

PROJEC	T (Number & Nan	ne): [[84 Sou	th Kent	
Field Stat	ff: S.Murra	U	1	
Station:	LLL Cell	21	and a state of some last one behavior in	Site Location:
Waterbod	ly:	9		GPS Datum: NAD 83 Easting: 4/9 824
Drainage	System:			Zone: 77 Northing: 4/894208
Location i	n System: 1st tr	it on which the	m Mull Rd.	Municipality: Chatham Ikent
Appr. Rea	ach Length (m):		All the state of the second	Lot & Concession:
Survey D	ate: Sep. 15'1	0	Weather Conditions	:
Time Star	ted: 1 (, 10	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	Wind: 9	Cloud Cover (%): O
Time Finis	shed: 16/20	<ul> <li>rest - i participante dans - i participante (</li> </ul>	Precipitation: Non	0
		$\frown$		
	Slope	(Contla ( 5%)	Madarata (F 15°)	Stoop $(> 15^{\circ})$
vaney	Siope.	Genue (< 5)		Sieep (~ 15 )
	Extent of Natural	vegetation (m)	0-10 10 10 20	2010 30 30+
	vegetation Type:	Ovass		
		Herbaceou	S (Grolden)	Kod)
		Tree		
Riparian	Flood Plain - exte	ent of frequent flood	(m): 0-10	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Herbaceous	(Giolden Rod	.)./
		Grass St	white	
	Vegetation Dens	ity (HML):		
Canopy	Туре:		Quality a	ind % shade: Excellent 75%
Land	Agricubtu	vl		
Use	V			<u></u>
Other	(groundwater, s	iolis, pools, vegetat	ion, etc.)	
	1			
CHANNE	L MORPHOLOG	(		
Channel V	Vidth (range (m)):	.5-1		Gradient (H/M/L):
Bank Heig	ht (range (m)):	3mi high u	ater (22m(i)	.5m(ii))Meander/Straight
Bank Slop	e (degrees from s	surface of water):		Bank Stability: 6000
Bank Veg	etation Type: Her-	baroous Copolde	n Rod ) BIRGS, Sh	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %		the state of the second strategy and the state of the second state	
Clay:	/	Gravel	Boulder:	Muck
Silt 1	1	Pehhle:	Bedrock	Detritus
Sand:	11	Cobble:	Marl:	Other:
INSTREA		COVER	indii.	
D			Baulas	Paulder/Peak
POOIS:	- a- a	Undercu	Banks	Boulder/Rock.
Riffles:		Woody L	ebris: V	
Backwater	r:	Vegetatio	on:	Other:
	M VEGETATION			
Type (sub	omerg./emerg./flo	pating) Family/G	ienus/species	Description/Abundance
		TY	That (ii only	$\mathbf{O}$
	14 H 14 Ap			
			1 (1-(1))	n a property of a first and the state of a s
CODES:		SWI Surface Wate	r Input SCS Stre	eam Cross Section
AHP Aquat	tic Habitat Point	GWI Groundwater	Input DOX Dis	solved Oxygen Stn
AHY Aquat	tic Habitat Area	CKC Creek Crossi	ng VSS Visu	ual Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn

FLOW CONDITIC	DNS		Page 2 of
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (c	m) Discharge/Pool/Riffle/Run/Notes
1			The second
2			and summer and support of the second statement of the
4			Contraction of the state of the
	/		
ater Temp. (°C)	(Day) D	.O. (ppm): pH:	Visible Characteristics/Other Parameters:
ir Temp. (°C): ⊃	DIC CT D	.O. (%): TDS (ppm)	
ime Taken: 16	15 C	onductivity (µs/cm):	Dru
ocation Taken.	oudside	6	F Y
TE DRAWING			1
clude: watercou	urse and name, flow dir	ection, riffle/pool/run habitat, side	tributaries, station location, approx. reach length, 1
nannel modificati	ions, adjacent landuse,	roads & road names, bridges, cu	Iverts, north arrow, etc
$\cap$		NA TO ISSA	Lubs and
Sa	yteans 7	VIII) GIAS	Ashin Southeach S V
		XISSIST	X
	100D		6
	Garri	ALCON 2 A	1
177	Abx W Ma		
KARRON	2 44 01 14	TTAN S MO	
THERE	HT THE	HARANY 122	M Rt. anti tab
UNE	DA TO	A Cypleph de	The manu words
CX C	1982 Ch	prog in the	
		Welch Kol	
	DID410	100 DI	MA
		- WI COLON 75	
		ALL SUV	They
		1 X North	All to
SUDD	Shoc	LANIA DE ET INT	Attaget
	1 > gout	7 8010 193 11717	1 Story 5
	с, -	1 24 VIS MOL	
HOTOS TAKEN			
hoto #	Description	Photo #	Description
#1-10	rth (i)		and a second
12-5	auth ()	11.AT 1	Realized and the second s
#3-l	ust (iii)	the firmulation and the second s	
74-V	NR5+ (111)		
	/		

### **GENERAL COMMENTS**



1.1

**NATURAL RESOURCE SOLUTIONS INC.** Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nam	1e): 1184 Sac	th Kent		
Field Sta	Iff: S. Herral	V			
Station:	MMMM	1			Site Location:
Waterboo	dy:				GPS Datum: NAD 83 Easting: 418393
Drainage	System:				Zone: 17 T Northing: 4692906
Location i	in System: 2 nd -tr	its on welch !	from Haru	uich	Municipality: Chatham / Kent
Appr. Rea	ach Length (m):				Lot & Concession:
Survey D	Date: Sep. 16'10		Weather (	Conditions	:
Time Sta	rted: 8:38		Wind: ۱		Cloud Cover (%): 100
Time Fini	ished:8:48		Precipitati	on: Raini	ing_
	NT LANDS			12	0
Vallev	Slope:	Gentle (< 5°)	Moderate	$(5 - 15^{\circ})$	Steep (> 15°)
,	Extent of Natural	Vegetation (m)	0-10	10 to 20	2 - 15 = 20  to  30 = 30 + 1000000000000000000000000000000000
	Vegetation Type:	Hartacons	Gulden	Ded	
	regetation type.	Church Ceurs	Glotchern	- Kaa	1
	-	Tree		100	
Riparian	Elood Plain - exte	nt of frequent flood	(m) [.]	0-10	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Hart grant is	Caller	Dool	
	- ogetation Type:	THE DUCEDUS	Giorder	1 1001	
	Vegetation Densi	ty (HMI)			
Canopy	Type: Harbaraa	is shout TV	00	Quality a	and % shade Door - 20%
l and	Marieliltu	vo		duality a	
Use	Figricult	ne.			
Other	(groundwater, se	oils, pools, vegeta	tion. etc.)		
Notes	(groundwater, s	ons, pools, regetu			
Channel		16			Gradient (H/M//)
	width (range (m)):	1.5m	ti-O		Moondor/Straight:
		Sm High U	nur a	2WC	Bank Stability
Bank Sioj	pe (degrees from s	unace of water).	105		Bank Vog Donoity (UM/L):
sank veg	getation Type: 1819	alleans (1900)er	n tool ) sh	rub, Urr	as bank veg. Density (H/W/L).
CHANNE	L SUBSTRATE %				
Clay:		Gravel:	desite decorrect commen	Boulder:	Muck:
Silt: 🗸	1	Pebble:		Bedrock:	: Detritus:
Sand: V		Cobble:		Marl:	Other:
NSTREA	M HABITAT AND	COVER		2	
Pools:		Undercu	t Banks: 🗸		Boulder/Rock:
Riffles:		Woody [	Debris:		Cobble:
Backwate	2°	Vegetati	on:		Other:
NSTREA					
Type (su	bmera./emera./flo	ating) Family/	Genus/specie	es	Description/Abundance
1) 00 (00	billorg. olliorg. lio		senderepeen		
IV.	one				
	n ann tanann an an Fari (paula-Sairana			4 11-1111111111111111111111111111111111	
CODES:		SWI Surface Wate	er Input	SCS Stre	eam Cross Section
AHP Aqua	atic Habitat Point	GWI Groundwater	Input	DOX Diss	solved Oxygen Stn
AHY Aqua	atic Habitat Area	CKC Creek Cross	ing	VSS Visu	ual Survey Stn
IMP Tem	p Monitor Stn	WEL Well		WQS Wa	ater Quality Stn
LW Flow	/ Monitor Stn	CUL Culvert			

FLOW CONDITIC	DNS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1		Moist (Raining)
2			
3			ý.
4			
5			
WATER QUALITY	Y		2
Water Temp. (°C)		D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): /4	5°C	D.O. (%): TDS (ppm):	Moist (raining)
Time Taken: 82	40	Conductivity (µs/cm):	0
Location Taken: r	roachide		
SITE DRAWING			
Include: watercou	urse and name, flow	direction, riffle/pool/run habitat, side trib	outaries, station location, approx. reach length,
channel modificati	ions, adjacent landus	e, roads & road names, bridges, culver	rts, north arrow, etc A
Smills	Cement C	evert 6	Trass N
	Welch	Rd.	
suranos	Cur nert	Setting to brank	MS SSDAO

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
#1-	- north		
#2	- South		
		1	

GENERAL COMMENTS Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

4

* SAR Char J



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name):	1184 Sou	th Kent		
Field Sta	m:S. Murray				
Station:	NNNN (* Sar)			Site Lo	ocation:
vvaterboo	дХ.			GPS D	atum: NAD 83 Easting 247210
Drainage	System:		0	Zone:	Morthing: 4691832
Location Appr. Rea	in System: 164-4-, 5 ach Length (m):	on werch .	Kom Harwic	Lot & C	pality: Chatham / Kent- Concession:
Survey D	Date: Sep. 16'10		Weather Cor	nditions:	
Time Sta	rted: 9:1H		Wind:		Cloud Cover (%): 100 %
Time Fini	shed:9:26		Precipitation:	Light Pai	īΛ
ADJACE				0	
Valley	Slope: G	entle (< 5°)	Moderate (5	- 15°) Steep (	(> 15°)
	Extent of Natural Veg	etation (m)	0-10	10 to 20 213	20 to 30 30+
1	Vegetation Type:	triCorris	- Cauldon D		
	Sh	with	- uquen s	04	
		ree - Ore	V & Codar	<	
Riparian	Flood Plain - extent or	f frequent floo	d (m):	-10) 10 to 2	0 20 to 30 30+
Zone	Vegetation Type: GL	with the	rbaceous	Gidden Ro	d) (Trass
	T	UDha			
	Vegetation Density (H	IML):	1		
Canopy	Type: Tree Should	L tertracor	xes Tupha (	Quality and % sh	ade: Grood 50%
Land	Agriculture	all the second	AL. T		
Use	1) current	/	7		
Other	(groundwater, soils,	pools, veget	tation, etc.)		
Notes					
CHANNE	L MORPHOLOGY			\$	
Channel \	Width (range (m)): ) _<				Gradient (H/M/L)
Bank Heig	ght (range (m)): 4W	High	water (a)	3m	Meander/Straight?
Bank Slop	pe (degrees from surface	ce of water):	135,		Bank Stability: Grgcod
Bank Veg	etation Type:Shrut	, Herbac	eous (Gold	en Rod)	Bank Veg. Density (A/M/L):
CHANNE	L SUBSTRATE %				
Clay:	G G	ravel:		Boulder:	Muck:
Silt: V	Z Pe	ebble:		Bedrock:	Detritus:
Sand: 🗸	C	obble:		Mari:	Other:
INSTREA	M HABITAT AND COV	VER			
Pools:		Under	ut Banks		Boulder/Rock:
Riffles		Woody	Debris:		Cobble:
Backwate	11====================================	Vegeta	tion:	104 Carlos en la la sectión de 2000,000	Other:
INSTREA	M VEGETATION	vegete			
Type (sul	bmerg/emerg/floatin	a) Family	/Genus/species		Description/Abundance
.)pe (ea.	J	9, i annj			
		74	pro		
			•		
CODES:	SV	NI Surface Wa	ater Input	SCS Stream Cros	s Section
AHP Aqua	tic Habitat Point G	WI Groundwat	er Input [	OOX Dissolved Ox	xygen Stn
AHY Aqua	atic Habitat Area Ch	KC Creek Cros	sing \	/SS Visual Surve	y Stn
TMP Temp	p Monitor Stn W	EL Well	V	VQS Water Quali	ity Stn
FLW Flow	Monitor Stn Cl	JL Culvert			

FLOW CONDITIC	NS		Page 2 of
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Moist Conly -bic
2			raining)
3		-	
4			1 staroling Pool
5			under cuffert
NATER QUALITY	1		
Nater Temp. (°C)		D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): ) ه	50	D.O. (%): TDS (ppm):	Standing Poul under
Time Taken: 9:	20	Conductivity (µs/cm):	Cement cullert.
_ocation Taken: r	roadside		e and u oroque
SITE DRAWING			
nclude: watercou	irse and name, flow	direction, riffle/pool/run habitat, side tribu	taries, station location, approx. reach length,
Sayta	eans s Coak	mit Ales with a second cultured	shrubs residentifice
	We	elch Rol	
6	A dobo	and thomas the second s	SSIDIE IN

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
#\-	- north		
#2-	- South	1	
		1	
		1	

substitute

### GENERAL COMMENTS

* SAR Channel



- 0	Pag	e 1	of	2

					Page For z	
PROJEC	T (Number & Na	ame): 1184 Sou	th Kent	C		
<b>Field Sta</b>	ff: S. Murr	ay				
Station:	0000	A			Site Location:	
Waterboo	ty: redford	Drain CTat	utan E	5.2	GPS Datum: NAD 83 Easting: 47931	
Drainage	System:				Zone: 17 T Northing: 4692485	
Location	in System: 2nd.	tribon Welch	-from Hor	wich.	Municipality: Chatham / Kent	
Appr. Rea	ach Length (m):				Lot & Concession:	
Survey D	Date: Sop 161	.0	Weather Co	onditions:		
Time Sta	rted: 9:40		Wind:	tarific motomics	Cloud Cover (%): 100 %	
Time Fini	shed:9:53		Precipitation	n: Spittin	rey	
ADJACE	NT LANDS				0	
Valley	Slope:	Gentle (< 5%)	Moderate (5	5 - 15°)	Steep (> 15°)	
-	Extent of Natur	al Vegetation (m)	(0-10)	10 to 20	20 to 30 30+	
	Vegetation Typ	Vegetation Type: Homaconus (Golden Rod)				
		Girass (no	+ much -	banks	are pretty bare due to	
		th	é channe	1 bei	ng dig.)	
Riparian	Flood Plain - e	xtent of frequent flood	(m): (	0-10	10 to 20 0 20 to 30 30+	
Zone	Vegetation Type: Herbaceaus (Grolden Rod)					
	Vegetation Der	nsity (HMC):	-			
Canopy	Type: Herb	acenus (molder	n Rool)	Quality ar	nd % shade: Poor - 2%, (it that)	
Land	Agricub	terre		_		
Use	0					
Other	(groundwater	, soils, pools, vegeta	ition, etc.)			
Notes						
	ā;					
CHANNE	L MORPHOLO	GY			Oradiant /U/M/Dx	
Channel	Width (range (m	)): 1	A start the second	( )	Gradient (H/M/L).	
Bank Hei	ght (range (m)):	3-4m 419	h wall	a Iw	Beek Stability	
Bank Slo	pe (degrees fron	n surface of water):	135		Bark Ves Dessit: (UM/O)	
Bank Veg	jetation Type:	proaceous (	Stollaren 2	(001)	Bank Veg. Density (H/M/L)	
CHANNE	L SUBSTRATE	%		I		
Clay:	2	Gravel:	100-00-00-00	Boulder:	Muck:	
Silt: V		Pebble:	a - 1977 - 197 - 197 - 197 - 197 - 197	Bedrock:	Detritus:	
Sand: ᠵ	/	Cobble:		Marl:	Other:	
INSTREA		ID COVER				
Pools:		Underci	ut Banks:		Boulder/Rock:	

INSTREAM VEGETATIO	N	
Backwater:	Vegetation:	Other:
Riffles:	Woody Debris:	Cobble:
F 0015.	Ondercut Danks.	and an an antity of the second s

Type (submerg./emerg./fl	oating) Family/Genus/s	species Description/Abundance
BARES		
nadrania e Maestro A natio in	na 4	
CODES	SIMI Surface Mater Input	SCS Stream Cross Section
CODES:	SWI Surface Water input	DOV Discolved Owgen Stn
AHP Aquatic Habitat Point	GVVI Groundwater Input	DOX Dissolved Oxygen Sin
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

### FLOW CONDITIONS

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2			DRY (Mist by Rain)
3 4			

### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Cha	racteristics/Other	r Parameters:
Air Temp. (°C): 16°C	D.O. (%):	TDS (ppm):	Bare	channel	due to
Time Taken: 9:45	Conductivity (µs/	ícm):	1190	ing	
Location Taken: Road Sicle				đ	
	4		0.0		

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Field YUN nin

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
井1-	- NOITH		
#2	- South-	14 =1	

### **GENERAL COMMENTS**

* SAR Channel that has been dug * Uil Vegetation due to digging

Page 2 of 2



HABITAT CHARACTERIZATION

Page 1 of 2

PROJECT	۲ (Number & Na	me): 1184 Sole	th Kent			
Field Staf	f: Si Hurra	у				
Station:	RBRR (al	lD		Site Location:		
Waterbod	y: McPhail	Drain	hanna an Iophysian an Para	GPS Datum: NAD 83 Easting: 4/9286		
Drainage	System:			Zone: MT Northing: 4691837		
Location in	n System: 15+ -\r	its on Comple	listine-from Hul	Re Municipality: Chadham / Kent		
Appr. Rea	ch Length (m):			Lot & Concession:		
Survey D	ate: Sep. 11	o' 10	Weather Condition	ns:		
Time Star	ted: 16:22		Wind: 2	Cloud Cover (%): [0 0 -/-		
Time Finis	shed: 705446		Precipitation: 100	l		
ADJACEN	NT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natura	Vegetation (m)	(0-10) 10 to	20 20 to 30 30+		
	Vegetation Type	: Girass				
		Herbaceous-	Golden Rod			
		Shird-Sur	ack the			
Riparian	Flood Plain - ext	ent of frequent flood (	(m): (0-10	10 to 20 20 to 30 30+		
Zone	Vegetation Type	- terbaleau	S-looken R	of levelwheel, Kikweid)		
		A Grass.	·	4> common		
	Vegetation Dens	sity (HML):				
Canopy	Type: Shrub	, thertaceous, (	mrass Qualit	y and % shade: 2001 -> 15%		
Land	- Agricuttur	e.				
Use	0					
Other	(groundwater,	solls, pools, vegetat	ion, etc.)			
Notes						
CHANNE		Y		Cradient (H/M/)		
Channel V	vidth (range (m))	IN		Moander/Straight		
Darik Fielg	int (lange (m)).	5,5 High I	Jall (ce) 2	Bank Stability:		
Bank Vog	etation Type:		L Court S	Bank Veg, Density (H/M/L)		
Dank vey	etation Type.	macings ion	rus, Grryss	Bank veg, Bensity (himite).		
CHANNE	SUBSTRATE %	6				
Clay: V	/	Gravel:	Bould	er: Muck:		
Silt:		Pebble:	Bedro	ck: Detritus:		
Sand: V		Cobble:	Mari	Otner:		
INSTREA	MHABITATANL	COVER				
Pools:		Undercut	Banks:	Boulder/Rock:		
Riffles:		Woody D	ebris:	Cobble:		
Backwate	r:	Vegetatio	on:	Other:		
INSTREA	M VEGETATION					
Type (sub	omerg./emerg./fl	oating) Family/G	ienus/species	Description/Abundance		
			Tupha			
			A. M. C. C.			
			E			
CODES:		SWI Surface Wate	r Input SCS	Stream Cross Section		
AHP Aqua	tic Habitat Point	GWI Groundwater	Input DOX	Dissolved Oxygen Stn		
<b>`HY</b> Aqua	tic Habitat Area	CKC Creek Crossir	ng VSS V	/isual Survey Stn		
' ^D Temp	Monitor Stn	WEL Well	WQS	Water Quality Stn		
Flow	Monitor Stn	CUL Culvert				

FLOW CONDITIC	DNS			Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equall	y spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	110	6.10.M.IL	F.15	Pool (south zide)
2				•
3				
4				
5				
WATER QUALITY	1			
Water Temp. (°C)	: 6.	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	$\Box^{i}C$	D.O. (%):	TDS (ppm):	standing water
Time Taken: /_;	35	Conductivity (µs/cm):		@ culver on both sides
Location Taken: \	Stream I rook de			V
SITE DRAWING				
Include: watercou	urse and name, flow	direction, riffle/pool/run	habitat, side tribu	taries, station location, approx. reach length,
channel modificat	ions, adjacent landu	se, roads & road names	, bridges, culverts	s, north arrow, etc
		1 AGENCE	Landa	
C Val	0	1/60×1813370	1 June 1	
1,00	S	NA SAN	11	8 1 1000
A		19 X Elfse	BRIWERC	3 Fields
		N XOL Sala	á	
		1 LON IS CHE	à	2
	t the second	I VOREL I & VELVE	100000	
-	Car mary	ANTIMALT.	14	
THCh	1610	1XXXF	cargert	
	0	N 1 0	1	
	( a	mosell	- Kal	5
		In timos 47	· · · · ·	
1		Sector	F. VX	A DEAMENTAL
$\langle a \rangle$	0.60	DI Swaller	Frank	- J 29° Me dia.
+12HCT /	5. 22	() Para purpt		service lourner fan
	5 200	Q		
	2 2	210 -	1994	ALT ALLAND
	A L	A A A	ATH -	HOMPARE THAT ALIK
0171-1	9/13	STAND P	4 ACA	KIN A HH > ~ H - H - L - L - L - L - L - L - L - L -
	- 600	STORAT J	02365	ALL NOW
1	°1 - 10100	SARKENON	1007	CODE LLS AND AND

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-#1 -	north		
+2	South	1	
		I	

### GENERAL COMMENTS



Page	1	of	2
1 ugo		<b>U</b> 1	-

PROJEC	T (Number & Nam	1e): 1184 Sau	ch Kent		11111	Linki wiki wasa ama	
Field Stat	ff: S. Murra	Ч					
Station:	SSSS				Site Location:		
Waterbod	ly:		1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		GPS Datum: NHD 83 Easting: 446776		
Drainage	System:			Ž	Zone: 17 T Northing: 4691378		
Location i	n System: Roads;	de drain South Si	de of Caundbell	Rd M	Municipality: Chartham / Kent		
Appr. Rea	ach Length (m):20;	A between 2nd \$	1st-trib	L	ot & Conc	ession:	
Survey D	ate: 05. 16'10	)	Weather Cond	ditions:			
Time Star	ted: 11,03		Wind:		С	loud Cover (%): ) 00	·/·
Time Finis	shed://:/2		Precipitation:	-ight a	Rain		
ADJACE	NT LANDS			U			
Valley	Slope:	Gentle (< 5%)	Moderate (5 -	15°) S	Steep (> 15	5°)	
	Extent of Natural	Vegetation (m)	0-10 10	0 to 20	20	0 to 30 30+	
	Vegetation Type:	Tree-Kixe	2				
		Carass					
		Shrub		-			
Riparian	Flood Plain - exte	ent of frequent flood (	m): (0-	-10) *	10 to 20	20 to 30	30+
Zone	Vegetation Type:	Herbaceous-	Golden	20			
		Typha, Gir	ass, Sh	rich			
	Vegetation Densi	ty ((HML):					
Canopy	Type: Tree		Q	uality and	d % shade		
Land	Hgricuttu	(c					
Use	0						
Other	(groundwater, s	oils, pools, vegetati	on, etc.)				
Notes							
CHANNE	L MORPHOLOGY					radiant (H/M/L)	
Channel	Width (range (m)):	1.5			M	leander/Straight	And all the second s
Bank Heig	gnt (range (m)): 3	m High Was	the a ly	$\sim$	B	ank Stability:	a constant and an and a set of the
Bank Slop	be (degrees from s	sunace of water).	25 clied	Le. De	Marce	ank Veg. Density (A)	/M/L)·
Dank veg	etation type. Type	e Muxeer Iner	Sarreans ( Sigi	aan sa	104435	and tog. Denoty (1)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
CHANNE	L SUBSTRATE %					Muela	/
Clay:		Gravel:	B	ouider:		Detritue:	
Silt: V	[	Pebble:	B			Othor:	
Sand: V			IV	iari:		Other.	
INSTREA	MHABITATAND	COVER					
Pools:	1-00001111	Undercut	Banks:		Boulder/Rock:		
Riffles:	o – An and ross while	Woody D	ebris:	2011 (A)AI	C C		
Backwate	r:	Vegetatio	n: V Typh	ia .	(	Other:	
INSTREA	MVEGETATION	() ) E 11 (0				Accessing tion / A hundre	
Type (sul	bmerg./emerg./flo	oating) Family/G	enus/species		L	escription/Abundar	
		TY	pha	1111 11141 (1000)		0	10 430000 1000 2010 2010 2010 2010 2010 2010
	and the second state of the	N					and the second second
				and the second	i) +	() (+) (+) (+) (+) (-)	
CODES:		SWI Surface Water	Input S	CS Strea	m Cross Se	ection	
AHP Aqua	tic Habitat Point	GWI Groundwater I	nput D	OX Disso	olved Oxyge	en Stn	
AHY Aqua	tic Habitat Area	CKC Creek Crossin	ig V	SS Visua	I Survey St	n	
TIMP Temp	p Monitor Stn	VVEL VVell	· · · · ·	vus vvat	er Quality S		
	MONITOL OTI	OOL OUVER					

FLOW CONDITIO	DNS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Dry
2			
3			
4	· · · · · · · · · · · · · · · · · · ·		
5			

### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 18°C	D.O. (%):	TDS (ppm):	
Time Taken: 11:05	Conductivity (µs/c	m):	Dry
Location Taken: Roads de			

### SITE DRAWING

nclude: wate channel modi	ercourse and name, flow direction, ifications, adjacent landuse, roads of Field	riffle/pool/run habitat, & road names, bridge	side tributaries, s s, culverts, north	station location, a arrow, etc	pprox. reach length,
	Girass	$\checkmark$	$\checkmark$		$\checkmark$
	Cent	bell Ro		N/ As	
<u>COR</u>	and and could wis	ASS The FSSDAY	m and	AND THE	KIK -
ALAS		perces	and the for	2 A	Regime A
1 AS	CV23X		JÆ	Z	CCB/C

# PHOTOS TAKEN YU Photo # Description #1 - Last #2 - WESt

### **GENERAL COMMENTS**

* SAR Channel



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	(Number & Nam	e): 1184 Sout	h Kent	
Field Staf	F.S. Hurra	iy		
Station:	FTTT Call	$\sum I$		Site Location:
Waterbody	<i>(</i> :			GPS Datum: NAD 83 Easting: 418 429
Drainage S	System:			Zone: 7 T Northing: 4691066
Location in	System: 1st tri	t on Campbe	11 Rd from torwich	Municipality: Chatham / Kent
Appr. Rea	ch Length (m):	- 1		Lot & Concession:
Survey Da	ate: Sep. 16'10	)	Weather Conditions:	
Time Start	ed: 11:31		Wind: 2	Cloud Cover (%): 100 %
Time Finis	hed: 11:45		Precipitation: Work	
ADJACEN				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 (10 to 20)	- 1 20 to 30 30+
8	Vegetation Type:	Hertracoaus-	Gioldon Rod	- <u>1</u>
		Trop - Write	ed ever har	
		Concress	-	
Riparian	Flood Plain - exte	nt of frequent flood (n	n): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Shrind Cours	55. Hortacon	us (Gorlen and cleunelinead)
	rogotation type.	of mus joing	is The show	us contait fully actualities )
	Vegetation Densit	W(HML):	Typha	
Canopy	Type: 1000 1	loveral ( DOWS. G	Vals Shart Quality an	d % shade: (2000 50%
Land	Havidullin	0.		
Use	gricuna			
Other	(groundwater, so	oils, pools, vegetatio	on, etc.)	
Notes				
	MODDUOLOCY			
Channel		1200		Gradient (H/M/C)
Ronk Hoig	which (range $(m)$ ):	S-Hon 11'al	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	A ( A C) Meander/Straight
Bank Slon	e (degrees from s	urface of water).	1 while the service	Bank Stability Guard
Bank Vog	e (degrees norms)		P. J. whitelymolta	mcShitBank Veg, Density (HVM/L)
	etation Type. The	SAL EUISTONIE	TOUTOEUCIUAUN	Tang Shiripani vog Ponoly (Phina).
CHANNEL	SUBSTRATE %		15.11	Muslu
Clay: V		Gravel:	Boulder:	
Silt: V		Pebble:	Bedrock:	
Sand: V			Mari:	Other:
INSTREAL	M HABITAT AND	COVER		
Pools:		Undercut I	Banks: 🗸 🎾	Boulder/Rock:
Riffles:		Woody De	bris: / 🗸	Cobble: 🗸
Backwater	·	Vegetation	1: 1/ Tupha	Other:
INSTREAM	M VEGETATION		- 11	
Type (sub	omerg./emerg./flo	ating) Family/Ge	enus/species	Description/Abundance
		TU	Dha	
and an excession of the second			Paning and a second sec	
	**************************************			
CODES		SWIL Surface Water	Input SCS Street	am Cross Section
AHP Aqua	tic Habitat Point	GWI Groundwater In	nput DOX Diss	olved Oxygen Stn
AHY Aquat	tic Habitat Area	CKC Creek Crossing	y VSS Visu	al Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Wa	ter Quality Stn
FLW Flow	Monitor Stn	CUL Culvert		F

FLOW CONDITIC	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2			PA
3			
5			
WATER QUALIT	(		-
Water Temp. (°C)	:/ DA	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	9.0	D.O. (%): TDS (ppm):	
Time Taken: //:	40	Conductivity (µs/cm):	wry
Location Taken:	adside		]
SITE DRAWING			
include: watercou	irse and name, flow	direction, riffle/pool/run habitat, side trib	utaries, station location, approx. reach length,
channel modificati	ons, adjacent landus	e, roads & road names, bridges, culver	ts, north arrow, etc
		AND I BURNEY AND	
( or	M .	MARY XA UNIT WAY	New IN
C.		ACCE AND AND A COM	
	1	ATTACK MANY GOD	Charles and the second s
		All averal (9)	
Gerass	Titch	1 10000	Girass Ditch
0 1		- CONTA	
	Can	mat 90 the	
	Carr	puer in	
			Sanda D
XXXX	SSADAD	A voiling	A A - J - B AX
000	D - C	for the second	a and the the the
		hannel in certeuls !!	- Mappel 16th AAM -
(20 1)	2) "I (P)	199	
2000	RIN	por protocol	Espore / Tak Tim
AT#	SPA A	A CAN AND	-UX//SGAGH
P 0 6	KAS )	- (Fair D) 7	Maria -
200 gore	(/(	Jorry ( C)	() index
PHOTOS TAKEN	$\sim$	500	

Photo #	Description	Photo #	Description
-14	- north (i)		
#2.	- last (ii)		
#3	- west (ii)		

### GENERAL COMMENTS

* SAR Channel



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	「 (Number & Name): \\ (84	South Kent				
Field Stat	F: S. Murrali	and the second				
Station: (	Juliu		Site Location:			
Waterbod	γ:	GPS Datum: NAD 83 Easting: 390 394				
Drainage	System: SKIDDer Dre	2. V	Zone: 17 T Northing: 4681390			
Location i	Location in System: 1st trit on Morris line in till Copper & Shy Municipality: Chathern /Kent					
Appr. Reach Length (m): Lot & Concession:						
Survey D	ate: Sep. 16'10	Weather Condi	tions:			
Time Star	ted: 13;20	Wind: 4	Cloud Cover (%): /ᢕᠿ			
Time Finis	shed: 13,41	Precipitation: // )	one			
ADJACEN						
Valley	Slope: Gentle (< 5	Moderate (5 - 15	^o ) Steep (> 15°)			
, <b>,</b>	Extent of Natural Vegetation (r	n) 0-10 (10 t	o 20 - 18 20 to 30 30+			
	Vegetation Type: Hartracor	V.S. Claudon Dadt	10			
	Telle -	Unied Wind				
	Orrass	ruxen	>			
Riparian	Flood Plain - extent of frequen	t flood (m): (0-10	0 10 to 20 20 to 30 30+			
Zone	Vegetation Type: Cravoss					
	Horbal	erus (Golden	Red			
	Vegetation Density (HML):	and contract				
Canopy	Type: Hertaceas, Girc	uss Qua	ality and % shade: Door /5%			
Land	Agriculture					
Use	1. J Cumun					
Other	(groundwater, soils, pools, v	egetation, etc.)				
Notes						
CHANNE	L MORPHOLOGY		1.19.2			
Channel V	Vidth (range (m)): 。		Gradient (H/M/L):			
Bank Heig	pht (range (m)): 4m hi	gh water (a)	Im Meande//Straight:			
Bank Slop	e (degrees from surface of wat	ér):	Bank Stability: Good			
Bank Veg	etation Type: Herbaceaus (b	aden Rod) Orrass	Bank Veg. Density((H/M/L):			
CHANNE	L SUBSTRATE %					
Clay:	Gravel:	Βοι	Ilder: Muck:			
Silt:	/ Pebble:	Bec	Irock: Detritus:			
Sand: V	Cobble: 🔨	Mai	1: Other:			
INSTREA	M HABITAT AND COVER					
Pools.	Ur	dercut Banks:	Boulder/Rock [.]			
Riffles [.]	Ŵ	oody Debris:	Cobble: 1			
Backwate	Ve	edetation:	Other:			
INSTREA		gotation				
Type (sub	omerg./emerg./floating) Fa	milv/Genus/species	Description/Abundance			
	1					
		······································				
CODES:	ES: SWI Surface Water Input SCS Stream Cross Section					
AHP Aqua	tic Habitat Area CKC Creek Crossing VSS Visual Survey Stn					
TMP Tem	Monitor Stn WEL Well	WO	S Water Quality Stn			
FLW Flow	Monitor Stn CUL Culver	t	No or way with 1999 200 million and 200			

### **FLOW CONDITIONS**

FLOW CONDITIC	ONS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.89	12,11,9,7,3	Pool
2			
3			
4			
5	1		

### WATER QUALITY

Water Temp. (°C): 19°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): ZI°C	D.O. (%):	TDS (ppm):	Dry North Side
Time Taken: 13 ',35	Conductivity (µs/c	sm):	Standing poor under
Location Taken: Pool & Roadsi	de		Culvert & on Saithside

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roade & road names, bridges, culverts, north arrow, letc
Morris Line
play for the part of the parts

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	il-north		
4	2 south		
		· · · · · · · · · · · · · · · · · · ·	

### GENERAL COMMENTS



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists HABITAT CHARACTERIZATION

Page 1 of 2

PROJECT	(Number & Name):	84 South Ker	<i>rt</i> -	
Field Staf	t: S. Murray			
Station:	J5. I		Site Lo	cation:
Waterbod	<b>y:</b>		GPS Da	atum: NAD 83 Easting: 414754
Drainage	System:		Zone:	17 Northing: 4693345
Location in	n System: 1st-trits on-	burke from harwich	Rol Municip	vality: Chatham / Kent
Appr. Rea	ch Length (m):		Lot & C	oncession:
Survey D	ate: Sep. 16'10	Weather	Conditions:	
Time Star	ted: 16:15	Vvind: [		
	sned: 76 52	Precipitati	on: Mone	
ADJACEN	IT LANDS			
Valley	Slope: Gen	tle (< 5°) Moderate	(5 - 15°) Steep (	> 15°)
	Extent of Natural Vegeta	ation (m) 0-10	(10 to 20) - 15	20 to 30 30+
	Vegetation Type:	e Poplar, Ma	ple	
			1	
Dimension	Flored Distance street of fe		0.10 10.40.00	20 to 20 20 t
Riparian	Flood Plain - extent of fr	equent flood (m):	0-10 10 10 20	
ZUIIE	vegetation Type: Grrc	iss, Herbaceau	s (choiclen k	00)
	Vegetation Density (HM	IND		
Canopy	Type: Tro L Source	t textraceous	Quality and % sha	ade (ano) - 50%
Land	Darcultura	Pre dontici D	quality and to one	
Use	THICHARDE	/ Treproteratione		
Other	(groundwater, soils, p	ools, vegetation, etc.)		
Notes	(3	, , ,		
CHANNEI	MORPHOLOGY	+		
Channel V	Vidth (range (m)): 5-	-15		Gradient (H/M/L)
Bank Heig	ht (range (m)):	high water	@ 2m	Meander/Straight:
Bank Slop	e (degrees from surface	of water): 135		Bank Stability: Orgoo
Bank Veg	etation Type: Hertace	cuis (Golden Rod)	GIRCSS, TR. SH	Bank Veg. Density (H/M/L):
CHANNE	SUBSTRATE %		/	/
Clay:	Grav	/el:	Boulder:	Muck:
Silt: V	Peb	ble:	Bedrock:	Detritus:
Sand: V	Cob	ble:	Marl:	Other:
INSTREA	M HABITAT AND COVE	R	/	
Pools: V	/	Undercut Banks:	/	Boulder/Rock:
Riffles		Woody Debris:		Cobble:
Backwate		Vegetation:		Other:
INSTREA				
Type (sub	merg./emerg./floating)	Family/Genus/specie	es	Description/Abundance
	Vlava D			
	VORSE			
		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		0.) [0]((100.0000)
CODES	Q\///	Surface Water Input	SCS Stream Cross	s Section
AHP Aqua	tic Habitat Point GWI	Groundwater Input	DOX Dissolved Ox	xygen Stn
AHY Aqua	tic Habitat Area CKC	Creek Crossing	VSS Visual Survey	/ Stn
TMP Temp	Monitor Stn WEL	Well	WQS Water Quali	ty Stn
FLW Flow	Monitor Stn CUL	Culvert		

FLOW CONDITIC	DNS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		_	Dry except for
2			Standing, water
3		/	under Taul vert
4			Uses
5			

### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 21'C	D.O. (%):	TDS (ppm):	True (-Standing-
Time Taken: 16:27	Conductivity (ps/c	xm):	My Comming
Location Taken Road de			water under cultert

### SITE DRAWING



### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-#1	-north		
#2	South		
- AL	2 ,		· · · · · · · · · · · · · · · · · · ·
		1	
	an anno 11 an 1		

### **GENERAL COMMENTS**

* SAR Channe )



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name): 1184	South Kent	
Field Sta	ff: S. Murray	<u></u>	r i
Station:	K5 1		Site Location:
Waterboo	ly:		GPS Datum: NAD83 Easting: 414403
Drainage	System: White drain	Zone: 77 Northing: 4692976	
Location i	n System: 2nd trib on t	urke from Harwich	Municipality: Chathern/Kent
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: Sep (6/10	Weather Conditions	•
Time Star	ted: /6:42	Wind: )	Cloud Cover (%): /00 %
Time Fini	shed: /(6', 50	Precipitation: Nor	2
ADJACE	NT LANDS		
Valley	Slope: Gentle (< 5	5°) / Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation (r	n) 8-(0-10) 10 to 20	20 to 30 30+
	Vegetation Type: Grass		
	Shrub		
3			
Riparian	Flood Plain - extent of frequen	t flood (m): 0-10/	10 to 20 20 to 30 30+
Zone	Vegetation Type: Herban	ceaus-Giolden 4	Rod
	Grass	, Typha	
	Vegetation Density((HML):	, (1	
Canopy	Type: Hertaceous T	upha GrassQuality a	nd % shade: 19000 40%
Land	Agriculture	Residential	
Use	- 0		
Other	(groundwater, soils, pools, w	regetation, etc.)	
Notes			
CHANNE	L MORPHOLOGY		
Channel \	Nidth (range (m)): 5-1m		Gradient (H/ML):
Bank Hei	ght (range (m)): 3m - +	High water a	Meander/Straight)
Bank Slop	be (degrees from surface of wat	er): 135	Bank Stability. Czcool
Bank Veg	etation Type: Herba Ceous	S-Golden Rod	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %		
Clay:	Gravel:	Boulder:	Muck: V
Silt: V	/ Pebble:	Bedrock	Detritus:
Sand:	Cobble:	Marl:	Other:

Sand: V Cobble: **INSTREAM HABITAT AND COVER** 

Pools:	Undercut Banks:	Boulder/Rock:	4
Riffles:	Woody Debris:	Cobble:	
Backwater:	Vegetation: V Tupher	Other:	
IN OTOFANA VEOFTATION			

### **INSTREAM VEGETATION**

Type (submerg./emerg./flo	oating)	Family/Genus/species		Description/Abundance
		Tuph	<u>~</u>	
		1		
CODES:	SWI S	urface Water Input	SCS Stream Cros	s Section
AHP Aquatic Habitat Point	GWI G	Groundwater Input	DOX Dissolved Ox	kygen Stn
AHY Aquatic Habitat Area	CKC C	Creek Crossing	VSS Visual Surve	y Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS Water Quali	ty Stn
FLW Flow Monitor Stn	CUL C	ulvert		X

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		e Depine, equally opposed (em)	Tral
2			019
3	· · · · · · · · · · · · · · · · · · ·		
A			

### WATER QUALITY

Water Temp. (°C): Dry	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 22°C	D.O. (%):	TDS (ppm):	
Time Taken: 14:35	Conductivity (µs/ci	m):	1)2ry
Location Taken: RoadSide			

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

ris Saydeans Saffeans culie wK SUDO (p) fulpist

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
#1	- north		
#2	- South		

### GENERAL COMMENTS

* SAR Channel



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	(Number & Name):	1184 South	Kent			
Field Staf	f: S. Murral					
Station: (	451	1	Site I	Location:		
Waterbody	y:		GPS	Datum: NAD83 Easting: 421019		
Drainage S	System:		Zone	17 T Northing: 4697419		
Location ir	System: 1st +rib	on Kent Bridge Sc	who Burk Muni	cipality: Chatham / Kent		
Appr. Rea	ch Length (m):	0	Lot &	Concession:		
Survey Da	ate: Sp.17'10	Weat	ther Conditions:			
Time Start	ted: 7:47	Wind	: \	Cloud Cover (%): 80%		
Time Finis	hed: 8:13	Preci	pitation: None			
ADJACEN		$\sim$				
Valley	Slope:	Gentle (< 5°) Mode	erate (5 - 15°) Steer	p (> 15°)		
<b>,</b>	Extent of Natural Ve	petation (m) 0	-10 (10 to 20)	20 to 30 30+		
	Vegetation Type:	$V_{0}$	avores ho	charponis (Golden Roch)		
		(IIII) I South	grass, is	Contraction (Contraction) inset from		
			V A			
Riparian	Flood Plain - extent	of frequent flood (m):	(0-10) 10 to	20 20 to 30 30+		
Zone	Vegetation Type:	ant arass	Hertaroas	( Stolden Rog, could watch)		
	, souther states of	Trub, L.		Connect I weat to many		
	Vegetation Density (	HML):				
Canopy	Type: Shrub 9	rass terbaceou	S Quality and %	shade: Excellent 90°/0		
Land	Hariculture					
Use	A Discourses					
Other	(groundwater, soils, pools, vegetation, etc.)					
Notes						
CHANNEL	L MORPHOLOGY					
Channel V	Vidth (range (m)): 。	5-1m	~	Gradient (H/M/L):		
Bank Heig	ht (range (m)): 4	1 high water	(a) 3m	Meander/Straight:		
Bank Slop	e (degrees from surf	ace of water): 135		Bank Stability: Grood		
Bank Vege	etation Type: Shruc	b. Herbaceous 6	(rolden Roch) Gras	S Bank Veg. Density (H/M/L):		
CHANNEL	SUBSTRATE %					
Clay:	(	Gravel:	Boulder:	Muck:		
Silt:		Pebble:	Bedrock:	Detritus:		
Sand: V		Cobble:	Marl:	Other:		
INSTREA	M HABITAT AND CO	OVER	1			
Dealer	/	Lindorout Ponks	. /	Boulder/Bock:		
Difficat		Woody Debrie:	· /	Cobble:		
Rimes.	25 <u>222</u>	Voody Debris.		Other:		
		vegetation.		Other.		
Type (cut	w vegeration	ng) Family/Gonue/s	nacias	Description/Abundance		
Type (sur	Jillerg./ellierg./lioau	ng) Tanny/Genus/a	iheelea			
N	one					
	,	namara a para ana ana ana ana ana ana ana ana ana	inter molti annihim in a second			
CODES:	5	SWI Surface Water Input	SCS Stream Cr	ross Section		
AHP Aqua	tic Habitat Point	GWI Groundwater Input	DOX Dissolved	Oxygen Stn		
AHY Aqua	tic Habitat Area (	JKC Creek Crossing	VSS Visual Sur	iality Stn		
rivite remp	Manifas Chn		VVQU VValer QL	any our		

### FLOW CONDITIONS

1 lovo 7,8,2,6 Standing water 3 4 5	<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equa	lly spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2 3 4 5	1	010	78,12.8	3.6	Standing water
3 4 5	2			)	on well side
<b>4</b> 5	3				
5	<b>4</b>		uminuumiusi usus amassisioosi sautoma		
	4 5				
	Vator Tomp (°C)	· 1/ 0 /	0 (000):	all.	Visible Characteristics/Other Parameters

Air Temp. (°C): 12°C D.O. (%): TDS (ppm): Savour9	20/jes/00/00)
	tardial
Time Taken: 8:07 Conductivity (µs/cm):	0101
Location Taken: Roachide In Grean	

### SITE DRAWING



### PHOTOS TAKEN

Photo #	Description	Photo #	Description
H	1- past		
-11'	2 West		

### **GENERAL COMMENTS**

* Gireen frogs observed * saw a huscrat swim by



				Page 1 of 2	
PROJEC [®]	T (Number & Name	1: 1184 Sou	uh Kent		
Field Sta	ff: S Murray	y			
Station:	NS			Site Location:	
Waterbod	ly:			GPS Datum: NADS3 Easting: 426598	
Drainage	System:		(r. ac. )	Zone: 17 T Northing: 4691365	
Location i Appr. Rea	n System: Roadsid	le drain on !	ent bridge Rollsid	Municipalitychatham / Kent Lot & Concession:	
Survey D	ate: Son M'IO		Weather Conditions	:	
Time Star	ted: 9:07		Wind:	Cloud Cover (%): ()%.	
Time Finis	shed:9:16		Precipitation: None	an a	
Vallev	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
·····,	Extent of Natural V	egetation (m)	(- (0-10) 10 to 20	20 to 30 30+	
	Vegetation Type:	(alkass			
	,				
			0		
Riparian	Flood Plain - exten	t of frequent flood	(m): 0-10 )	10 to 20 20 to 30 30+	
Zone	Vegetation Type:	Hortacoo	us- Gielden I	200	
	Vegetation Density	(HML):			
Canopy	Type: Hertaceous Tipha Quality and % shade: (3000 40%				
Land	Haviculture Residential				
Use					
Other	(groundwater, soils, pools, vegetation, etc.)				
Notes					
_					
CHANNE	L MORPHOLOGY			<i>H</i> .	
Channel \	Nidth (range (m)): ۱	m	والمتحجيب والمتحد	Gradient (H/M/L)	
Bank Heig	ght (range (m)): 2.	5m high	water al 1.5	Meander/Straight.	
Bank Slop	be (degrees from su	rface of water):	135	Bank Stability: Groed	
Bank Veg	etation Type: He C	aceous (biol	den Kod) Typh	Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %		/		
Clay: 🗸	/	Gravel:	Boulder:	Muck:	
Silt: 🗸	1	Pebble:	Bedrock	: Detritus:	
Sand: 🗸		Cobble:	Marl:	Other:	
INSTREA	M HABITAT AND C	OVER	1		
Pools:		Undercut	Banks:	Boulder/Rock:	
Riffles:	1999-999-99-99-99-99-99-00	Woody E	)ebris:	Cobble:	
Backwate	r:	Vegetatio	n V TOPPA	Other:	

INSTREAM VEGETATION			1.	
Type (submerg./emerg./floating)		Family/Genus/spe	cies	Description/Abundance
		Tupha		
		(P		
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
CODES:	SWI S	urface Water Input	SCS Stream Cross	Section
AHP Aquatic Habitat Point	GWI G	Froundwater Input	DOX Dissolved Oxy	gen Stn
AHY Aquatic Habitat Area	CKC C	reek Crossing	VSS Visual Survey	Stn
TMP Temp Monitor Stn	WEL V	Vell	WQS Water Quality	Stn
FLW Flow Monitor Stn	CUL C	ulvert		

FLOW CONDITIONS				
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes	
1			Day	
2			Ψ Ψ	
3				
4				
5				

### WATER QUALITY

MATER GOALT			
Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): / 4°C	D.O. (%):	TDS (ppm):	T
Time Taken: MO	Conductivity (µs/c	cm):	Dry
Location Taken 2006 d.2			L.

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

	······································
	Sarbeans
A Residential	Golden Rod + Girass
Sizers	channel (1900) (1) (1) (1) (1)
- Cattains	IGRASS Cathours
Ken	+ Bridge Rd

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-H	=1 - North		
-11	2-South.		
		E	
10000000000000000000000000000000000000			

### GENERAL COMMENTS



			Page 1 of 2
PROJEC	T (Number & Name): \\?	34 South Kent	
Field Sta	ff: S. Murray"		
Station:	P5	Si	ite Location:
Waterboo	ly:	G	PS Datum: NADS3 Easting: 422960
Drainage	System:	Z(	one: 7 T Northing: 4694506
Location i	in System: 15thrib on	Kidge line from Kent Bridge	lunicipality: Chatham / Kent
Appr. Rea	ach Length (m):		ot & Concession:
Survey D	Date: Sep. $\Pi'(0)$	Weather Conditions:	
Time Star	rted: /0;00	Wind: (	Cloud Cover (%): 5%
Time Fini	shed: 70:29	Precipitation: Mon L	
ADJACE	NT LANDS	$\sim$	
Valley	Slope: Gentle	(< 5°) Moderate (5 - 15°) St	teep (> 15°)
	Extent of Natural Vegetation	on (m) 0-10 10 to 20	8 20 to 30 30+
	Vegetation Type:	ub, tree, Herball	as, Girass
Riparian	Flood Plain - extent of free	uent flood (m): 0-10 10	0 to 20 20 to 30 30+
Zone	Vegetation Type: Shru	the Hertoa ceous,	OIVASS
	Vegetation Density (HML):		
Canopy	Type: Tree Shrup +	her squeeus cerras Quality and	% shade excellent 40%
Land Use	Agricultur	2	
Other	(groundwater, soils, poo	ls, vegetation, etc.)	
Notes			
		3	
	V (atn (range (m)): .6 ~	sm	Gradient (H/M/L):)
Bank Heig	ght (range (m)): $4\gamma\gamma$	High Waler en 2m	Meander/Straight.
Bank Slop	be (degrees from surface of	water). 155	
bank veg	etation Type: Herton Co	OUS ( CHORAN HOCH) SNOUT	SAMAC Park Veg. Density (H/W/L):
CHANNE	L/SUBSTRATE %	Y W	h //aw)
Clay: 🗸	Gravel	Boulder:	Muck:
Silt: 🗸	Pebble	Bedrock:	Detritus:

Silt: F	Pebble:	Bedrock:	Detritus:	
Sand:	Cobble: V	Marl:	Other:	
INSTREAM HABITAT AND CO	VER	/		
Pools:	Undercut Banks:	1	Boulder/Rock:	
Riffles:	Woody Debris: 🧹	/	Cobble:	
Backwater:	Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./floati	ng) Family/Genus/spo	ecies	Description/Abundance	
Wore				

CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

### **FLOW CONDITIONS**

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2,45	1722,3025,4	Pool Aurtsid
2			(north side)
3			
4			
5			

### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm)	standing water
Time Taken: 16:16	Conductivity (µs/e	m):	( north (Bide, Dry
Location Taken: In stream Road	kide		South Side

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... fosture Shound

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
7	FI-Saith		
	+2- verth.		
	Atomic and a second		
		21	
			1 million (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997)

### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

jį.

Kturbid water



		Page 1 of
PROJEC	T (Number & Name): \\&+ &	owth Kent
Field Sta	ff: S. Hurrall	
Station:	T5 T	Site Location:
Waterboo	iy:	GPS Datum: NFD&3 Easting:
Drainage	System:	Zone: M T Northing:
Location i	in System:	Municipality: Chatham 1 Kent
Appr. Rea	ach Length (m):	Lot & Concession:
Survey D	ate: Sep. 21/10	Weather Conditions:
Time Star	rted: 12:31	Wind: Cloud Cover (%):
Time Fini	shed: 12139	Precipitation: None
ADJACE	NT LANDS	
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°) Steep (> 15°)
-	Extent of Natural Vegetation (m)	0-10 (10 to 20) - 12 20 to 30 30+
	Vegetation Type: Tree- Min Shrub - Sh	wed Imack
Riparian	Flood Plain - extent of frequent floo	od (m): (0-10) 10 to 20 20 to 30 30+
Zone	Vegetation Type: Grass	
	Vegetation Density (HML):	5
Canopy	Type: Type Shrut	Quality and % shade: 100 % - Excellent
Land Use	Residential	
	(manuality ter seile seele yers	tation. etc.)

Channel Width (range (m))	,5-3	m		Gradient (H/M/L):	
Bank Height (range (m)): L	tm +	figh water 1	$a_2m$	Meander/Straight:	
Bank Slope (degrees from	surface of v	water): 185	<u> </u>	Bank Stability: Groool	
Bank Vegetation Type: S	rate C	irass. Herba	iceous	Bank Veg. Density (H)M/L):	
CHANNEL SUBSTRATE %	6	7.4	_	. /	
Clay: //	Gravel:		Boulder:	Muck:	
Silt: /	Pebble:	/	Bedrock:	Detritus:	
Sand:	Cobble:	/	Marl:	Other:	
INSTREAM HABITAT AND	COVER				
Pools:		Undercut Banks: 📈	/	Boulder/Rock:	
Riffles:		Woody Debris:	······	Cobble:	
Backwater:		Vegetation:		Other:	
<b>INSTREAM VEGETATION</b>					
Type (submerg./emerg./fl	oating)	Family/Genus/spec	cies	Description/Abundance	
None					
	014/1_0		000 000000000		
CODES:	SWI SU	mace vvater input	SUS Stream Cros	ss Section	
AHP Aquatic Habitat Area		oek Crossing	VSS Visual Sune	ev Stn	
TMP Temp Monitor Stn	WEL W	ell	WOS Water Qua	lity Stn	
FLW Flow Monitor Stn	CUL Cu	lvert			

FLOW CONDITION	IS			Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally	y spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1				Dry
2				
3				
4	and the second se			
5				
WATER QUALITY				
Water Temp. (°C):		D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):		D.O. (%):	TDS (ppm):	1
Time Taken:		Conductivity (µs/cm):		
Location Taken:				
SITE DRAWING				
Include: watercours	se and name, flow o	direction, riffle/pool/run	habitat, side tributa	aries, station location, approx. reach length,
channel modificatio	ns, adjacent landus	e roads & road names	, bridges, culverts,	north arrow, etc
ACVI	( Stawaters	Hooble Anthen	~willows	
TROST) NO	W 80 305	Aboundary ADD	/	
- LIP		Enevert-Coff -	N F	
BL	tree's & shrub	SAMP		
3 1		STAN		
	Valle			2 - Sidanca
	(nrass)			
3		100 100		
	- Alert	- france		
	D.	dan 1.		
		age hi	re	
		0.000		
01-		for - HAR	(AA)	
2		(M) 42	AN 12	2
2	JAN-	the way	NY M	a contract
E	SSULA	Lugar Congregal	H Down	NO CONCESSION
ě	1	5/1 5/2/8	· (AXI)	1 7000
2	1 const		1 1/196	2110
I	101010-208			
		mallion		
	-/	N		

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	H = nor + b		
	#2 - South		
		Ē	

### GENERAL COMMENTS

* nice habitat if there was flow.



ž K

Aquatic, Terrestrial and Wetland Biologists

	Pa	age	1	of	2
--	----	-----	---	----	---

PROJEC	T (Number & Nan	ne): 1184 Sc	ut Kent	
Field Sta	iff: S. Murr	au		110
Station:	US		Site Location:	
Waterboo	dy:		GPS Datum: NAD 83 Easting:	
Drainage	System:		Zone: 7 Northing:	
Location	in System:		Municipality: Chatham ) Kent	
Appr. Rea	ach Length (m):		Lot & Concession:	ABS 00.0011
Survey D	Date: Sep. 21	110	Weather Conditions:	
Time Sta	rted: 13.15		Wind: Cloud Cover (%): 7	
Time Fini	ished: 13:26	0.1990000001000010000100001000	Precipitation: Mone	400-141411
AD.IACE				
Valley	Slope:	Gentle (< 5°)	Moderate $(5 - 15^\circ)$ Steep (> $15^\circ$ )	-
	Extent of Natural	Vegetation (m)	0-10 10 to 20 + 12 20 to 30 30+	
	Vegetation Type:	Tree Mines		
	vegetation type.	Church Sur	9	
		CANCED - SUN	Jack	
Rinarian	Elood Plain - exte	ent of frequent flood (n	(10, 10) 10 to 20 20 to 30 30+	
Zone	Vegetation Type:	He to coous	- Gralalua Dad	
	vegetation type.	THE BUCCEULS	- Groldfen kum.	
	Vegetation Densi	ity (AMI)		
Canopy	Type: Hay ba	CONISTROO	Shruck Quality and % shade: Poar 15%	
Land	Agricult	dive, in		
Use	Tigricult			
Other	(groundwater, s	oils, pools, vegetatio	on. etc.)	
Notes	(3	, p ,		
CHANNE		(		
Channel	Width (range (m)):	5-1m	Gradient (H/M/L))	
Bank Hei	ight (range (m)):	3m High I	vater (2) 1.5m Meander/Straight:	
Bank Slo	pe (dearees from s	surface of water):	Bank Stability:	
Bank Veo	etation Type:		Bank Veg. Density (A/M/L):	
Clav	LOUDSTRATE /	Gravel	Boulder: Muck:	
	/	Babble:	Bedrock: Detritue: /	an tam
Sond:		Cobble:	Marl: Other	(
INSTRE/				
INSTREE		COVER	1/	
Pools:			Banks: Boulder/Rock:	
Riffles:	$\checkmark$	Woody De	bris: V Cobble: V	
Backwate	er:	Vegetation	n: Other:	
INSTREA	AM VEGETATION			
Type (su	bmerg./emerg./flo	pating) Family/Ge	enus/species Description/Abundance	
N	lone			
CODES:		SWI Surface Water	Input SCS Stream Cross Section	
AHP Aqua	atic Habitat Point	GWI Groundwater Ir	DOX Dissolved Oxygen Stn	
AHY Aqua	atic Habitat Area	CKC Creek Crossing	y VSS Visual Survey Stn	
TMP Tem	p Monitor Stn	WEL Well	WQS Water Quality Stn	
#### Page 2 of 2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/P	ool/Riffle/Run/Notes
1	1.02	6,7,9,9,5	Pool	(Sout, CI/S)
2		, , , ,	,	/
3				
4				
5	1			

# WATER QUALITY

Water Temp. (°C): 7°C	D.O. (ppm):	pH:	Visible Char	acteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Very	Slow How
Time Taken: 13:20	Conductivity (us/o	cm):		Soush
Location Taken: Roadside/Poo				

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
N N N N N N N
Sumary Star north
1 ( 102) FT PRE GUART
Fride Contract Prost
HAR A Giolder Bland Schule Goden D
Kod
the tags
Sinclaur Line
S S Cement bags
- culvert
HONORIOM OF MOIDON
15 DAG
$( \circ \lor \Theta 8 6 $
133. 560
( 20 ° Sto )
C227 20 1 20 2 20 1
1244762
$G(V \rightarrow V)$

# **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
-#-	1 - north (4/5)		
t	2 - South (dist		

# GENERAL COMMENTS

* water striders & frogs seen



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	Г (Number & Name): \ \84 Sc	outh Kent	ni kan h litem ni her ya anti ma analisi patricia a mali a shi yara
<b>Field Staf</b>	F:S. Murray		
Station:	WS		Site Location:
Waterbod	y:		GPS Datum: NAD 83 Easting:
Drainage	System:		Zone: 7 T Northing:
Location in	n System:		Municipality: Chothan / Kent
Appr. Rea	ich Length (m):		Lot & Concession:
Survey D	ate: 500.2110	Weather Conditions	
Time Star	ted: 13:57	Wind: 2	Cloud Cover (%): O / »
Time Finis	shed: 14:15	Precipitation: Mon	2
ADJACEN	NT LANDS		
Valley	Slope: Gentle (< 5°) Extent of Natural Vegetation (m) Vegetation Type: (srass	Moderate (5 - 15°) 10 - 0-10 10 to 20 41 x col (north	Steep (> 15°) 20 to 30 30+ Side)
Riparian Zone	Flood Plain - extent of frequent floo Vegetation Type: Grass Herbaceou Vegetation Density (HML):	od (m): (0-10) is - Giolden P	10 to 20 20 to 30 30+
Canopy	Type: wee Herbaceous	WatercressQuality a	ind % shade: Yoor 20 %
Land Use	Agriculture / Re	sidential_	
Other Notes	(groundwater, soils, pools, vege	tation, etc.)	
CHANNE			

Channel Width (range (m)):	.5m			Gradient (H/M/L):	
Bank Height (range (m)):	3m 1	righ water	- @ 1.5m	Meander/Straight:	
Bank Slope (degrees from	surface of wa	iter). 35		Bank Stability: Groco	
Bank Vegetation Type: Hey	tha Coolis	Golden Rool	) Grass	Bank Veg. Density (H/M/L):	
CHANNEL SUBSTRATE %	/ 0	Vetrelus	red /		
Clay:	Gravel:		Boulder: ✓	Muck:	
Silt: V	Pebble:	/	Bedrock:	Detritus:	
Sand:	Cobble: 🗸		Marl:	Other:	
INSTREAM HABITAT AND	COVER		1		
Pools:	L	Indercut Banks: 🗸		Boulder/Rock:	
Riffles:	V	Voody Debris:	and a second	Cobble:	
Backwater:	V	/egetation: V ( W	atercress)	Other:	
INSTREAM VEGETATION					
Type (submerg./emerg./fl	oating) F	amily/Genus/specie	es	Description/Abundance	
		Watercress		abundant on Sauthside not seen on nerthside	
CODES:	SWI Surfa	ce Water Input	SCS Stream Cross	s Section	
AHP Aquatic Habitat Point	GWI Grou	ndwater Input	DOX Dissolved Ox	ygen Stn	
AHY Aquatic Habitat Area CKC Creek Crossing VSS Visual Surve			VSS Visual Survey	ey Sin	
FLW Flow Monitor Stn		>rt	www.s water Quain		
	OOL OUN				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.56	2,45,63	North side Standing
2		, , ,	water 1
3			(riffle area it flow)
4			(turbid)
5			

#### WATER QUALITY

Water Temp. (°C): 7°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): ころく	D.O. (%):	TDS (ppm):	standing water
Time Taken: 14,05	Conductivity (µs/c	xm):	(LOLL)
Location Taken: Roads do /In S	Iceani		Graves a )

# SITE DRAWING

Include: watercourse and name, f channel modifications, adjacent la	ow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, nduse, roads & road names, bridges, culverts, north arrow, etc
Corn	IN Givass woder
	Jenelwood & Starott
	Bourder Press
News	Scottland Ling
	Sabien Baskets
pois	uspen (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)

#### PHOTOS TAKEN

Photo #	Description		Ph	oto #	Description		
#	1 - north						
+ +	=2 - South						
- n n +0+6+	anna - Andrea Sanna	990 W.C. 7		e de la comis	1913-1	na wata ana	and a statistic strength and the statistic strength of the statistic strength of the strength
and the second second				11 TITL			

# GENERAL COMMENTS

Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * worker oness only abund ant on South Side (furthine is to be to the north)



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

	9					Page 1 of 2	
PROJEC	T (Number & Nan	1e): 1184 So	wh ken	+			
Field Stat	ff: S. Mury	ay					
Station:	86	1 140 (1222)		Site Loc	Site Location:		
Waterbod	iy:			GPS Dat	tum NAD 83 Easti	ng:	
Drainage	System: Flook	and Hirrton .	Zone: (-	7 T Northi	ng:		
Location i	in System:		Municipa	ality. Chathan	Kent		
Appr. Rea	ach Length (m):			Lot & Co	incession:	./	
Survey D	ate: Sep. 21	110	Weather Cond	itions:		2.1	
Time Star	rted: / 6:14		Wind: " Z	10 1	Cloud Cover (%):	O $v$	
Time Finis	shed: Ila : 8		Precipitation:	None			
ADJACE	NT LANDS			-0 - (	4 5 9		
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 1	5°) Steep (>	15°)	· · · · · · · · · · · · · · · · · · ·	
	Extent of Natural	Vegetation (m)	0-10 10	to 20 - 10	20 to 30 30+		
	Vegetation Type:	Her-baceous	(Golden	Kod)	and the second sec		
0		Orass					
Disselar			(	10 to 20	20 to 20	20+	
Riparian	Flood Plain - exte		(m):	10 10 10 20	2010-30	30+	
20116	vegetation Type.	Shrup Lu	MOUD -		Y		
	Vegetation Dens	TKIDACOU	es l'areia	24	/		
Canopy	Type	Hotha Coous	Stunse QI	ality and % sha	de: - 2007 ~ 3	04	
Land	Darcu L	TRACEDI	doocia	2		V 10	
Use	- Herent	ALC PRES		~			
Other	(groundwater, s	oils, pools, vegetat	tion, etc.)				
Notes							
CHANNE	L MORPHOLOGY	1				-	
Channel V	Width (range (m)):	.5-1m			Gradient (H/M/L):	1919 - MARY - MARY - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 - 441 -	
Bank Heig	ght (range (m)):	sm high	water	a Zosns	Meander/Straight:		
Bank Slop	be (degrees from s	surface of water):	155	ent col	Bank Stability:	1000/	
Bank Veg	etation Type: Sh	rub (willow)+	erta cocus (	Golden Ked	Bank Veg. Density (I	H/M/L):	
CHANNE	L SUBSTRATE %	~ ()	rrass				
Clay: V		Gravel: V	Bo	oulder:	Muck:	· · · · · · / · · · · · · · ·	
Silt:	/	Pebble:	Be	drock:	Detritus	5. /	
Sand: V		Cobble: V	Ma	arl:	Other:		
INSTREA	M HABITAT AND	COVER					
Pools: 🗸		Undercu	t Banks: 🗸		Boulder/Rock:	0 (10 mm) - 20 (10 mil 20 mm) (4+) - 4-(4+)	
Riffles:	/	Woody E	Debris: 🗸		Cobble:		
Backwate	r:	Vegetatio	on:		Other:		
INSTREA	M VEGETATION						
Type (sul	bmerg./emerg./flo	pating) Family/C	Senus/species		Description/Abund	ance	
A	lon Q						
a manufacture of the	3011. ()~					w(	
CODES:		SWI Surface Wate	er Input SC	S Stream Cross	Section		
AHP Aqua	tic Habitat Point	GWI Groundwater	Input DC	DX Dissolved Oxy	/gen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossi	ng VS	S Visual Survey	Visual Survey Stn		
TMP Temp	p Monitor Stn	WEL Well	W	us water Quality	y stri		
FLVV FIOW	wonitor Str	COL CUIVER					

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
<b>1</b>			Dry
2 3 4 5			(Standing Fool)
WATER QUALITY	1		
Water Temp. (°C)	./	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 🗐	20°C	D.O. (%): TDS (ppm):	Standing Pool
Time Taken: 16	125	Conductivity (µs/cm):	(a) (II DVPV+
Location Taken:	houdside.	/	
SITE DRAWING			
Include: watercou	irse and name, flow o	direction, riffle/pool/run habitat, side tribu	itaries, station location, approx. reach length,
channel modificati	ons, adjacent landus	e, roads & road names, bridges, culvert	s, north arrow, etc
Reside	servel and	Agent Standing ar	charlen Bod
	81	n dine	
	100	L'amont Culvert	
540000	has	portupping is () t ssmill	Scolice - 2/10 61:35

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
Ŧ	though	4	
Martin Martin		the set of	
	the second second proceeding of the second sec		and an and a second
na na 13	A series the straight of him matches a single b		and a second state of the

#### **GENERAL COMMENTS**

* Mussel shells observed. * raccoon tracks seen * Oreen frogs seen.



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

	9			Page 1 of 2
PROJEC Field Sta	T (Number & Nam ff: S. Mussic	ne): 1184 Sout	th Kent	
Station:	C(0	~		Site Location:
Waterboo	dy:			GPS Datum: NAD 83 Easting:
Drainage	System:	Torain	Zone: 17 Northing:	
Location i	in System:		and the second se	Municipality: Chatham 1 Kent
Appr. Rea	ach Length (m):	ananya ali shi lalarin kuma se se su se tami	***** = (** >	Lot & Concession:
Survey D	ate: Sm.21	10	Weather Conditions	:
Time Star	rted: 16:40	0.0.36.05.00.00.00.00.00.00.00.00.00.00.00.00.	Wind: 7	Cloud Cover (%): 0 6/0
Time Fini	shed: 16', 52	ann an	Precipitation: Non	le
ADJACE				
Valley	Slope:	(Gentle (< 5°))	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 10 to 20	)- /6 20 to 30 30+
	Vegetation Type:	Herbacias	( (roldon P	
		Grass	0-100-1-12	, g - )
	-	Tree - Mi	xee on	
Riparian	Flood Plain - exte	ent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Herbaclou	5 ( conden y	Rod, Vewelineed.)
		Jupha ,	GIRASS, SH	grub
	Vegetation Densi	ty (AML):		
Canopy	Type Shrub,	ree Typha +	furtraceous Quality a	and % shade: Excellent 75 %
Land Use	Agricultur	d/ Resi	dential_	
Other Notes	(groundwater, s	oils, pools, vegetat	tion, etc.)	
CHANNE		,		
Channel \	Width (range (m)):	,5-1,5m		Gradient (H/M/L)
Bank Heig	ght (range (m)):   ८	m high	water (a)	2,5 Meander/Straight:
Bank Slop	pe (degrees from s	urface of water)	35	Bank Stability: Good
Bank Veg	etation Type: Ast	paceous (moldin	(Rod Veny Jurged)	Bank Veg. Density ((H/M/L):
CHANNE	L SUBSTRATE %			
Clay:	1	Gravel:	Boulder:	Muck:
Silt: V	/	Pebble:	Bedrock	:: Detritus: V
Sand: 🗸		Cobble: 🗸	Mari:	Other:
INSTREA	M HABITAT AND	COVER		
Pools:		Undercu	t Banks: 🗸	Boulder/Rock:
Riffles:		Woody E	Debris:	Cobble:
Backwate	er:	Vegetatio	on: Turker	Other:
INSTREA	M VEGETATION	$\bigcirc$		
Type (su	bmerg/emerg./flo	oating) Family/C	Genus/species	Description/Abundance
		duc	Pha Kweec	-both present not very abundant
CODES:		SWI Surface Wate	er Input SCS Stre	eam Cross Section
AHP Aqua	atic Habitat Point	GWI Groundwater	Input DOX Dis	ssolved Oxygen Stn
AHY Aqua	atic Habitat Area	CKC Creek Crossi	ng VSS Vis	ual Survey Stn
TMP Tem	p Monitor Stn	WEL Well	WQS W	ater Quality Stn
FLW Flow	vivionitor Stn	CUL Culvert		

FLOW CONDITIC	NS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Small shallow
2	in and succession in the second	a second gray and a second	Pool under culvert
3	MANNESS - SAME	A CONTRACTOR OF A CONTRACTOR O	1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1
<b>4</b>			
5			
WATER QUALITY			Visible Characteristics/Other Decomptors:
Water Temp. (°C)		D.O. (ppm): pH:	Small Sha Lu(L)
Air Temp. (°C):	50°C	D.O. (%): 1-DS (ppm):	Part inder and ind
Location Taken	- deid 1	Colluctivity (ps/cm).	in another curvert
	Course (ML		1
Include: watercou	irse and name, flow	direction, riffle/pool/run habitat, side tribut	aries, station location, approx. reach length,
channel modificati	ons, adjacent landus	e, roads & road names, bridges, culverts	, north arrow, etc
field		Contraction of the states	Anis Field
	Sth	Line	
J.M 1		Pod man and the policy of the	rock i v

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
-1	=1 - north		
1	2 - South		
41	and an in the second se	in a - commente de servici internet-	

# **GENERAL COMMENTS**

* raccoon tracks observed * frogs observed (green)



Resource Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Dogo 1 of 2

				Page 1 of 2	
PROJEC	T (Number & Name):	84 South Ken	+	and the second of the second	
Field Sta	ff: So Hurray				
Station:	FG I		00-00-17/111111111	Site Location:	
Waterboo	ly:			GPS Datum: NAD 83 Easting:	
Drainage	System: Ovange St	AR Drain (Most 1	Nestern	Zone: 7 Northing:	
Location i	in System:		د. منه به المستقدر	Municipality: (hatham / Kent	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	ate: Sep. 2210	Weather	Conditions	and a superior of all the second and a second and a second s	
Time Star	rted: 7:55	Wind: 🔿	4(200)4(2(20)=1)1(2(2)+000	Cloud Cover (%): 100%	
Time Fini:	shed:8125	Precipitat	ion: hight	- Kain	
ADJACE	NT LANDS	~	Q		
Valley	Slope: Gen	tle (< 5°) Moderate	(5 - 15°)	Steep (> 15°)	
	Extent of Natural Vegeta	ation (m) 0-10	10 to 20	25 - (20 to 30) 30+	
	Vegetation Type: Tr.	ee-prixed		$\sim$	
	Giv	(55			
	tle	Harpous - Gioldo	in Rod		
Riparian	Flood Plain - extent of fr	equent flood (m):	0-10	10 to 20 20 to 30 30+	
Zone	Vegetation Type: Grass, Herbaceous (Golden Rod)				
	Shru	Blumack, Willow	. <u> </u>		
	Vegetation Density (HM	L):	0		
Canopy	Type:		Quality a	nd % shade:	
Land Use	Hgriculture ]	Kesdential			
Other	(groundwater, soils, p	ools, vegetation, etc.)			
Notes					
			_		
CHANNE	L MORPHOLOGY				
Channel \	Width (range (m)): 4. 5	r Y )		Gradient (H/M/L):	
Bank Heig	ght (range (m)): Sm	high water	(a) 21	Meander/Straight:	
Bank Slop	pe (degrees from surface	of water):		Bank Stability: 🕐ဝတ္တါ	
Bank Veg	etation Type:			Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %	/			
Clay:	Grav	vel: / /	Boulder:	Muck:	
Silt: V	Peb	ble: V	Bedrock	: Detritus:	
Sand: V	Cob	ble: 🗸	Marl:	Other:	
INSTREA	M HABITAT AND COVE	R	7		
Pools:		Undercut Banks:	/	Boulder/Rock:	
Riffles:	14 = = = = = = = = = = = = = = = = =	Woody Debris:		Cobble:	
Backwate	PT	Vegetation:		Other:	

#### INSTREAM VEGETATION

Type (submerg./emerg./fl	oating) Fan	nily/Genus/species	Description/Abundance
None			
		China and the second	and the second s
			in a subsect to whether a set of the set of
CODES:	SWI Surface	Water Input SCS Stream	Cross Section
CODES: AHP Aquatic Habitat Point	SWI Surface GWI Groundy	Water InputSCS Streamwater InputDOX Dissolve	Cross Section ad Oxygen Stn
CODES: AHP Aquatic Habitat Point AHY Aquatic Habitat Area	SWI Surface GWI Ground CKC Creek C	Water InputSCS Streamwater InputDOX DissolveCrossingVSS Visual S	Cross Section ad Oxygen Stn urvey Stn
CODES: AHP Aquatic Habitat Point AHY Aquatic Habitat Area TMP Temp Monitor Stn	SWI Surface GWI Groundv CKC Creek C WEL Well	Water InputSCS Streamwater InputDOX DissolveCrossingVSS Visual SWQS Water 0	Cross Section ad Oxygen Stn urvey Stn Quality Stn

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	4.14	2,45,7,2	Pool South side
2			A REAL PROPERTY OF A REAL PROPERTY AND A REAL PROPERTY OF A REAL PROPERTY AND A REAL P
3			The second
	da ana ana ang ang ang ang ang ang ang an	the second s	and set at the set of
11-1010 HONOR 20045-0321-034			
5			

Page 2 of 2

#### WATER QUALITY

Water Temp. (°C): /5*C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 16°C	D.O. (%):	TDS (ppm	) Standing Warthr
Time Taken: 8:11	Conductivity (µs/c	;m):	(might be trom)
Location Taken: RoadSide / In	Stream		(night's rain)

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... Standung water Pollard Line Standung Standu

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-#1	- North		
#2	- south	+ )) -= - 4.0 - 4 4 4 4 4 4 4	ne simultimi mura e e conset conset de conset e in entre di consetta de anti-
			and summing a set of the second set of a set of the second
1			(+1) M = (+1) (+1) (+1) (+1) (+1) (+1) (+1) (+1)

### **GENERAL COMMENTS**

* water striders seen



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

			Page 1 of 2
PROJEC	T (Number & Name): 1184 S	south Kent	1
<b>Field Sta</b>	ff: S. Murray		
Station:	H-Ce	Site Location:	
Waterboo	ly;		GPS Datum: NHD 83 Easting:
Drainage	System: Orange SAR Drain	(Most Western)	Zone: J T Northing:
Location i	n System: 0		Municipality: Chatham / Kent
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: Sep 22 10	Weather Conditions:	
Time Star	ted: 9:05	Wind: 🔿	Cloud Cover (%): 100%
Time Fini	shed?15	Precipitation: Heavy	Rain
ADJACE	NT LANDS	5	
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation (m)	0-10 10 to 20	-1 5 20 to 30 30+
	Vegetation Type:	ixed	
	Orass		
	Shrub.		
Riparian	Flood Plain - extent of frequent flo	od (m): 0-10	10 to 20 20 to 30 30+
Zone	Vegetation Type: Grass		
	. Herbaceou	5 (Golden Roc	()
	Vegetation Density (HML):		
Canopy	Type: Tree, Shrub	Quality an	nd % shade: Excellent 80%
Land	Hariculture / Besic	lentral	
Use	0		
Other	(groundwater, soils, pools, vege	etation, etc.)	
Notes			
	ī		
CHANNE	L MORPHOLOGY		• · · · · · · · · · · · · · · · · · · ·
Channel \	Nidth (range (m)): 3m		Gradient (H/M/L):
Bank Heig	pht (range (m)): 4m high	water (a) 3m	Meander/Straight:
Bank Slop	be (degrees from surface of water):	155 15 14 0	Bank Stability: (50.00)
Bank Veg	etation Type: (Arass, Herba	Ceaus (grolden Koc	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %		
Clay: V	Gravel:	Boulder	Muck:
Silt: V	Pebble:	Bedrock:	Detritus:

Silt: 🗸 Pebble: Bedrock: Other: Sand: \ Cobble: 1 Marl: INSTREAM HABITAT AND COVER Undercut Banks: 4 Boulder/Rock: Pools: Riffles: Cobble: Woody Debris: 1 Other: Backwater: Vegetation: **INSTREAM VEGETATION Description/Abundance** Type (submerg./emerg./floating) Family/Genus/species None.

CODES: SCS Stream Cross Section SWI Surface Water Input DOX Dissolved Oxygen Stn AHP Aquatic Habitat Point **GWI** Groundwater Input VSS Visual Survey Stn AHY Aquatic Habitat Area CKC Creek Crossing TMP Temp Monitor Stn WEL Well WQS Water Quality Stn CUL Culvert FLW Flow Monitor Stn

# FLOW CONDITIONS Page 2 of 2 **Cross-Section** Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 7,10,14,19,8 Pool (north side) 1 3.06 2 3 4 5 WATER QUALITY Water Temp. (°C): 15°C Visible Characteristics/Other Parameters: D.O. (ppm): pH: Standing turbid Air Temp. (°C): ۱۹۴۷ TDS (ppm): D.O. (%): Time Taken: 9:0 Conductivity (µs/em): Location Taken: Rock de IIn Stream SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow; etc... / Standing / Water ((Hurbid)) Middle Line witer

# PHOTOS TAKEN

Photo #	Description		Photo #	Description	
	\$1-north			101-101000-01 IC-10-10	
	#2-Jough	Della marganitati prantesa (12	-		
	()			(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
daria Ale			in magnitude and the	······	

### **GENERAL COMMENTS**

* SAR Yellow Channel.

* no fanna seen possibly due to rain.



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

		,		Page 1 of 2			
PROJEC	T (Number & Name):	1184 South	n Kent	e e a manera e a manera manera manera ana e e e e			
Field Sta	#: D. Murray		- 10 + 10 - 1	Cite Leasting			
Station:	L-Commencer			Site Location:			
Waterboo	ly:			GPS Datum: NAD 83 Easting:			
Drainage	System:			Zone. // Norming.			
Location	n System:	anna ann an a		winnicipality. Chorthourn / Kent			
Appr. Rea	ach Length (m):	14/					
Survey D	ate: 200.2210	<b>W</b>	eather Conditions				
Time Star	ted: 9:27	VVI	ind: ()				
Time Fini	shed:9:34	Pre	ecipitation: wgha	FRAN			
ADJACE	NT LANDS		U				
Valley	Slope: Ge	ntle (< 5°) Mo	oderate (5 - 15°)	Steep (> 15°)			
	Extent of Natural Vege	tation (m)	0-10) 10 to 20	20 to 30 30+			
	Vegetation Type: Gir	Vegetation Type: Grass					
	He	rtaceous -	Golden F	300			
Riparian	Flood Plain - extent of	frequent flood (m):	(0-10)	10 to 20 20 to 30 30+			
Zone	Vegetation Type: Gr	ass		1			
	tte	Haceais - G	olden Kcc	·			
	Vegetation Density (HI	VL):		IN I I TOWN A LAND			
Canopy	Type: tert aceous	y Orrass	Quality a	nd % shade: 000 - 10%			
Land	Handure	×					
Use	. V						
Other	(groundwater, soils,	pools, vegetation,	etc.)				
Notes							
CHANNE	L MORPHOLOGY						
Channel \	Nidth (range (m)):		Hallow State State	Gradient (H/M/L):			
Bank Heig	ght (range (m)): 3m	high wate	er @ 2w	Meander/Straight			
Bank Slop	be (degrees from surfac	e of water): 135	Sala a secolo secolo se se	Bank Stability: Glood			
Bank Veg	etation Type: Herbac	eous/molder	Rod) Grai	S S Bank Veg. Density (H/M/L):			
CHANNE	L SUBSTRATE %			2			
2	-		8 11	Musla			

Clay:	Gravel:	Boulder:	Muck:	
Silt.	Pebble:	Bedrock:	Detritus:	
Sand: Cobble:		Marl:	Other:	
INSTREAM HABITAT AND	) COVER			
Pools:	Undercut Banks:		Boulder/Rock:	
Riffles:	Woody Debris: レ	/	Cobble:	
Backwater: Vegetation:			Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./fl	oating) Family/Genus/spe	cies	Description/Abundance	
None.				
1 101.000				
			a la factoria de la companya de la compa	
CODES:	SWI Surface Water Input	SCS Stream C	cross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved	d Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Su	rvey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Q	uality Stn	
FLW Flow Monitor Stn	CUL Culvert			

FLOW CONDITION	ONS		Page 2 of
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	· · · · · · · · · · · · · · · · · · ·		
2			DRY
алын алын алын алын алын алын алын алын		and a second provide the second se	
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/c	:m):	DRY
Location Taken:			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Sayboans Gruss Governa Gruss Groben Corn Governa Governa Groben Corn
Oak Road
(ind moder)) - only sim wide it that
PHOTOS TAKEN

Photo #	Description	Pho	to # D	escription
	#1-south las			
	FZ- north west	-	11	
1411-8				

### **GENERAL COMMENTS**

* Yellow SAR Channel



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

Page 1 of 2

PROJECT	(Number & Name	1: 1184 Se	with Kent		and the second second			
Field Staf	F: S. Herrae	1						
Station:	16	1			Site Location:			
Waterbody	λ:	x	A		GPS Date	um: NAD 8	3 Easting:	
Drainage S	System:			www.	Zone:	7. T	Northing	
Location ir	n System:	1102 (2151)			Municipality: Chatham / Kent			
Appr. Rea	ch Length (m):				Lot & Cor	ncession:		-
Survey Da	ate: Sep 2210	)	Weather Co	onditions				
Time Start	ted: 9:39		Wind: ()			Cloud Cove	r (%): /00	) %
Time Finis	hed: 9:45		Precipitation	n: light	vain			
ADJACEN	IT LANDS			()				
Valley	Slope: (	Gentle (< 5°)	Moderate (	5 - 15°)	Steep (>	15°)		
	Extent of Natural V	egetation (m)	8-(0-10)	10 to 20		20 to 30	30+	
	Vegetation Type: /	grass						
		Hertaleau	S- Csialder	1 Rod				
				<u> </u>				
Riparian	Flood Plain - extent	t of frequent floc	od (m):	0-10	10 to 20	20 t	to 30	30+
Zone	Vegetation Type: (	zrass			1			
	+	tertsa ceau	s- Golder	1 400	7			
Canan	vegetation Density			Ouglity	nd % choo	to: Davis	5.1	
	Type: Hertor OC	DUS. (JIrass		Quality a		JE. 1001	⇒ °/.	
Use	Hgricultu	<u>(K</u>						
Other	(groundwater, soi	ils, pools, vege	tation, etc.)					
Notes								
	MORPHOLOOY							
Channel	Vidth (range (m)):	50				Gradient (H	/M/L ³	
Bank Hoin		IY) hish	man	) 100		Meander/St	raight	
Bank Slop	e (degrees from su	rface of water)	125			Bank Stabil	ity:	ad
Bank Vege	station Type: Herd	acaovis (	Trass			Bank Veg.	Density (H/A	И/L):
CHANNEL	CURSTOATE 0/	men j	21433					. ka
Clay	JUDJIKAIE %	Gravel		Boulder			Muck	/
Silt:	- nome-weight	Dehhle [.]	n	Bedrock	- 11 - T.I.		Detritus	There and the sub-state is and
Sand	en e	Cohble:	ar 44(10)(4)	Marl [.]			Other:	
INSTREAM	M HABITAT AND C	OVER		2				
Poole		Under	out Banke			Boulder/Ro	ck:	
Pifflee		\Mood			20 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 1	Cobble ⁻		arian managementarian di se
Backwater	11.74(14120-22/2010)2000 (20000-22-	Veret	tion:	<pre>II (10-0-1) = 100 (</pre>	(e)(c) ) +	Other:	1440 - 11	
INSTREAM		veget						
Type (sub	merg./emerg./float	ting) Family	//Genus/species	5		Descriptio	n/Abundan	ce
Mon	1.							
Mon		911111	an a		••••••••••••••••••••••••••••••••••••••	an and the reserve chart in the set		
Austral III III III	and a second sec							
	1					1 (		
CODES		SWI Surface Wa	ater Input	SCS Stre	am Cross	Section		
AHP Aquat	ic Habitat Point	GWI Groundwat	er Input	DOX Dise	solved Oxy	gen Stn		
AHY Aquat	ic Habitat Area	CKC Creek Cros	ssing	VSS Visu	al Survey	Stn		
TMP Temp	Monitor Stn	WEL Well		WQS Wa	ater Quality	Stn		
FLW Flow	Monitor Stn	CUL Culvert						

# Page 2 of 2 Page 2 of 2 Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 1 2 3 3 4 5 4 4

# WATER QUALITY

Water Temp. (°C):	V D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 20°C	D.O. (%):	TDS (ppm):	DVII
Time Taken: 9:41	Conductivity (µs/cm):		
Location Taken: Roadside			1

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Photo # Description H - north east H 2 - South west

# **GENERAL COMMENTS**

* SAR YELLOW Channel



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nan	ne): 1184 Sout	th Kent	and the second	
Field Stat	ff: S. Murra	y			
Station:	K6			Site Location:	
Waterbody:			GPS Datum: NAD 83 Easting:		
Drainage	System: Or ange	- SHR Drain ()	uost Western)	Zone: 7 Northing:	
Location i	n System: 0			Municipality: Chodhorn / Kent	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	ate: Sep. 22	d. man ma train and water and	Weather Conditions	needen maar ander ander ander ander ander ander and an ender a second	
Time Star	ted: 9,58		Wind: Ø		
Time Finis	shed: 10:15		Precipitation: 1916	t pain	
ADJACE	NT LANDS		U		
Valley	Slope:	(Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natural	Vegetation (m)	0-10 (10 to 20	)-20 20 to 30 30+	
	Vegetation Type:	Tree-Myee	4		
		Girass			
		Herbaceous	5- Brolden Roo		
Riparian	Flood Plain - exte	ent of frequent flood (r	n): (0-10)	10 to 20 20 to 30 30+	
Zone	Vegetation Type:	GLIASS,			
		Herbaceous	s- Grolden R		
	Vegetation Dens	ity (HML):			
Canopy	Type: Herbac	eaus, Tree	Quality a	and % shade: $P_{COV} = 2.0 \sqrt{6}$	
Land	Hariautto	ure			
Other	(groundwater, s	oils, pools, vegetati	on, etc.)		
Notes					
CHANNE	L MORPHOLOG	1			
Channel V	Nidth (range (m)):	2.5		Gradient (H/M/L)	
Bank Heig	ght (range (m)): 🗇	z.sin high	water (a)	2 Meander/Straight	
Bank Slop	e (degrees from s	surface of water): 0 1	R5	Bank Stability: 6700	
Bank Veg	etation Type: He	rhaceous-Grol	den Rod, Gro	Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %	/			
Clay:		Gravel:	Boulder	Muck:	

Silt: Bedrock: Detritus: Pebble: u Sand: 🗸 Other: Cobble: V Marl: **INSTREAM HABITAT AND COVER** Boulder/Rock: Pools: V Undercut Banks: V Cobble: Riffles: Woody Debris: Vegetation: Other: Backwater: INSTREAM VEGETATION Type (submerg./emerg./floating) **Description/Abundance** Family/Genus/species None

00050	OM/I Outforce M/stanlamet	CCC Stream Cross Section
CODES:	SVVI Surface vvater input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

	Page	2	of	2
--	------	---	----	---

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.27	25,46,2	Pool (north Side)
2			
3			
4			
5		samme me sources and a second s	and the second state of the second state and the second descent states and

# WATER QUALITY

Water Temp. (°C): / (_^C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 70°C	D.O. (%):	TDS (ppm):	Slow thow north
Time Taken: 70:05	Conductivity (µs/c	xm):	Sighty Jurbid what
Location Taken: Roads de Im St	tream		Jung to stat aller

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc.



# Photo # Description Photo # Description ++2--Suth (U4S)

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: A north Side of channel is yellow SAR.



Resource Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nan	ne): 1184 C	1. Kont		
Field Sta		1107 DOW	N KCILI		e - (11)
Station:	All. S. Murre	in		Site Location:	
Materbor	WILLION NO	ene subservere server a construction		GPS Datum: N	ADER Easting:
Drainage	System:			Zone: / T	Northina:
Location	in System:	1) - 1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1,1) - (1		Municipality:	hathana likent
Appr. Por	ach Length (m):		* ************************************	Lot & Concessio	n 2
		e	Weather Conditions		
Time Sta	rted: 10:44	Ter (1999) (1997) (1997) (1997) (1997) (1997)	Wind: )	Cloud	Cover (%): 15%
Time Sta	shed: U'No	define de la companya de la company	Precipitation: 1 lat e	enal contractor of the	
	siled. 77. Dep		1 recipitation (100 -		
ADJACE			Madagete (F 4E ⁰ )	$C_{1000} (> 15^{\circ})$	
Valley	Slope:	Gentle (<'5')	Moderate (5 - 15')	Steep (> 15 )	20 20+
	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 3	SU 30+
	Vegetation Type	Heraceous -	Golden Kod		
		Tree-Coda	r & White Pi	n l	
		(strass	(0.40)	40 1- 00	20 to 20 20 t
Riparian	Flood Plain - exte	ent of frequent flood	(m): (0-10)	10 to 20	20 to 30 30+
Zone	Vegetation Type:	Hechaceous	- 670 den 2001		
		grass To	1pha.		
<ul> <li>202500</li> </ul>	Vegetation Dens	ity (HML):	Quality	and 0/ shades	20.01
Canopy	Type: Herbac	POUS, TYPE	Quality a	and % snade.	00Y 50%
Land Use	Agri cultu	ce_/ KesiQU	ent al		
Other	(groundwater, s	oils, pools, vegetat	ion, etc.)		
Notes					
CHANNE	L MORPHOLOG	Y			
Ob an a l				Gradie	ent (H/M/L):

Channel Width (range (m))	: 100		~	Gradient (H/M/L):
Bank Height (range (m)):	2m h	ah worter (	@ 1.5m	Meander/Straight:
Bank Slope (degrees from	surface of v	water): 135		Bank Stability: Groot
Bank Vegetation Type:	rtaceou	S (Golden Rod	Grass	Bank Veg. Density (Ĥ/M/L):
CHANNEL SUBSTRATE %	6			/
Clay:	Gravel:	/	Boulder:	Muck:
Silt:	Pebble:	//	Bedrock:	Detritus:
Sand:	Cobble:		Marl:	Other:
INSTREAM HABITAT AND	COVER		/	
Pools:		Undercut Banks:		Boulder/Rock;
Riffles:	1.1.1 H-1.1 H-1.1	Woody Debris:		Cobble: V
Backwater:		Vegetation:	1 Dha	Other:
INSTREAM VEGETATION			10	
Type (submerg./emerg./fl	oating)	Family/Genus/spe	cies	Description/Abundance
		Tupha		
		1-()	-0 is is	
				A second se
CODES:	SWI Su	rface Water Input	SCS Stream Cro	ss Section
AHP Aquatic Habitat Point	GWI Gr	oundwater Input	DOX Dissolved C	Dxygen Stn
AHY Aquatic Habitat Area	CKC Cr	eek Crossing	VSS Visual Surve	ey Stn
TMP Temp Monitor Stn	WEL W	ell	WQS Water Qua	lity Stn
FLW Flow Monitor Stn	CUL Cu	lvert		

# Page 2 of 2 Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 1 1.09 1.3 5 Posl (north 5.de) 3 4 5 Fosl (north 5.de)

# WATER QUALITY

Water Temp. (°C): 18'C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 22°C	D.O. (%):	TDS (ppm):	standing water mostly
Time Taken:	Conductivity (µs	(cm):	North Quest side, only
Location Taken: Roads de /1n St	u on		Standing Pool (@ autert SESide

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

N CILLISS sidence Sine DiDe Grnick mor

#### PHOTOS TAKEN

			Description	:	Photo #		Description	Photo #
						-	- Northwest	4
							- 6018 h 1.051	
				-				· · · · · · · · · · · · · · · · · · ·
1-112200110144402440			(() () () () () () () () () () () () ()	(1)		++		
2	contractore in a source starting of	li i concencia de cominante	((4))=(((((((((((((((((((((((((((((((((	(*):	-)-(-)))()))()	- Here State of Here Ste		( + )

# **GENERAL COMMENTS**



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	Г (Number & Nam	e): 1184 Sou	A state of the sta			
<b>Field Staf</b>	ff: S. Murra	4				
Station:	T(o			Site Locati	on:	and the state of the second state of the secon
Waterbod	V: UNKNOWY			GPS Datum	1:1AD 83 Easti	ng:
Drainage	System: Lewis	Drain		Zone: 17	Northi	ng:
Location i	n System:			Municipality	Chatagon /	Kent
Appr. Rea	ich Length (m):	144-4445 A 1444 A 1		Lot & Conce	ession:	4.601.61
Survey D	ate: Son. 27'10	)	Weather Conditions	•		
Time Star	ted: 12:39		Wind: 2	CI	oud Cover (%): 🔗	0%
Time Finis	shed: 12:53		Precipitation:			
ADJACEN	Slope:	Contin (< 5°)	Moderate $(5 - 15^{\circ})$	Steen (> 15	°)	
valley	Supe.	Gentle (< 5)	0 10 10 to 20	20	1 to 30 30+	
	Extent of Natural	vegetation (m)	0-10 10 10 20	20	10 00 00.	
	vegetation Type:	Thee, Shad	Dr. Grand	1		
		Herbaceous	- Ordown Koo	2		
			0.10	10 to 20	20 to 20	20+
Riparian	Flood Plain - exte	nt of frequent flood (fr		10 10 20	201030	30+
Zone	Vegetation Type:	Herbaceous -	Groldun Roe	4		
	March March Darrow	<u>Olrass</u>				
0	Vegetation Densit	y (HIVIL).	Quality	nd % shade		
Canopy	Type:		Quality a	nu 70 snaue.		
Land	Mariculture					
Use	U	11 I				
Other	(groundwater, soils, pools, vegetation, etc.)					
Notes						
	I					
CHANNE	L MORPHOLOGY				redient (LL/N/LN)	
Channel V	Width (range (m)):	1.5		G		the second se
Bank Heig	int (range (m)): 2	5 High wa	ler a zivi	IVI	earluer Straight	
Bank Slop	be (degrees from s	urface of water):	5	D	ank Stability.	OOD DM/L
Bank Veg	etation Type: Hex	baceous - (no	den Kool	D	ank veg. Density((	
CHANNE	SUBSTRATE %	1				_/
Clay: 🗸	/	Gravel: V	Boulder:		Muck:	
Silt: 🗸	les	Pebble: //	Bedrock		Detritus	S:
Sand: V		Cobble: 🗸	Mari:		Other:	
INSTREA	M HABITAT AND	COVER	10-10-			
Pools:		Undercut E	Banks:	В	oulder/Rock:	
Riffles	to the second se	Woody De	bris:	С	obble:	- The Jane and the second second second second
Backwate	r:	Vegetation	1. 	C	ther:	
INSTREA						
Type (sub	omera./emera./flo	ating) Family/Ge	nus/species	D	escription/Abund	ance
a and a second	NONE		an (an an a		*****	
	and the second of		non-one is a la ai	19-11-11 II-11 (±-4	a de laterativa de latera	
	121	and a space of the			A	= 1000000000000000000000000000000000000
CODES:		SWI Surface Water	nput SCS Str	eam Cross Se	ction	
AHP Aqua	tic Habitat Point	GWI Groundwater In	put DOX Dis	solved Oxyge	n Stn	
AHY Aqua	tic Habitat Area	CKC Creek Crossing	VSS Vis	ual Survey Str	1	
IMP Temp	Monitor Stn	VVEL VVell	WQS W	ater Quality S	u i	
FLVV FIOW						

Page	2	of	2
	_		_

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.48	6979,14	Pool (sadh sala)
2			······································
3	odina na konstanto da la proprieta nome	a an former and the forme	The second s
4	Contract the last last last last last last		1917 P
5		pana minana sa ng basang sa kata ning sa ang ng m	The second se

#### WATER QUALITY

Water Temp. (°C): 9°	D.O. (ppm):	pH:	Visible Characteristics/Other/Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Tokendung water
Time Taken: 12:45	Conductivity (µs/c	:m):	
Location Taken:			V

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Bland	Coment culvert	
	Finn Rol.	×
ppid	Coment Culvert	blory

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
井	- north west		
in th	2 - South east		
	$\frac{2\pi i}{1} = \frac{1}{1} \left[ \frac{1}{1} + $		and and an end and a second
and the second second	en senseries betreen and an enseries and enseries		

#### **GENERAL COMMENTS**



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

			Page 1 of 2
PROJEC	T (Number & Name): 1184	South Kent	
<b>Field Sta</b>	ff: S. Hurray		
Station:	ИЦ		Site Location:
Waterboo	y: unknown		GPS Datum: NAD 83 Easting:
Drainage	System:		Zone:
Location i	in System:		Municipality: Chatham / Kent
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: Sep 22	Weather Condition	5:
Time Star	ted: / 3' 00	Wind:	Cloud Cover (%): 9'5%
Time Fini	shed: 13: 23	Precipitation: Now	۷
ADJACE	NT LANDS		
Valley	Slope: Gentle (<	5°) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation	(m) 0-10 10 to 20	20 to 30 30+
	Vegetation Type:	Burrak hable	s. Honey Locust.
	Giras	S	
		0	
Riparian	Flood Plain - extent of freque	nt flood (m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type: Corrass	S. Tree (Honoe, Le	aust Maple)
	Hert	acores (Golder	Rool
	Vegetation Density (BML):		
Canopy	Type: Tree, Herbo	ceous Quality	and % shade: Excellent 75%
Land	Agriculture /	Residential	1
Use			
Other	(groundwater, soils, pools,	vegetation, etc.)	
Notes			*

# **CHANNEL MORPHOLOGY**

Channel Width (range (m))	:).5		Gradient (H/M/L):	
Bank Height (range (m)):	3m high wal	er a 2m	Meander/Straight:	
Bank Slope (degrees from	surface of water): 135		Bank Stability: Gross	
Bank Vegetation Type: Her	taceous (Ordden Rod)	Tree Marte theulan	Bank Veg. Density (H/M/L):	
CHANNEL SUBSTRATE %	10 Str Gir	TO.55		
Clay: V	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus: / of s	
Sand:	Cobble: V	Marl:	Other:	
INSTREAM HABITAT AND	) COVER			
Pools: V	Undercut Ban	ks:	Boulder/Rock:	
Riffles:	Woody Debris	s 🗸	Cobble:	
Backwater:	Vegetation:		Other:	9 ann 11 Xann 11
<b>INSTREAM VEGETATION</b>				
Type (submerg./emerg./fl	oating) Family/Genu	s/species	Description/Abundance	
None.				
		Ay 29 (31) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		
CODES:	SWI Surface Water Inpu	ut SCS Stream C	oss Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved	Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Su	vey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Q	uality Stn	
FLW Flow Monitor Stn	CUL Culvert			

FLOW CONDITIC	NS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.42	STUNN	Standing turbid
2	r		water (north with sicle)
3			
4			
5			
WATER QUALITY	(		
Water Temp. (°C)	: 19°C	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 🕤	25°C	D.O. (%): TDS (ppm):	Standing Water (Hurbid)
Time Taken: 🔢 🔄	5:15	Conductivity (µs/cm):	on north Just side, only
Location Taken:	loadside/In stream		source standing walls on SE
SITE DRAWING			0
nclude: watercou	irse and name, flow	direction, riffle/pool/run habitat, side tribu	taries, station location, approx. reach length,
channel modificati	ons, adjacent landus	se, roads & road names, bridges, culverts	s, north arrow, etc
TAA		cenient culvert	Haple Rosidence
	Por	+ Rd	
aine aine	10	cement Calvert	D Guroachos

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
Ŧ	11- north 195t		
14	2 - Sauth east		

# GENERAL COMMENTS

*frogs seen (green)



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	Г (Number & Name	e): 1184 South	Kent	0.0000000000000000000000000000000000000					
Field Staf	ff: S. Murray								
Station:	46				Site Loc	ation:			
Waterbod	y: UNKnow	<u>()</u>			GPS Datum: [V4] 583 Easting:				
Drainage	System:				Zone:	7 1	Nort	thing:	200046000000000000000000000000
Location in	n System:				Municipa	lity: Che	atham	) Ke	sht.
Appr. Rea	ich Length (m):				Lot & Co	ncession	5		
Survey D	ate: Ser 72		Weather Co	nditions:			ana an		
Time Star	ted: 15:02,		Wind: 7	in en		Cloud Co	over (%):	15%	
Time Finis	shed: /5: 27		Precipitation:	None	L				
ADJACEN	NT LANDS	$\langle \rangle$			-				
Valley	Slope: (	Gentle (< 5°)	Moderate (5	- 15°)	Steep (>	15°)			
	Extent of Natural V	Vegetation (m)	0-10	10 to 20	)-14	20 to 30	30+		
	Vegetation Type:	Tree-Mixed							
		Grass							
Riparian	Flood Plain - exter	nt of frequent flood (m	n): ((	0-10 )	10 to 20	2	20 to 30	30-	+
Zone	Vegetation Type:	Grass							
	n m - 27 n	Herbalcous-	Groldon !	200	_				
	Vegetation Densit	y (HML):							
Canopy	Туре:			Quality ar	nd % shad	de:			
Land Use	Kesidersho	& / Agricult	ture						
Other Notes	(groundwater, so	oils, pools, vegetatio	on, etc.)						
Channel	Width (range (m)):	E_				Gradient	(H/M/D)		
Bank Heir	tht (range (m)): / /	En high we	tora	300	ć	Meande	/Straight:	Constant of Constants	
Bank Slor	be (degrees from su	urface of water):	5	<u> </u>		Bank Sta	ability: (a	im	
Bank Veg	etation Type: 200	laco a ist ladan	Red Cara	55		Bank Ve	a. Density	(H/M/L):	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
CHANNE		and the second standing the					<u> </u>	<u>, , , , , , , , , , , , , , , , , , , </u>	
Clavi	L SUDSTRATE %	Crovel:		Boulder			Muck		
		Babble:	0100-00001-00001-0	Bodrock:			Detrit		ē
Sand:		Cobble:		Marl [.]			Othe	r.	
			/				Outer		
						Douldor	Deek		
POOIS:			sanks: V			Cohbler	ROCK.		*****
		Vvoody De	Dris:			Othor:			
Backwate		vegetation				Other.			
INSTREA	W VEGETATION	ating) Eamily/Co				Descrip	tion/Abur	danco	
Type (sur	Smerghemergyno	aung) Fanny/Ge	nus/species			Descrip		luance	
		DWO	all ( Cre ( south s	iole (	anly)				
	ana ana ann ann ann ann an ann	Dalga	e (South	n ornly	)				
CODES:		SWI Surface Water I	nput	SCS Stre	am Cross	Section			
AHP Aqua	tic Habitat Point	GWI Groundwater In	put	DOX Dise	solved Oxy	gen Stn			
AHY Aqua	tic Habitat Area	CKC Creek Crossing		VSS Visual Survey Stn					
FLW Flow	Monitor Stn			vvus vva	uer Quality	301			
I LVV FIUW	Monitor Stri								

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	ly spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.78	1,1,2,3		Standing water a
2			2	northSide
3	0 10 10 10 10 10 10 10 10 10 10 10 10 10	partermenterenter and an every		
4				
5				
WATER QUALITY	Y			
Water Temp. (°C)	: 19°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	2.5° C	D.O. (%):	TDS (ppm):	Colu Standura Lustar @
Time Taken: 15:	20	Conductivity (µs/cm):		Culvert on la stand
Location Taken:	coadisicle / In stream			and the south side
SITE DRAWING	man and many flam		hebitet eide trib	utarias station leastion approx reach length
channel modificat	ions, adjacent landus	direction, nine/pool/run	habitat, side trib	ts north arrow etc
	ions, aujacent landu.	se, roads & road names	S, bridges, daiver	
Roside	once 40	Aho A	THIS	47 Trains
4	10A	10 33	SA A	Pat 1-ield
	- SA	2 60 10 5 3	Grass	W/II
	100 1 (Y	Coment	Culvert	
	$\sim$	)-1 J		
	7	in Liv		
	F1 F1	FLE	HE	JULI 2
52.52	22970 1200	nannan l	55000	200 CON 11 NO 2000
The	and and	COOM Korrib	unot-S	a state out
C A +		50200	102	
- Chy	TOLDS	april 0	25%	NO STERNIN Y
	7199-9	- and a	53%	KERT ESIR '
PHOTOS TAKEN	4			- All and a second seco
	Desertation		Dhate #	Description

Photo #	Description	Photo #	Description
	FI-northwest		
	#2-South wist		
	AZ-Sauth east	l.	

# GENERAL COMMENTS

Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: - Channel Dreaks indo 2 channels on south side - water cress & fillmentous algar only present an south side - raccoon tracks & frogs observed.



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

	9			Page 1 of 2
PROJEC	T (Number & Na	ame): 1184 Sou	th Kent	
Field Sta	ff: S. Murro	alf		
Station:	47	And a state state of the second	Section of the sector sector and the sector sector	Site Location:
Waterboo	y: unkno	wn		GPS Datum: NAD 83 Easting:
Drainage	System: FLOO	K and Him	ton Drain	Zone: / T Northing:
Location i	in System:			Municipality: Chatham / Kent
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	ate: Sep. 2-2	210	Weather Conditions	1
Time Star	rted: 16:09		Wind: \	Cloud Cover (%): / 🔿 🥠
Time Fini	shed: 16:19		Precipitation: Mane	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natur	ral Vegetation (m)	0-10 (10 to 20)	20 to 30 30+
	Vegetation Typ	e: Tree-Mixe	20	
	1	Carass		
Riparian	Flood Plain - ex	xtent of frequent flood	l (m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Typ	e: (grass Her	aceaus - Giola	len Root, Jewelwhol
		Ticle- Mixa	ed	
	Vegetation Der	nsity (AML):		
Canopy	Type: Type	Hert-acceus, 1	Grass Quality a	and % shade: Excellent 75%
Land	Agricult	HIVE / Resid	oncial	
Use	1 Junior			
Other	(groundwater,	, soils, pools, vegeta	ation, etc.)	
Notes				
CHANNE	L MORPHOLO	GY		
Channel \	Width (range (m)	)): = 5 - m	and the second state and	Gradient (H/M/L)
Bank Heig	ght (range (m)):	4m high i	Jater (22.5m	Meander/Straight:
Bank Slop	be (degrees from	n surface of water): /	35	Bank Stability: Crocol
Bank Veg	etation Type: H	erbaceous ( col	Ven Root Hewelwar	GrassBank Veg. Density (H/M/L):
		9/	TR. Mixed	1

**CHANNEL SUBSTRATE %** 

Clay:	Gravel:	Boulder:	Muck:
Silt:	Pebble:	Bedrock:	Detritus:
Sand:	Cobble:	Marl:	Other:

#### **INSTREAM HABITAT AND COVER**

Type (submerg./emerg./floating)	Family/Genus/species	Description/Abundance
INSTREAM VEGETATION		
Backwater:	Vegetation:	Other:
Riffles:	Woody Debris:	Cobble:
Pools:	Undercut Banks:	Boulder/Rock:

Type (submerg./emerg./flo	pating) Family/Genus	/species Description/Abundance
None		
a manual and the statistical data in the second from		
CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

FLOW CONDITIC	NS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Standing Water
2			only po culvert
3		· · · · · · · · · · · · · · · · · · ·	v
<b>4</b>			
5			)
NATER QUALITY	r 		Visible Characteristics/Other Parameters
Air Tomp (°C)	2201	D.O. (ppm): pn. D.O. (%): TDS (ppm):	Chanding Light of
Time Taken:		Conductivity (us/cm):	Star Go g war
Location Taken:	2molsiche.		only a culvert
	10000000		
Include: watercou	urse and name, flow	direction, riffle/pool/run habitat, side tributa	ries, station location, approx. reach length,
channel modificati	ions, adjacent landus	Harding water	north arrow, etc
ON NOW	- 10+h	Emont alvert	and and and a
PHOTOS TAKEN		The second secon	THEFTERE
Photo #	Description	Photo #	Description
#2	Novth WRS South &		
Fish observed, uni	ususal conditions, dif	ferences from previous site visit, landowne	er comments, topography, general land use
and vegetation, etc		all	200.10
	Atrog	s a water straters a	
	de la serie	* raccon tracks (	observed
	* nerov		

er."



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HABITAT **CHARACTERIZATION** 

	9				F	age 1 of 2
PROJEC	T (Number & Nar	me): 1184 Sa	wh Kent			
Field Sta	ff: S. Murro	ref				
Station:	B7			Site Loca	tion:	
Waterbod	ły:			GPS Datu	Im: NADS3 Easting:	
Drainage	System:			Zone:	フーブ Northing:	
Location i	in System:			Municipal	ity: Chatham / Kent	
Appr. Rea	ach Length (m):			Lot & Cor	icession:	AUGUSTER STATES
Survey D	late: Sep. 2.	210	Weather Condit	tions:		
Time Star	rted: 16:25	2. Construction of the second s	Wind:		Cloud Cover (%): 5 %	
Time Finis	shed: 16',45		Precipitation: W	Ione		
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15	o°) Steep (>	15°)	
	Extent of Natura	Vegetation (m)	- (0-10 (10 t	020202 :	20 to 30 30+	
	Vegetation Type	Tree-Mixes	k			
		Givenes		65		
		Herbacea	s (Golden R	(ba		
Riparian	Flood Plain - ext	ent of frequent flood	(m): 0-10	0 10 to 20	20 to 30 30+	
Zone	Vegetation Type	: Hertaceor	S (brokdon T	End		
	and a second	Tree Mi	xed			
	Vegetation Dens	sity (HML):	nse j			
Canopy	Type: Tree	Herbaloous	Swass Tupha Que	ality and % shad	e: Good - 50%	
Land	Agriculti	AV P.		-8-11-		
Use	0					
Other	(groundwater, s	soils, pools, vegeta	tion, etc.)			
Notes		L PT	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 19			
			ŕ			
CHANNE	L MORPHOLOG	Y			2	
Channel V	Width (range (m))	: 5-1m			Gradient (H/M/L)	
Bank Heig	ght (range (m)):   •	5m high	water (a)	2m	Meander/Straight:)	
Bank Slop	pe (degrees from	surface of water):	135		Bank Stability: (1000)	
Bank Veg	jetation Type: Her	baceaus abolds	2n Rod ) Grass	Tree	Bank Veg. Density (H/M/L):	Rooman
CHANNE	L.SUBSTRATE %	//	10 M	2		
Clay: 🦯	7	Gravel:	Bou	ılder:	Muck:	
Silt: 🗸	/	Pebble:	Bed	Irock:	Detritus:	
Sand: V	/	Cobble:	Mar		Other:	111111111111111111111111111111111111111
INSTREA	M HABITAT AND	COVER	1			
Pools:		Underci	It Banks:		Boulder/Rock:	
Riffles:	1 /	Woody /	Debris:		Cobble:	
Backwate		Veqetati	ion'		Other:	10140301337(034401113)
INSTREA	M VEGETATION	<b>~</b>	0.1.		Sale.	
Type (sul	bmerg./emerg./fl	oating) Family/	Genus/species		Description/Abundance	
			- 101		•	
		<i>fffffffffffffffffffffffffffffffffffffffffffff</i>	ypro			999 <del>101</del> 999)))))))))))))))))))
						***********
20058				Otres and Oroson S		
AUD Aqua	tio Habitat Point	GWI Groundwate	er Input 503	Stream Cross o	ection	
AHY Aqua	atic Habitat Area	CKC Creek Cross	ing VSS	Visual Survey S	tn	
TMP Temp	p Monitor Stn	WEL Well	WQ	S Water Quality	Stn	
FLW Flow	Monitor Stn	CUL Culvert				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/P	ool/Riffle/Run/Notes
1	1.73	8,14,12,14,10	Pool	/ cls (north
2			1	
3				
4				
5			(c) problem to the relation relation of the	

#### WATER QUALITY

Water Temp. (°C): /G°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Slow flow north
Time Taken:	Conductivity (µs/e	em):	
Location Taken:			

#### SITE DRAWING

Include: watercourse an	d name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, a	djacent landuse, roads & road names, bridges, culverts, north arrow, etc.,
Field	werden werden in Strend IN worden Field
	11th Line
HARD SOO	THE SSORD IN Wert Portol SGN16

# **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
#1	-north	1	
サ?	-South		

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc. * vaccoon tracks observed * water striders & tabanidae observed.

Page 2 of 2



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HABITAT **CHARACTERIZATION** 

quatic, Terrestrial and Wetland Biologis	luatic,	qu	tic,	Terrestrial	and	Wetland	Biologis
------------------------------------------	---------	----	------	-------------	-----	---------	----------

Page 1 of 2

PROJEC	T (Number & Nam	10):1184 Sout	th Kent	
Field Sta	aff: S. Murva	Y	1.00.0	
Station:	07			Site Location:
Waterboo	dy: unknow	$\infty$		GPS Datum: NAD 83 Easting:
Drainage	e System:		0.010.0003000.0000000000000000000000000	Zone: 17 T Northing:
Location	_ocation in System:			Municipality: Chatham ) Kent
Appr. Re	ach Length (m):			Lot & Concession:
Survey D	Date: Sep.2	3'10	Weather Conditions:	
Time Sta	irted: <u>%</u> 2'0	()+((==================================	Wind: 1	Cloud Cover (%): 0%
Time Fin	ished:8:40		Precipitation: None	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 10 to 20 -	12 20 to 30 30+
	Vegetation Type:	Corrass	$\bigcirc$	X
			1	
			$\bigcirc$	
Riparian	Flood Plain - exte	nt of frequent flood (	m): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type:	GIRASS		\
		Herbacedus	(Judlen Rod	)
	Vegetation Densit	ty (AML):		,
Canopy	Type: Herbace	ous ( Golden Ro	() (JVGSS Quality an	d % shade: Door 5%
Land	Agricult	ture	/	
Use	()	- 197		
Other	(groundwater, so	oils, pools, vegetati	on, etc.)	
Notes				
CHANNE	EL MORPHOLOGY			200
Channel	Width (range (m)):	5-1.5W	1	Gradient (H/M/L):
Bank Hei	ight (range (m)): <	5m high	water (a) 2	, S Meander/Straight: )
Bank Slo	pe (degrees from s	urface of water):		Bank Stability: Coocco
Bank Veg	getation Type:	zacous (Gol	den Rod) Gira	USS Bank Veg. Density (H(M)L):
CHANNE	LSUBSTRATE %	C C		/
Clay:	1	Gravel:	Boulder:	Muck:
Silt: 1/	/ _	Pebble:	Bedrock:	Detritus:
Sand:	/	Cobble:	Marl:	Other:
INSTREA	M HABITAT AND	COVER	1	
Poole: N	/	Undercut	Banks:	Boulder/Bock:
Pifflos		Woody D	balliks. 🛩	Cobble:
Rackwate		Vegetatio	50113. n.	Other:
INSTREA		vegetatio		Other
Typelleu	hmera lemera /flo	ating) Family/G	enus/species	Description/Abundance
Type and	billergarenterg.mo	ating/ I anny/O	citua/apeciea	Besonption/Abandance
		-tiliu	renjous algo	3.
			0	
CODES:		SWI Surface Water	Input SCS Strea	m Cross Section
AHP Aqua	atic Habitat Point	GWI Groundwater I	nput DOX Disso	blved Oxygen Stn
AHY Aqua	atic Habitat Area	CKC Creek Crossin	g VSS Visua	al Survey Stn
FLW/ Flow	wonitor Stri		vvus vvat	
		JOE JUNOIL		K.

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1. Le7	10,16,16,14,9	P001
2			
3			
4			
5			2002 m = 1222 = 222 - 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000

#### WATER QUALITY

Water Temp. (°C): 16*(	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TĐS (ppm):	standing turbid
Time Taken:	Conductivity (µs/c	m):	water
Location Taken:			0

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc.

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
4	+ KG on cell - nor-	th	
-	+19 On all-Sou	th	
	3 I. I.		
	2799.00.00; 00000.620.00000000000000000000000000000		annan annan ann ann ann ann ann an ann an a

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use * bulldozer digging other nearby that connectly. and vegetation, etc.



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name): \\%	4 South Ke	ent		
Field Stat	FF: S. Murvay				
Station:	DT		Site Location:		
Waterbod	y: un Known		GPS Datum: NAD&3 Easting:		
Drainage	System:		Zone:	Northing:	
Location i	n System:		Municip	ality: Charthoum / Kent	
Appr. Rea	ach Length (m):		Lot & Co	oncession:	
Survey D	ate: Sep. 22'10	Weather	Conditions:		
Time Star	ted: 9:20 -	Wind: 2	e	Cloud Cover (%): 0 %	
Time Finis	shed.9:,42	Precipitati	ion: None		
ADJACE	NT LANDS	7			
Valley	Slope: Gentle	e (< 5°) Moderate	(5 - 15°) Steep (3	> 15°)	
	Extent of Natural Vegetati	on (m) 0-10	10 to 20)-Z(	20 to 30 30+	
	Vegetation Type: (mr as	S			
			0		
Riparian	Flood Plain - extent of free	uent flood (m):	(0-10) 10 to 20	) 20 to 30 , 30+	
Zone	Vegetation Type: Colva	ss Tree (	Mixed Her	Daceous - Groldon Roch)	
	Vegetation Density (HML)				
Canopy	Type: Tree. Herto	aclous	Quality and % sha	ade: Grocel STOY.	
Land	Agriculture				
Use	0				
Other	(groundwater, soils, poo	ols, vegetation, etc.)			
Notes					
CHANNE	L MORPHOLOGY	1			
Channel V	Width (range (m)): , 5 -	2m	$\sim \sim$	Gradient (H/M/L))	
Bank Heig	ght (range (m)): 5m	nigh water	@ 2m	Meander/Straight:	
Bank Slop	be (degrees from surface of	f water): 135	$N = \langle 0 \rangle$	Bank Stability: Occol	
Bank Veg	etation Type: Herball	ous (Ordon Re	of) Tree Hixe	A Bank Veg. Density((H/M/L):	
CHANNE	L SUBSTRATE %	/			
Clay: V	Grave		Boulder:	Muck:	
Silt: 🗸	Pebble	e: 🗸	Bedrock:	Detritus:	
Sand: 1	Cobbl	e: 🗸	Marl:	Other:	
INSTREA	M HABITAT AND COVER				
Pools:		Undercut Banks:	/	Boulder/Rock:	
Riffles:	/	Woody Debris:		Cobble:	
Backwate	r: /	Vegetation:		Other:	
INSTREA		X			
Type (sul	bmerg./emerg./floating)	Family/Genus/speci	es	Description/Abundance	
	Alma a			-	
	Varse				
00050	014/1_0	urfage \A/star Inct	SCS Stroom Cross	Section	
AHD Agus	SWI S	Sounace vvater input		voen Stn	
AHY Anua	tic Habitat Area CKC (	Creek Crossing	VSS Visual Survey	/ Stn	
TMP Tem	p Monitor Stn WEL	Vell	WQS Water Qualit	ty Stn	
FLW Flow	Monitor Stn CUL C	Culvert			

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.11	19,22,24,2932	"Pool South side)
2		1	7
3			
4			
5			

# WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 21°C	D.O. (%):	TDS (ppm):	Standing Very turbid
Time Taken: 9:37	Conductivity (µs/c	m):	Water
Location Taken: Poodside /In	stann		V

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... Saybeans Field



# PHOTOS TAKEN

Photo #	Description	Photo #	Description
#1	- Cell-phone # 20 (no	orth)	an a manana an ann an an an an an an an an an
Ħ.	2 - curiphone #21 (Sc	outh)	
	·····		
411-41444444444444444444444444444444444			

# **GENERAL COMMENTS**

* Great Blue Heron Seen. * raccoon tracks observed



Resource Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

					Page 1 of
PROJEC	T (Number & Nam	e):  \84 E	scelth k	Cent	
Field Stat	ff: S. Murva	Y			
Station:	-7			Site	Location:
Waterbody: UNKnown				GPS	Datum: NAD 83 Easting:
Drainage	System:	5a5 (material) provident (6477777) p. 77000000000000		Zone	: 17 T Northing:
Location i	n System:			Muni	cipality: Chatham / Kent
Appr. Rea	ach Length (m):			Lot &	Concession:
Survey D	ate: Sep 23	10	Weather	Conditions:	
Time Star	ted: [07,11		Wind:		Cloud Cover (%): O ^c /J
Time Finis	shed: 101, 33		Precipitat	tion: None	
ADJACE	NT LANDS		- 1-1 -		
Valley	Slope: <	Gentle (< 5°)	> Moderate	e (5 - 15°) Steel	p (> 15°)
	Extent of Natural	Vegetation (m)	0-10	10 to 20)-17	20 to 30 30+
	Vegetation Type:	Tree-Mis	Leo	_	
		Carass			
				0	
Riparian	Flood Plain - exte	nt of frequent floo	od (m):	( 0-10 ) 10 to	20 20 to 30 30+
Zone	Vegetation Type:	Hertaceou	S (Godd	terr Rool	, vale weed
	Vegetation Densit	W (HML):			
Canopy	Type: Type	y (invic).		Quality and %	shade:
Land	Hacial	Live			
Use	A.J. in	une			
Other	(groundwater, se	oils, pools, vege	tation, etc.)		
Notes			8		
CHANNE	L MORPHOLOGY				~
Channel V	Nidth (range (m)):	05-3m	r	<u></u>	Gradient (H/M/L):)
Bank Heig	ght (range (m)): 🦂	5m high	water (	w 3m	Meander/Straight:
Bank Slop	be (degrees from s	urface of water):			Bank Stability: Groool
Bank Veg	etation Type:				Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %	/	/		/
Clay:	1.	Gravel:		Boulder:	Muck:
Silt: 1		Pebble:		Bedrock:	Detritus:
Sand: 1/	/	Cobble:		Marl:	Other:
INSTREA	M HABITAT AND	COVER			
Pools:	1 1	Under	cut Banks	1	Boulder/Rock:
Riffles: Woody De		v Debris:		Cobble: 1	
Backwate	c /	Veget	ation:	Levoness	Other:
INSTREA	M VEGETATION		0 0000		
Type (sul	omerg/lemerg./flo	ating) Famil	y/Genus/speci	ies	Description/Abundance
			NO 0 C	OVPOR	
			une r	01-2-2-2	
		······			
CODES:		SWI Surface W	ater Input	SCS Stream Cr	oss Section
AHP Aqua	tic Habitat Point	GWI Groundwa	ter Input	DOX Dissolved	Oxygen Stn
AHY Aqua	tic Habitat Area	CKC Creek Cro	ssing	VSS Visual Sur	vey Stn
TMP Temp	Monitor Stn	WEL Well		WQS Water Qu	ality Stn
FLVV Flow	Monitor Stn	CUL Culvert			

Page 2 of 2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.97	11,22-,22,16,9	Pool on Charth side)
2			
3			
4			
5	( and a construction of the second seco		

#### WATER QUALITY

Water Temp. (°C): 7°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	flowing north
Time Taken:	Conductivity (µs/c	;m):	(furtable)
Location Taken:			(non bia)

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Roben Rod	J
Candle Line.	

PHOTOS T	AKEN		<i>y</i>	
Photo #	Description	Photo #	Description	
	#1- cell phone #24	+ (hov-1h)		
	the cell phone the	25(Sauth)		
	1			

# GENERAL COMMENTS

* careen drogs observed.



AHP Aquatic Habitat Point

AHY Aquatic Habitat Area

TMP Temp Monitor Stn

FLW Flow Monitor Stn

GWI Groundwater Input

CKC Creek Crossing

WEL Well

CUL Culvert

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name): \\%	H South Kent			
Field Sta	ff: S. Murray				
Station:	#7	S	bite Location:		
Waterbod	ly: why rhown	C	PS Datum: NAD 83 Easting:		
Drainage	System:	Z	Zone: 17 T Northing:		
Location i	n System:	Ν	Aunicipality: Chartham / Kent		
Appr. Rea	ach Length (m):	L	ot & Concession:		
Survey D	ate: Oct. 5/10	Weather Conditions:			
Time Star	ted: 13;30	Wind:	Cloud Cover (%): (DO°/D		
Time Finis	shed: 14:00	Precipitation: 1) ght	rain		
ADJACE	NT LANDS	0			
Valley	Slope: Gentle	(< 5°) Moderate (5 - 15°) S	Steep (> 15°)		
	Extent of Natural Vegetation	on (m) 0-10 10 to 20	20 to 30 30+		
	Vegetation Type: Tres	2-Mixed Shrub-	- Sumack		
	Hert	acous - Golden	Rod		
	Orro	SS O			
Riparian	Flood Plain - extent of freq	uent flood (m): (0-10) 1	0 to 20 20 to 30 30+		
Zone	Vegetation Type: Tree	- Mixed			
	He	Haclous - Grolden K	lad Shrub-Sumack		
	Vegetation Density (HML):		- AD 1		
Canopy	Type: Tree	Quality and	1% shade: Excellent 100%		
Land	Agriculture	2			
Use	0				
Other	(groundwater, soils, poo	is, vegetation, etc.)			
Notes					
CHANNE			Cradient (11/M/D)		
	/vidtn (range (m)):	unal mater a	Gradent (H/M(L))		
Bank Hei		High water la Z	Bank Stability		
Bank Slop	be (degrees from surface of	watering	Bank Vog Donsity (H/M/L):		
Bank veg	etation Type: Hov Dallo	AS/ GIOLOCH KON/ (120-PU)	C Bank Veg. Density (HW/L).		
CHANNE	L SUBSTRATE %	STITLES (BATTE			
Clay: V	Gravel	: Boulder:	Muck:		
Silt:	Pebble	Bedrock:	Detritus:		
Sand: V Cobble: Marl: Other:					
INSTREA	M HABITAT AND COVER				
Pools: Undercut		Undercut Banks:	Boulder/Rock:		
Riffles: V Woody D		Woody Debris:	Cobble:		
Backwater: Vegetation		Vegetation:	Other:		
INSTREA	M VEGETATION	1			
Type (submerg./emerg./floating) Family/		Family/Genus/species	Description/Abundance		
N I	lone				
CODES	S/M/I S	urface Water Innut SCS Stream	n Cross Section		

DOX Dissolved Oxygen Stn

VSS Visual Survey Stn

WQS Water Quality Stn
#### FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	100	3,6773	Run
2		· · · · · · · · · · · · · · · · · · ·	
3			
4			
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): رج • ر	D.O. (%):	TDS (ppm):	Slow Flow South
Time Taken: 13; 45 (stream) 14	livo(air) Conductivity (ps/	cm):	
Location Taken Roadside /in st	ream		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
生ご	- north (us #28 on	cell)	
#2	-South [c/5 #29 0	n cell)	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

etc.: # agriculture surrounding area (saybeans) * notish, frogs or inverts observed, but has lots of guadic Habitat Cunderaut banks, woody debris, lots of shade) * water slightly turbid (maybe from rain)

Page 2 of 2



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	(Number & Name): 1184	South Kent	<u> </u>	
Field Staf	The Murrens	Second and a second		
Station:	TT		Site Location:	
Waterbod	V. ILAKODI 20		GPS Datum: NAD 83 Easting:	
Drainage	Svstem:		Zone: 17 T Northing:	
Location in	n System:		Municipality: Chatham / Kent	
Appr. Rea	ich Length (m):		Lot & Concession:	
Survey Da	ate: Oct. 510	Weather Conditions:		
Time Star	ted: 14:50	Wind:	Cloud Cover (%): 100%。	
Time Finis	shed: $15.15$	Precipitation: Wood	ananananan manananan manananan arawa ar	
ADJACEN	Slopo:	EQ Madasata (E 15°)	Stoon (> 15°)	
valley	Siope. Gentie (<	5) Moderate (5-15)	Steep (> 15 )	
	Extent of Natural Vegetation (	m) 0-10 10 to 20	201030 30+	
	Vegetation Type: Grass			
	ree-1	rixed	Post	
Dissectors	Herb	aceous - (rologn.		
Riparian	Flood Plain - extent of frequer		10 to 20 20 to 30 30+	
Zone Vegetation Type: Herbaceous ( Golden Kod)				
	Martin Desite Anna			
Canany	Vegetation Density (HIVIL):	Ouelity e	nd l/ abada	
Canopy	Type: Typha, Iree, Hert	Saleous, Quality al	na % snade:	
Land Use	Agriculture			
Other	(groundwater, soils, pools,	vegetation, etc.)		
Notes				
CHANNEL	LMORPHOLOGY			
Channel V	Vidth (range (m)): 1,5		Gradient (H/M/L):	
Bank Heig	ht (range (m)): 3m Hi	gh water (a) 2m	Meander/Straight?	
Bank Slop	e (degrees from surface of wa	ter): 135	Bank Stability: Crocc	
Bank Vege	etation Type: Herbaceous	(Godden Rod) Gras	S Bank Veg. Density (H/M/L):	
CHANNEL	SUBSTRATE %			
Clay:	Gravel	Boulder:	Muck:	
Silt:	Pebble ⁻	Bedrock:	Detritus:	
Sand: V	Cobble	Marl:	Other:	
INSTREA	M HABITAT AND COVER			
Dealer		Indereut Benkey	Bauldar/Pack:	
Diffleet		laadu Debrie:	Cabble:	
		voody Debris.	Copple.	
Backwater		egetation: V (14na z a	MEYO4Spliter.	
Type (out	W VEGETALION	amily/Conuc/concinc	Description/Abundance	
Type (sur	Smerg(emerg.noating)	amily/Genus/species	Description/Abundance	
		Water cress		
CODES	SWI Surfa	ce Water Input SCS Stre	am Cross Section	
AHP Aqua	tic Habitat Point GWI Grou	ndwater Input DOX Diss	solved Oxygen Stn	
AHY Aqua	tic Habitat Area CKC Cree	k Crossing VSS Visu	al Survey Stn	
TMP Temp	Monitor Stn WEL Well	WQS Wa	ter Quality Stn	
FLW Flow	Monitor Stn CUL Culve	ert		

# Page 2 of 2 Page 2 of 2 Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 1 2.006 5.7.7.66.11 Pool (Turbid) 3 4 5

#### WATER QUALITY

Water Temp. (°C): 17 °C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Slow Flow Morth
Time Taken:	Conductivity (µs/c	m):	Turbid waller
Location Taken:			

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

E N Boybeans molden Roc alFIOW TH watercres 1 Colden Kod GIRASS Limacks Shewburg Rd.

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-4	1. North Call phone 7	\$30)	
-#	2-South (left phone-	#31)	·•
	1		
201010010000000000000000000000000000000			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc. * SAR Prain * watercress & Cattouls in Stream * very turbsid water * pods with small riffles showing a slow flow north.

S	NATURAL	Resource	SOLUTIONS	INC.
9.5	Aquatic, Terrestria	al and Wetland Bio	logists	

	•			Page	a 1 of
PROJEC	T (Number & Name): [[8	4 South Ke	ent		
Field Staf	ff: S. Muxral	ý, in			
Station:	JT		Site	• Location:	
Waterbod	y: un Known		GP	S Datum: NAD 83 Easting:	(14111111111111111
Drainage	System:		Zon	e: IT T Northing:	
Location i	n System:		Mur	nicipality: Chatham / Kent	
Appr. Rea	ach Length (m):		Lot	& Concession:	-
Survey D	ate: ALS'ID	Weathe	r Conditions:		
Time Star	ted: 15:15	Wind: )		Cloud Cover (%): 100%	199919 1908:22
Time Finis	shed: 15:40	Precipita	ation: Mone		
		2			
/alley	Slope: Gentle	e (< 5°) Moderat	te (5-15°) Ste	ep (> 15°)	
	Extent of Natural Vegetati	on (m) 0-10	(10  to  20)	20 to 30 30+	
	Vegetation Type: Tree	-Mixed			
	Hox-	baconis (Car	John Rod		
	Gira	ss			×
Riparian	Flood Plain - extent of free	uent flood (m):	(0-10) 10 1	to 20 20 to 30 30+	
Zone	Vegetation Type: Tree-	Mixed			
	Herbacoars (Jewelwerd)				
	Vegetation Density (HML)	:	Servertorage		
Canopy	Type: Type		Quality and %	shade: Excellont 100%	
and	Agriculture	/		2	
Jse	1.0				
Other	(groundwater, soils, poo	ols, vegetation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel V	Width (range (m)): 1.5			Gradient (H/M/L)	
Bank Heig	pht (range (m)): 3 hi	gh water la	) 3m	Meander/Straight?	
Bank Slop	be (degrees from surface of	Water): 135		Bank Stability: (1000)	
Bank Veg	etation Type: Herbaceo	us ( lewelweed 16	solden Pach	Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %	/	,		
Clay:	Grave	l:	Boulder:	Muck:	
Silt:	Pebble	3:	Bedrock:	Detritus:	
Sand:	Cobbl	9. 9.	Marl:	Other:	
NSTREA	M HABITAT AND COVER		2		
Poole		Undercut Banks	/	Boulder/Bock:	
Difflee		Woody Debrie		Cobble*	a Coole a con
Annes.		Vegetation:		Other:	
		vegetation.		Other.	
Type (suit	omera /emera /floating)	Family/Genus/sne	ries	Description/Abundance	
ype (sur	omerg.cmerg.mouring/	Tunny/Cenus/ope	5100		
	pone				
	1250.001-00				
CODES:	SWI S	urface Water Input	SCS Stream C	Cross Section	
AHP Aqua	tic Habitat Point GWI (	Froundwater Input	DOX Dissolved Oxygen Stn		_
IMP Temr	Monitor Stn WFL	Vell	WQS_Water Quality Stn		

FLOW CONDITIC	LOW CONDITIONS Page 2 of 2				
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes		
1			Dry .		
2					
3					
4		-			
5					

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/cm):		Pry
Location Taken:			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

	Com CALLA - wees
	Rachard - Giolden Rod ST 35
ļ	And Alon Dryz Channel 2
	TO US W CA CD- CT- D
	IN Password's
	V Soyteans

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
4	FI - east (cell phone =	# 32)	
T	2- West (cell phone -	#33)	
	read and the second sec	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

# pry channel



Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	(Number & Name): \\	84 South	r Kent		
Field Staf	f: S. Murray				
Station:	L7 (all)			Site Lo	cation:
Waterbody: UN Known				GPS Da	atum: NHD 83 Easting:
Drainage	System: SK: pper	Drain		Zone:	Π T Northing:
Location in	n System:			Municip	ality: Chatham / Kent
Appr. Rea	ch Length (m):			Lot & Co	oncession:
Survey D	ate: pc+, 6 10		Weather Condition	ons:	<u>^ &gt; &gt;</u>
Time Star	ted: 8:19		Wind: 1		Cloud Cover (%): 90 7
Time Finis	shed: 8:40		Precipitation: 119	ht rai	2
ADJACEN	IT LANDS		0		
Valley	Slope: (Ger	ntle (< 5°)	Moderate (5 - 15°	)_ Steep (>	> 15°)
	Extent of Natural Veget	ation (m)	0-10 (10 to	20)-14	20 to 30 30+
	Vegetation Type: Car	ass			
	<u> </u>				
Riparian	Flood Plain - extent of f	requent flood (m	i): (0-10)	) 10 to 20	) 20 to 30 30+
Zone Vegetation Type: Herbaceaus-Grolden Rod Tree-Mixed (Li)				Tree-Mixed (Li)	
	Sk	arub-i	Willow(Li)	Oiras	22
Vegetation Density (HM).):					
Canopy	Type: Shrub, Tree	Herbau	LOUS Quali	ty and % sha	ade: Poor 25%
Land	Agricultur	e			
Use					
Other	(groundwater, soils, p	ools, vegetatio	n, etc.)		
Notes	*right besid	de two	dirt r	oads (	(run-off)
CHANNE	MORPHOLOGY				
Channel V	Vidth (range (m)): 🛛 🚬	5m			Gradient (H/M/L):
Bank Heig	ht (range (m)): 니m	High W	ater (a)	2m	Meander/Straight.)
Bank Slop	e (degrees from surface	of water): 3	San ang tang tang tang tang tang tang tan		Bank Stability: Cacge
Bank Veg	etation Type: Herbace	us (bolden-	Rog Shrub (Li	illau)	Bank Veg. Density (H/M/L):
CHANNE	SUBSTRATE %	Tree	(Mixed)		
Clay: V	Gra	vel:	Bould	der:	Muck:
Silt: V	Peb	ble:	Bedr	ock:	Detritus:
Sand: 🗸	Cot	ble:	Marl:		Other:
INSTREA	M HABITAT AND COVE	R			
Pools:		Undercut B	anks:		Boulder/Rock:
Riffles:		Woody Del	oris:		Cobble:
Backwate	•	Vegetation	history concernant		Other:
INSTREA		regelation			
Type (sub	mera./emera./floating	Family/Ge	nus/species		Description/Abundance
· <b>/</b> · · · · · ·	1001				•
γ	1011C	445141555 (1000) 41015 (4100) 41013455 1			
				01 0	
CODES:	SW	Surface Water I	nput SCS	Stream Cross	
AHY Aqua	tic Habitat Point GW	Groundwater In		Visual Survey	/Stn
TMP Tem	Monitor Stn WFI	Well	WOS	Water Qualit	ty Stn
FLW Flow	Monitor Stn CUL	Culvert		, talor qualit	y

Cross-Section	Wetted Width (m)	5 Depths, ed	qually spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	3.27	16,19,23	3 18 13	too
2			~ ( <b>-</b> ) ·	(South side)
3				
4				
5				
NATER QUALIT	(			
Nater Temp. (°C)	: 110C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): (	0°C	D.O. (%):	TDS (ppm):	- standing Turbiol
ime Taken: 🔗	35	Conductivity (µs/em):		1. Vetor
ocation Taken:  /	1 Stream / rocolsid	1 /		utte.
SITE DRAWING				
nclude: watercou	irse and name, flow	direction, riffle/poo	l/run habitat, side tribut	aries, station location, approx. reach length,
hannol modificat	ons, adjacent landus	se, roads & road na	ames, bridges, culverts	, north arrow, etc Soyteans
manner mounicat		. []]	Kell, Non	
namer mounicat	MARY IN			
	te That	0 H	610/11	
	AR 21	PL H	Giolauri	KOA N N
	AL 3	HI G	Giolauti	ups & Graden Rody
	AC in	P H	Giolaan Hereite	MES ( Gigidal Badd
	Contraction of the	martin (H	Gioldan Che	ups & Gladen Bady Dry Channel (Damp from Ba
	Stare is	mater	Cioladi i Casa Z	ngs & Giaden Bed / Dry Channel (Dump from Ro





### PHOTOS TAKEN

Photo #	Description	Photo #	Description
0/7	H- north H=3 ch	(annera)	
1 < 1	12- South 144 "	/· 5	
-	13 - WEST HTS "	r Y	
	LDII		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * inverts observed, hard to tell what ones blc water

is very tartoid.



			1	Page 1 c		
PROJECT	Γ (Number & Nai	me): 1184 So	with Kent			
Field Stat	f: S. Murra	Ч				
Station:	N7	•	Sit	te Location:		
Vvaterboo	y: whichawh		GH	2S Datum: INHD &3 Easting:		
Drainage	System:		۷۵	ine: 17 T Northing:		
Location in	n System:		IVIL	inicipality: Chatham / Kent		
Appr. Rea	Ch Length (m):		L0	t & Concession:		
Timo Star	ate: UCF. U		Weather Conditions:			
Time Star	ted. 10:14		VVINC: ( Dracinitation: Alexand			
			Precipitation. Norve			
	IT LANDS	$\Omega_{\rm contractor} (< 5^{\circ})$	Madarata /E 1E%	255. /. APO		
Valley	Siope.		Moderate (5 - 15) Ste			
	Extent of Natura	Vegetation (m)	0-10 10 to 20	25 20 to 30 30+		
	Vegetation Type	: Ulrass				
Rinarian	Elood Plain - ext	ont of frequent floor	1 (m) (0.10) 10	140 20 10 10 20 20 ±		
Zone	Vegetation Type	Had-acons	(valion Pach			
	regelation type. THET-DALLOWS ( VIOLALIN - KOOL) Shrub (WILLIOW) GIRASS					
-	Vegetation Dens	ity (HML):				
Canopy	Type: Ohrub	Herballous	Quality and %	% shade: (7009 50%		
Land Use	Agriculture & Residence					
Other	(groundwater, s	oils, pools, vegeta	ation. etc.)			
Notes						
CHANNEI	MORPHOLOG	Y				
Channel V	Vidth (range (m)):	2.5		Gradient (H/M/L):		
Bank Heig	ht (range (m)): ، د	4,5		Meander/Straight:		
Bank Slop	e (degrees from s	surface of water):	135	Bank Stability: Ogod		
Bank Vege	etation Type: He	rtaceous (G	rolden Rod) Shruts (W	Bank Veg. Density (H/M/L):		
CHANNEL	SUBSTRATE %	, o /	Grass			
Clay:		Gravel:	Boulder:	Muck:		
Silt:	/	Pebble:	Bedrock:	Detritus:		
Sand: V	,	Cobble:	Marl:	Other:		
INSTREAM	M HABITAT AND	COVER				
Pools: 🗸	1	Undercı	ut Banks:	Boulder/Rock:		
Riffles: 🧹	/ /	Woody	Debris: 🧹	Cobble:		
Backwater		Vegetat	ion: V(qvass)	Other:		
INSTREAM	VEGETATION		0			
Type (sub	merg./emerg./flo	oating) Family/	Genus/species	Description/Abundance		
No	ne:					
CODES		SW/L Surface Wat	or Innuit SCS Stream (	Croce Costion		
AHP Aquat	ic Habitat Point	GWI Groundwate	r Input DOX Dissolve	A Ovvgen Stn		
AHY Aquat	ic Habitat Area	CKC Creek Cross	ing VSS Visual S	urvev Stn		
TMP Temp	Monitor Stn	WEL Well	WQS Water (	Quality Stn		
FLW Flow I	Monitor Stn	CUL Culvert				

#### **FLOW CONDITIONS**

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.59	15,24,2620,16	Run
2			
3			
4			
5			

Page 2 of 2

#### WATER QUALITY

Water Temp. (°C): )) °(	D.O. (ppm):	pH:		Visible Characteristics/Other Parameters:	
Air Temp. (°C): 13°C	D.O. (%):	TDS (	opm):	Slow Flow Morth west	
Time Taken: /0:31	Conductivity (µs/cr	n):		slightly turbid Water	-
Location Taken: Roadside / In	stream			0	

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx, reach length, born channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

(A)	Grade William	) J
1	FIDW FIDW	Not the
	Contrast of the internet	\$
2	rass A Coris	`` د
QL V C	Garden	1
Hed	Soybeans	8

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
H	1 - northwest	(down Stream) #8	on camera	
TT'	2 - South east	(UP Stream) -tt 9	yî H	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use

and vegetation, etc.: * + + + eard a frog * Refer + 0 'K' as well => (Saw muscrasts & mussel shells + + reit day (.)



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	CT (Number & Name):	South Kont	Tage 1012			
Field Sta	aff: S.Murray		an and a second second state and the second state of the			
Station:	07		Site Location:			
Waterboo	dy: un Knowin	and the second	GPS Datum: (AD S Easting:			
Drainage	System:		Zone: 1 / Northing:			
Location	in System:		Municipality: Chathans Likent			
Appr. Re	ach Length (m):		Lot & Concession:			
Survey D	Date: 0-4 16 16	Weather Conditions:				
Time Sta	rted: 11:00	Wind:	Cloud Cover (%): 95%			
Time Fini	ished: 11946	Precipitation: IA CON 0	a an			
ADJACE	NT LANDS					
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)			
	Extent of Natural Vegetation (m) 0-10 10 to 20 20 to 30 30+					
	Vegetation Type: Grass					
Riparian	Flood Plain - extent of frequent flood (m): 0-10 10 to 20 20 to 30 30+					
Zone	Vegetation Type: GrvaSs					
	Vegetation Density (HML):					
Canopy	Type: (ava. SS	Quality an	d % shade: Poor 5%			
Land	Agriculture					
Use						
Other	(groundwater, soils, pools, veg	etation, etc.)				
Notes	1					
CHANNE	L MORPHOLOGY		2			
Channel V	Width (range (m)): 1.5 - 2.m		Gradient (H/M/L)			
Bank Heig	ght (range (m)): 4m High	wall a 2.5m	Meander/Straight:			
Bank Slop	be (degrees from surface of water):	135	Bank Stability: Grood			
Bank Veg	etation Type: Grass		Bank Veg. Density (H/M/L):			
CHANNE	L SUBSTRATE %	/				
Clay: 🗸	Gravel:	Boulder:	Muck:			
Silt: 🗸	Pebble:	Bedrock:	Detritus:			
Sand: U	Cobble:	Marl:	Other:			

**INSTREAM HABITAT AND COVER** 

Pools:	Undercut Banks:	Boulder/Rock:
Riffles:	Woody Debris:	Cobble:
Backwater:	Vegetation:	S a low Other:
INSTREAM VEGETATION		11

Type (submerg./emerg./fl	oating) Family/Ge	nus/species	Description/Abundance
	Gilim	entaus alg	al
-)( === 7e((i(a)) (== 1b)(1-a)(i = + a = == 1b)(1-a)(i = + a)(i =	100 (001 January 1 and 1 and 2		
and the second sec	1941 HI	0 ( ) ( -(4)-( ) = (4)-(2)-(4)-(4)-(4)-(4)-(4)-(4)-(4)-(4)-(4)-(4	
CODES:	SWI Surface Water I	nput SCS Str	eam Cross Section
AHP Aquatic Habitat Point	GWI Groundwater In	put DOX Dis	solved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Vis	ual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS W	ater Quality Stn
FLW Flow Monitor Stn	CUL Culvert		

#### FLOW CONDITIONS

Page 2 of 2

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.0	147020,19,12	Pool
2			
27-9 Hill 1- Thin 14 - 140-140			The set of the second sec
enter a se contrat, many 7		and an and an another should be a start of the second second second second second second second second second s	and the production of the second
		annoning and a second	the cost official is an interview of the operation of the cost of

#### WATER QUALITY

Water Temp. (°C): 12 °C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 14°C	D.O. (%):	TDS (ppm):	Slow they northwest
Time Taken: 11:26 /11:46	Conductivity (us/c	cm):	wall furbid E
Location Taken:	0		Smelt like manure

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... OFT Field

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-#	1- South Last (11	p. stream)	and the second
-#	2 - north west (0	lawn stream)	
	······································		and the second
1		ana a mana ana ana ana ana ana ana ana a	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.

* Water smells like manure * mussel faund w * isopoola ? Plecoptera seen * mussel faund w * cypinids seen * mussel faund w * cypinids seen + muscrat seen



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

		Page 1 of 2			
PROJEC		South Kent			
Field Sta	m: S Murray				
Station:	$\mathcal{P}($	Site Location:			
Waterboo	in an Known	GPS Datum: NHD 83 Easting:			
Drainage	System: Gregory drain	Claster n trib atter h.K. Zone: 17 Northing:			
Location	In System: (/	Municipality: Charlean / Kent			
Appr. Rea	ach Length (m):	Lot & Concession:			
Survey D	)ate: Oct. 610	Weather Conditions:			
Time Star	rted: 12:15	Wind: Cloud Cover (%): 5 %			
Lime Fini	shed: 12:58	Precipitation: Nove			
ADJACE	NT LANDS	N			
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°) Steep (> 15°)			
	Extent of Natural Vegetation (m)	0-10 10 to 20 20 to 30 30+			
	Vegetation Type: Gry 0.55				
l.					
Riparian	Flood Plain - extent of frequent flo	bod (m): 0-10 10 to 20 20 to 30 30+			
Zone	Vegetation Type: Grass Herbaceous (Bolden Ked) Tree (Mixed)				
	Vegetation Density (HML):				
Canopy	Type: ( co o ( strass, Hor	Datotus Quality and % shade: Poor 30%			
Land Use	Agriculture_				
Other	(groundwater, soils, pools, yeg	etation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel V	Vidth (range (m)): 1,5 - 2,5	Gradient (H/M/L):			
Bank Heig	int (range (m)): 4m high	water @ 3m Meander/Straight			
Bank Slop	e (degrees from surface of water):	Bank Stability: Groool			
Bank Vege	etation Type: Herba Coous	Goden Roo Free, Bank Veg. Density (H/M/L):			

CHANNEL SUBSTRATE %	Gras	s ((Hixed)	
Clay: Grave	el:	Boulder:	Muck:
Silt: Pebbl	e: V	Bedrock:	Detritus:
Sand: Cobb	e: V	Marl:	Other:
<b>INSTREAM HABITAT AND COVER</b>			
Pools:	Undercut Banks:		Boulder/Rock:
Riffles:	Woody Debris:		Cobble:
Backwater:	Vegetation:	montais algo	Other:
INSTREAM VEGETATION		0	
Type (submerg/femerg?/floating)	Family/Genus/species	;	Description/Abundance
	Silimentous	alger	Small amount on
= - (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) +	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	·	rocks & woody depris
CODES: SWI S	Surface Water Input	SCS Stream Cross	Section

CODES:	SWI Surface Water Input	SCS Stream Cross Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn	
FLW Flow Monitor Stn	CUL Culvert		

#### FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.46	6.10.15.13.6	Run
2		, , , , , , , , , , , , , , , , , , , ,	and the second design of the second sec
3		and the second s	
4		the state of the s	
5			

#### WATER QUALITY

Water Temp. (°C): \3°C	D.O. (ppm);	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 15°C	D.O. (%):	TDS (ppm):	slow thow north west
Time Taken: 12:35	Conductivity (µs/cm	):	Water clear, but
Location Taken:		2010 Hills - Million - 013	gets turbio easily

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

GGGGEField AF Fast and	
HARden Rod A Maddida	9
FILL FILL FILLS	N N
KNOD STORIASS + GABGENDROD DIDIDS	t but to
CCCCGrass	
Soybeans	

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1- South (U/S)		
	H2-north (C/S)		
	the second s		
	. 34-34-341-344(###################################		
0-2020-0-0			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* cyprinide seen (couple were common shiners, others maybe * Gireat Blue Heron Seen. Tatheads.)

Page 2 of 2



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#### HABITAT **CHARACTERIZATION**

Page 1 of 2

PROJEC	T (Number & Na	me): 1184 Sau	th Vent	
Field Sta	ff: S.Murr	au	Contraction of the State of the	
Station:	07			Site Location:
Waterboo	y: un Know		(**)-(**)-*(**)************************	GPS Datum: AAD X Easting:
Drainage	System:	and a second of a second s	and a second second second	Zone: TT Northing:
Location	in System:			Municipality: Chatham / Kent
Appr. Rea	ach Length (m):	······································		Lot & Concession:
Survey D	ate: Oct. (o'	10	Weather Conditions	
Time Star	rted: 13:04	1	Wind: 3	Cloud Cover (%): 75%
Time Fini	shed: 13:40		Precipitation: None	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natura	I Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type	Covass		
Riparian	Flood Plain - ext	ent of frequent flood (r	n): 0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type	: Grass T	cel	
-	Vegetation Dens	ity (HML):		
Canopy	Type: Type	Herbaceous,	Greass Quality an	nd % shade: Poor 35%
Land	Agricul	ture		
Use	0	(*** cet	70 - 7	
Other	(groundwater, s	oils, pools, vegetatio	on, etc.)	
Notes				
CHANNE	L MORPHOLOG	(		<u> </u>
Channel V	Vidth (range (m)):	Im		Gradient (H/M/L):
Bank Heig	int (range (m)): 🔁	s. S. high wal	l(@ 21)	Meander/Straight:
Bank Slop	e (degrees from s	surface of water):	135	Bank Stability: Carooor
Bank Vege	etation Type: (Str	ass Harba		Bank Veg. Density (H/M/L):
CHANNEL	SUBSTRATE %	)		
Clay: 🗸	/	Gravel:	Boulder:	Muck:
Silt: 🗸	he summer and	Pebble:	Bedrock:	Detritus:
Sand: 🧹		Cobble:	Marl:	Other:
NSTREA	M HABITAT AND	COVER		
Pools:		Undercut E	Banks: /	Boulder/Rock:
Riffles:		Woody De	bris:	Cobble:
Backwater		Vegetation		Other:
NSTREAM	VEGETATION			
Type (sub	merg./emerg./flo	oating) Family/Ge	nus/species	Description/Abundance
1	0.0			
	Mart Merican and a second		and an	and an end of the second state of the second s
		the second se		and which are a construction of more than a second s
This are service	ALL AT ALL AND A LAMA	and the second sec		
ODES:		SWI Surface Water I	nout SCS Stres	am Cross Section
HP Aquati	ic Habitat Point	GWI Groundwater In	put DOX Diss	blved Oxygen Stn
HY Aquati	ic Habitat Area	CKC Creek Crossing	VSS Visua	al Survey Stn
MP Temp	Monitor Stn	WEL Well	WQS Wat	er Quality Stn
LW Flow M	Monitor Stn	CUL Culvert		

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Standing
2			A A A A A A A A A A A A A A A A A A A
3	A) (1.4.4.9) = (4.49 = 1+ (		rau' waller
4	a in product of the second	for an and the second s	- a - new mental to a state when a fait care - administration
5			

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:	
Air Temp. (°C): 17°C	D.O. (%):	TDS (ppm):	Standing roun	
Time Taken: 13:40	Conductivity (µs/c	cm):	Water	
Location Taken: Road Side				

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

N Contraction N
Field Field
6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-
Childrees are
V7877CL
Girass + Golden Rod
A standing cain with a standing
P - Grugss + Greldon Rod
Com Chinassi i Giolach ikedi
PHOTOS TAKEN

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	- 1 = nor-th		
	112 - South		
		sector is a sector of a contract of a contra	
- and a - Sale	livelantic leases and a state and	mentalise in the two in the second	antan - any - any and
	and the second s		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* deer tracks observed



FLW Flow Monitor Stn

CUL Culvert

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					Page 1 of 2
PROJEC	T (Number & Name	1184 South	Kent		
Field Sta	iff: S. Murra	ay			
Station:	R7	a contraction and the second second second second	Site Lo	ocation:	
Waterboo	dy: UNKNOW	5	GPS D	atum: NHD83Eastir	ng:
Drainage	System:		Zone:	Northir	ng:
Location	in System:		Munici	pality: Chathan	VKent
Appr. Rea	ach Length (m):		Lot & C	Concession:	and the second sec
Survey D	Date: Oct. (o'	() Wea	ther Conditions:		
Time Star	rted: 12:55	Win	d: 2	Cloud Cover (%): 10	)-1.0
Time Fini	shed: 14:15	Prec	pipitation: None	an an ann an an an an an an Anna Anna A	na 128 martina anna an an anna anna anna a
ADJACE	NT LANDS		in		
Vallev	Slope:	Gentle (< 5°) Mod	erate (5 - 15°) Steep (	(> 15°)	
	Extent of Natural V	Penetation (m)	1-10 10 to 20	$20 \text{ to } 30 \qquad 30+$	ter and the second s
	Vegetation Type: /	Suc 55	10 10 10 10 20	201000 00.	
	vegetation type. (	JVa -		1	
			2		
Riparian	Flood Plain - exten	t of frequent flood (m);	0-10 10 to 2	0 20 to 30	30+
Zone	Vegetation Type:			201000	501
	regenation type.	llastacousí	Culdin Prol	Treat Viller	ed
	Vegetation Density	(HMI):	(adian Boor).	TICC C PUX	
Canopy	Type Type H	Piller Cocus	Quality and % sh	ade: Dence 100	7
Land	Advice H	a backup	A loc o	auc 1001 /3/	c-
Use	HARCOUT	LYR PROID	LVIC L		
Other	(groundwater soi	le noole vegetation et	<u></u>		
Notes	(groundwater, son	is, pools, vegetation, et	··)		
NOICS	- XC LOCALLY	01620			
CUANNE					
Channel		FOF		Cradient (LI/M/L)	
Bank Hoic	abt (range (m)):	5-4.5	NOSOS	Maandar/Straight	
Bank Slop		n righway	IT OF FINI	Book Stability	mad
Bank Vog	etation Type:	lace of water). 135		Bank Vag Dansity (U	
Dank veg	etation Type.			bank veg. Density (H	//\//_):
CHANNE	L SUBSTRATE %	/			/
Clay:	1	Gravel:	Boulder:	Muck: -	
Silt: 🗸	/	Pebble:	Bedrock:	Detritus	
Sand: 🗸		Cobble:	Marl:	Other:	
INSTREA	M HABITAT AND C	OVER	1		
Pools: 🧹	1 1	Undercut Banks	1	Boulder/Rock:	
Riffles:		Woody Debris:	I superior and announced a	Cobble:	- Half - all
Backwater	c /	Vegetation:	(water (vocs)	Other:	(h. 0) (h. 1) (h
NSTREAM	M VEGETATION				
Type (sub	merg./emerg./float	ing) Family/Genus/s	pecies	Description/Abunda	nce
		(Dafa)	ICALINC /	6. 1 0.	
a		Wildel	VARS D	Good amou	in ot
	State (	e este segue a company a	and a set in set in set in	patches ?	patches
				are fair	y large
					0
JODES:		SWI Surface Water Input	SCS Stream Cross	s Section	
ACTE Aquat	ic Habitat Point	GVVI Groundwater Input	UUX Dissolved UX	ygen Str	
MP Temp	Monitor Stn	WEI Well	WOS Water Qualit	tv Stn	
				-y	

#### FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.34	117,1413,8	Run
2		t rest and the second sec	
3			
4	The second s		General sector in a sector sec
5			(b) The state and defines a database of the state of t

#### WATER QUALITY

Water Temp. (°C): 14°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Slow flow northwest
Time Taken:	Conductivity (µs/c	m):	"None Aurbiel
Location Taken:			

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Field	×
AAA BEER Control on	Port 4 ourse A.
s= watercress	The start of the s
CARE Mow (misid)	EAN' CHESS
HE FULLE	CHANGESS ACT
Expuse Born	
Residence	Field

## Photo # Description Photo # Description HI-Arth West (0/S) H2-South Last (0/S)

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* watercress



		(1) C		Page 1 of
PROJEC	T (Number & Name):	184 South Ki	ent	
Field Sta	m: S. Murray			
Station:	S7		Site	e Location:
Vvaterboo	y: UNKnown		GP	S Datum: NAD 8 3 Easting:
Drainage	System:		Zor	ne: 17 T. Northing:
Location I	in System:	0000000 100000 - 11240 - 4764 5124 pr - 1	Mu	nicipality: Chathan / Kent
Appr. Rea	ach Length (m):	14741-	Lot	: & Concession:
Time Star	Had William	Weatn	er Conditions:	
Time Fini	ried. 14'50	VVIna. Dracini	5	Cloud Cover (%):
		Flecipi	itation: NONQ	
ADJACE	Slope: Cor	Madar	-1. /F 4E% Cha	and Mar 4 F01
Valley	Supe. Gei		ate (5 - 15) Ste	ep (> 15 ⁻ )
	Vocetation Type:		0 10 to 20	20 to 30 30+
	Vegetation Type. Gr	abo	N	
		RE LAUXEDI	) Shuts	
Riparian	Flood Plain - extent of f	equent flood (m);	0-10 101	to 20 20 to 30 30+
Zone	Vegetation Type:	en (Miren)	therefore	Curs ( Galden Roal)
	Shin	the Grass.	THET DALL	ious concer bool
	Vegetation Density (HM	L):		
Canopy	Type: Tree, Shrut	> Hertaceous	Quality and %	shade Excollont 90%
Land	Agricultur	1		
Use	0			
Other	(groundwater, soils, p	ools, vegetation, etc.)		
Notes				
CHANNE	L MORPHOLOGY			
Channel V	Width (range (m)): 6 G	-1.5m		Gradient (H/M/L)
Bank Heig	pht (range (m)): 4m	High wate	r ©	Meander/Straight:
Bank Slop	e (degrees from surface	of water): 135		Bank Stability:
Bank Vege	etation Type: Tale, S	hurb, tertoce	cears	Bank Veg. Density (H/M/L):
CHANNEL	SUBSTRATE %	1		
Clay: /	Grav	vel: ///	Boulder:	Muck:
Silt: 🗸	Pebl	ole: //	Bedrock:	Detritus:
Sand: 🧹	Cobl	ole:	Marl:	Other:
NSTREAD	M HABITAT AND COVE	R	-/	
Pools: 🗹	/	Undercut Banks:	/	Boulder/Rock:
Riffles: 🧹	/	Woody Debris:	/	Cobble:
3ackwater	. /	Vegetation:		Other:
NSTREAM	M VEGETATION	e		
Type (sub	merg./emerg./floating)	Family/Genus/spe	ecies	Description/Abundance
	None			
	· · · · · · · · · · · · · · · · · · ·			
ODES:	SWI	Surface Water Input	SCS Stream C	ross Section
HP Aquati	ic Habitat Point GWI	Groundwater Input	DOX Dissolved	d Oxygen Stn
HY Aquati	ic Habitat Area CKC	Creek Crossing	VSS Visual Su	rvey Stn
WIF Temp	Monitor Stn VVEL	vvell	WQS Water Q	uality Stn

#### FLOW CONDITIONS

LOW COMPLIE			
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	OloB	7,9,11,10,7	Run
2			
3			
4	a part and the second s		
5	10 10 10 10 10 10 10 10 10 10 10 10 10 1	- Communication and a set of a list	

#### WATER QUALITY

Water Temp. (°C): 13" C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Slow flow north
Time Taken: 15:10	Conductivity (µs/cm):		
Location Taken: 191 Streau			

SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1-South (U)S)		
	HZ- north (01/5)		
			and a second
(			
		1	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* water Striders seen * raccoon tracks observed.

#### Page 2 of 2



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

		1001 2	A	1			Page 1 d
PROJEC	T (Number & Nai	me): ((84 Sou	oh K	ent			
Station:	- Murr	and	\		04.1		
Matarbad	Nr LIVAL	K Lyellow	)		Site Loc	ation:	
Vvalerbou	y. WILLIOU	128J ,			GPS Dat	um:NHD 83 East	ing:
Drainage	System.		4110    +100 -1110001 (4111-100		Zone:	7 T North	ing:
Appr. Doc	n System:	·			Municipa	iny: Chathan	Kent
Appr. Rea	atel Columnia	-		0 110	Lot & Co	ncession:	
Time Star	tod 5	$Q_{-}$	weather (	Jonditions		01-10-000	
Time Star	abod: 10.00	eromona intricci ili 146 (ili 11) - i	Vvind:			Cloud Cover (%):	<u>/ s / 3</u>
	siled.76.25		Precipitation	on: Mons	2		
	Slope:	0		(5 4 5 9)	0	4 = 0	
valley	Silpe.		Moderate	(5 - 15°)	Steep (>	15°)	
	Extent of Natura	Vegetation (m)	0-10	10 to 20		20 to 30 30+	
	vegetation Type	Grass					
Riparian	Flood Plain - evt	ent of frequent flood	(m):	(0-10)	10 to 20	20 to 20	20+
Zone	Vegetation Type		<u>(III).</u>	0-10	10 10 20	201030	30+
		Flector	0 S (177.	aldain	Part		
	Vegetation Dens	ity (HML):		naen	ROON		
Canopy	Type: He cho	COOLS TI	17ha	Quality a	nd % shad	e Prove 10	0/
Land	Daricul-	HUND	( prove			1007 /0	//g
Use	C	IME				-	
Other	(groundwater, s	oils, pools, vegeta	tion. etc.)				
Notes	(3	, press, regeta					
CHANNEL	MORPHOLOG	1					
Channel V	vidth (range (m)):	1				Gradient (H/M/L)?	
Bank Heig	ht (range (m)):	2.5 High	water			Meander/Straight:	· · · · · · · · · · · · · · · · · · ·
Bank Slop	e (degrees from s	surface of water):	and the second second second		(1)	Bank Stability:	m
Bank Vege	etation Type: Gu	ass. Herba	ceous.			Bank Veg. Density (H	H/M/L):
CHANNEL	SUBSTRATE %						/·····-//
Clay: V		Gravel:		Boulder:		Muck.	
Silt:	1 367 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pebble:	······································	Bedrock Detritus			
Sand: V	·······	Cobble:		Marl:	dther:		
NSTREAM	HABITAT AND	COVER				Chior.	
Pools		Undercut	Banks			Boulder/Rock:	
Riffles	* * * *	Woody D	ehris:	ii - iiiii - ii - ii		Cobble:	- let mine Mir mine -
Rackwater		Venetatio			Cobbie:		
NSTREAM	VEGETATION	vegetatic	10	PILA			
Type (sub	merg./emerg./flo	ating) Family/G	ienus/specie	s		Description/Abunda	ince
				-			
st-annai			pha				
		· · · · · · · · · · · · · · · · · · ·	a construction and a second second			in Administration of the Second Se	
	- 20 - 11-11-11-11-12						
0050		014/1 7			1		
UDES:	a Uphitet Deint	SWI Surface Water	r Input	SCS Strea	am Cross S	ection	
HY Aquati	c Habitat Point	GVVI Groundwater	Input	UUX Diss	olved Oxyg	en Stn	
MP Temp	Monitor Stn	WEI Well	iy	WOS Wos	ar Survey S ter Ouslity 9	u) Stn	
in the study				AAGO AAG	ion squality v		

FLOW CONDITIC	DNS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2	1		$\overline{\mathcal{A}}$
3			Vry
4			
5			

#### WATER QUALITY

TATEN COALITY				
Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/	Other Parameters:
Air Temp. (°C): 210C	D.O. (%):	TDS (ppm):	Dec	
Time Taken: 16:20	Conductivity (µs/c	cm):	VIII	S.
Location Taken: Road Side			Υ.	

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

$\leq N$	
to Southeans	
2 listails	
Golden Pool + Grass ALA	Grass
Saybeans	

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	+EI- north		
	#2- South		

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* SAR Chamle (yellow)



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HABITAT CHARACTERIZATION

PROJEC	T (Number & Name):	a Mart		Page 1 of 2
Field Sta	aff. S Like out (	south ren		······································
Station:	INT MUTTURI	Site	ocation	
Waterboo	dv to co k to to to boo	GPS	Datum: A WID Con Easting:	
Drainage	System	Zono	Datum NAD8 2 Easting.	
I ocation	in System	Zone	cipality: Chathana I Ica	
Appr Rea	ach Length (m):	Mullic	Concession:	L.
Survey D	Date: Oct 7110	Weather Conditions:	Concession.	
Time Star	rted: 01-25			
Time Fini	ished: 9'50			
		Precipitation. More		
	Slope' Gentle (< 5°)	Modorato (5 15°) Stoor	(> 1E ⁰ )	
vancy	Extent of Natural Vagetation (m)	Moderate (5 - 15) Steep		
	Vegetation Type: ( ) ( ( )	0=10 10 to 20	20 to 30 30+	
	vegetation Type: Grass			
	Tree (Mike	201		
Riparian		m); 1 10 to	20 20 45 20 20.	
Zone			20 20 to 30 30+	
	vegetation Type. ( le (			
Cano			bada	
Land			nade	
Othor	(groundwater poils pools waretet			
Notos	(groundwater, sons, pools, vegetat	on, etc.)		
NOICS				
CHANNEL				
Channel V Deels Lleis			Gradient	
Bank Heig	ant (range (m)): $2_{VV}$ + $0.3$			
Bank Slop	e (degrees from surface of		Bank Stability	
Bank e	etation		Bank	
CHANNE	SUBSTRATE %			
Clay:	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	
Sand:	Cobble:	Marl:	Other:	
INSTREA	M HABITAT AND COVER			
Pools:			Boulder/Rock	
Riffles:			Cobble [.]	
Backwater			Other:	
NSTREAM	M VEGETATION		outor.	
Type (sub	merg./emerg./floating) Family/G	enus/species	undance	
	ground gr		undance	

CODES AHP Habitat Point AHY uatic Habitat Area TMP Temp Monitor Stn FLW Flow Monitor Stn

SWI Surface Water GWI Groundwater Input CKC Creek Crossing WEL Well CUL Culvert

SCS Stream Cross Section DOX Dissolved Oxygen Stn VSS Visual S Stn WQS Water Quality Stn

FLOW CONDITIC	DNS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		and the second	
2			
	Carrier al carrier al constant	and the second se	
5			e per de la companya
	Y		
Water Temp. (°C)	Day	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): /	706	D.O. (%): TDS (ppm):	Tr.
Time Taken: 9:4	15	Conductivity (µs/cm):	LY
Location Taken: P	Roadside -		
SITE DRAWING			
Include: watercou	urse and name, flow o	direction, riffle/pool/run habitat, side tril	butaries, station location, approx. reach length,
channel modificat	ions, adjacent landus	e, roads & road names, bridges, cuive	This, north arrow, etc
		Alar AR 20 VGL	grass grass
	M	ALANS 10 2 701 15	Viele Poori
		A BILLER	) Giddler.
	2/1 /	7461913 2 94 1	
. 0	5/140	Jan a sall	
~		AME AND	$I \subset \mathcal{A}$
21	Labor -		
DU .	shin /	1431 2893	
1-5/25	"Roll A	18 0 1	
1/39 1	or's V	134 61 F Y	
IAD	alast 1		
04	8	P DAD STIL	
		14 IN TAIL	×
	Der		
	char	000	
	Ĺ,	velch Rd	

#### PHOTOS TAKEN

Photo #	Description	Pho	oto #	Description	
	#1 - South				
() - (0) /	1				
	and the design of the second state	a ser la la ser las ser esper-			(1) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a
1 - 1 - 4 - 1 1				a la ser en la ser e	
	the second se		a) (are a 100-11-01 11-00	C 14040 - C 249 - C 27 - C 2 - C 27 - C 200	())))())))))))))))))))))))))))))))))))

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * Did abservation drawing & Dic from road very dense vegetation (Scoring cell the way through * completely dry with lots of detritis & woody debris.



						Page 1 c
PROJEC	T (Number & Na	ame): $184$ Sou	In Kent	······································	1 55°2-00(19/90000	
Station:	N-S MUL	aay	e			
Materbor	V (Ino Kos	and a second s	(	Site Location	LAD CAF	
Drainage	System:			GPS Datum:	VHID 83East	ing:
Location	in System:	(son Drain		Zone: / (	I North	ing:
Appr Re	ach Length (m)	- 30345 - 48100010201020103-01007-0	and the first of the first of the second sec	Iviunicipality: (	-hathan	1/ Kent
Survey D	ate.	0	Weather Condition	Lot & Concess	sion:	
Time Star			Wind:	S:	d Course (0())	No.
Time Fini	shed: 10:30	eren and a sum of an end of the second s	Precipitation: Non	Ciou		270
ADJACE			Treepitation. TOOL	2		
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natura	al Vegetation (m)	0-10 10 to 20	20 to	30 30+	
	Vegetation Type	e: Guass Shri	the Sumack	) Tree	(Miyor	1
		tierto COC	JUS ( (atotal	on Dod	- CIULEE	<u>, , , , , , , , , , , , , , , , , , , </u>
			and Caraller		)	
Riparian	Flood Plain - ex	tent of frequent flood (	m): (0-10)	10 to 20	20 to 30	30+
Zone	Vegetation Type	B: Girass, Shr	ut (sung	CK)		
		Herbac	eous could	(en Rool)		
	Vegetation Den	sity (HML):				Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-
Canopy	Type:Shrut	, Herbaceou	S Quality a	and % shade:	00r 4	0%
and	Agricu	uture				
Jse Dib an	(					
Jther	(groundwater,	solis, pools, vegetati	on, etc.)			
CHANNEL Channel V	<b>MORPHOLOG</b> Vidth (range (m))	Y In		Grad	ient (H/M/L)	
Bank Heig	ht (range (m)):	3mi high W	souter @ 21	n Mear	der/Straight:	
Bank Slop	e (degrees from	surface of water):	35	Bank	Stability:	gool
sank vege	etation Type: Sh	ruts (Sumack).	Hertza ceaus (0	olden kod Bank	Veg. Density (H	H/M/L):
HANNEL	SUBSTRATE 9	6	rd Girces S			
lay:	l	Gravel:	Boulder:		Muck:	
	/	Pebble:	Bedrock		Detritus	
		Cobble:	Marl:		Other:	
151 REAL		DCOVER				
00IS:		Undercut	Banks:	Bould	ler/Rock:	
iffles:		Woody De	ebris:	Cobb	le:	
		Vegetation	1:	Other		
VDO (OUD	VEGETATION	enting) Frank (O				
ype (sub	merg./emerg./fi	oating) Family/Ge	enus/species	Desc	ription/Abunda	ance
N	onl	10 10-0-10 100 0 0 0 0 0 0 0 0 0 0 0 0 0	ANNOUNCE IN A STREET AND A STREET AND A STREET			
-	and the state of the state of the					
			te the first second state and the second			
0050		0)4// 0 /				
JDES:	- Habitat Daint	SWI Surface Water	Input SCS Stre	am Cross Section		
-IY Aquati	c Habitat Area	CKC Creek Crossing	DOX Dise	solved Oxygen Str	1	
MP Temp	Monitor Stn	WEL Well	WOS Wa	ater Quality Stn		
W Flow M	Ionitor Sta	CUL Culvert		ter downly our		

FLOW CONDITIC	NS			Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	y spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			and the second statistics and the second	
2				Dry
3				
4	1			
5				
VATER QUALIT	Y			
Vater Temp. (°C)	:	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
lir Temp. (°C): )∼	(°C	D.O. (%):	TDS (ppm):	The
Гіте Taken: /〇	25	Conductivity (µs/cm):		
ocation Taken:	badsioll !			
SITE DRAWING				
nclude: watercou	urse and name, flow o	direction, riffle/pool/run	habitat, side tribu	taries, station location, approx. reach length,
channel modificat	ions, adjacent landus	e, roads & road names	s, bridges, cuiverts	s, north arrow, etc
1				Sumacks
1 - 100	S/ Fi	elor		
			(14)	1 - 6
2/7		1 1 1	XIIIC	LEW (ED) HEAVE?
( )			SATAT	
Talif Hotel	(A1) (A10)	den Roci		PRIMER RUTICA
	111100	+ Grass	GUUCSP	
Renard		channel	(OV249	rown
7,578	a) MA	XIII STR	2 RUL	1 Bolder 12/00/
1 the I for	AXATTAX	MADRAUL	CACC	O COLLEGE CU
AL N X	MU GAK	toord		
- A Marca		SY	rubs	
}	Sumach		110000	
Tree				
1		Field		
1	1	1		
1	t f			
1				
1				
PHOTOS TAKEN	l.			

Photo #	Description	Photo #	Description	_
41	- north		The support of the second s	12.1
++-2	South.	and the second		0.00
1		(	and the second sec	
		an in the second second second	- 112 - 112 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
		4		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * Channel very over grown i, dry.



				Page	l of 2
PROJEC	T (Number & Na	me): 1184 Sa	th Kent		
Field Sta	ff: S. Murra	Ч			
Station:	W7		calestate analistic importantic interaction	Site Location:	
Vvaterboo	y: unknow	) //	Contraction of the stress of the stress of the second	GPS Datum: IVAD 8'3 Easting: 4 23516	-
	System:		on an alter contra a strategica in the second	Zone:       Northing: 4670027	1
Anor Ro	In System.	and the second sec		Municipality: Chatham / Kent	
Appr. Ned	ach Lengui (m).	<u>^</u>	Weather Condition		
Time Star	ted 11:29	0	Wind 7	IS: Cloud Cover (%): Qor /	101 - F. S. S.
Time Fini	shed: 12:07	norma de la denominación de ser	Precipitation: Mono		
			recopilation. NOT		
Vallev	Slope:	(Gentle (< 5°)	Moderate (5 - 15°)	Steep (> $15^{\circ}$ )	_
	Extent of Natura	Vegetation (m)	0-10) 10 to 20	$0    20  ext{ to } 30    30+$	
	Vegetation Type	Shirt (Sum	ac		
		anals	() () () () () () () () () () () () () (		
		Herba 100	15 (Goldon +	Rod	
Riparian	Flood Plain - ext	ent of frequent flood	(m): 0-10	10 to 20 20 to 30 30+	
Zone	Vegetation Type	Shup (9	imac		
		Girass	tomaconus	(Golden Rod)	
	Vegetation Dens	sity (HML):	per services.		
Canopy	Type: Shrut	+ Heitaceou	S. Girass Quality a	and % shade: Poor 15%	
Land	Havicultu	ire	/		
Use	17.				
Other	(groundwater, s	soils, pools, vegetat	ion, etc.)		
Notes					
CHANNE	L MORPHOLOG	Y			
Channel V	Vidth (range (m))	.5-1		Gradient (H/M/L):	**
Bank Heig	ht (range (m)):	4m high	water (a) 1.	Sm Meander/Straight:	
Bank Slop	e (degrees from	surface of water):	3.5	Bank Stability: 61000	
Bank Vege	etation Type:			Bank Veg. Density (H/M/L):	_
CHANNE	SUBSTRATE %	0			
Clay:	[	Gravel:	Boulder:	r: Muck:	
Silt: V		Pebble:	Bedrock	k: Detritus:	
Sand: V			Mari:	Other:	
NSTREAT		COVER	/		
		Undercut	Banks:	Boulder/Rock:	
Riffles:	···· /- ···	Woody D	ebris: 🗸	Cobble:	0.000
3ackwater		Vegetatio	n:	Other:	
NSTREAT	VI VEGETATION				
ype (sub	merg./emerg./fic	bating) Family/G	enus/species	Description/Abundance	
1.00	che				
	······································	and the second s	nan in an airtean na airtean an airtean		
ODES:		SWI Surface Water	Input SCS Stre	ream Cross Section	-
HP Aquat	ic Habitat Point	GWI Groundwater I	nput DOX Dis	ssolved Oxygen Stn	
MP Tom	IC Habitat Area	CKC Creek Crossin	g VSS Visu	sual Survey Stn	
LW Flow	Monitor Stn		VVQS VV		
	CONTRACT WATE				

FLOW CONDITIO	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Standing water-
2	a Xaaraa ahaa ahaa ahaa ahaa ahaa ahaa a		(little Trainwalter
3			
4			
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH: Visible Characteristics/Other Parameters:
Air Temp. (°C): 10°C	D.O. (%):	TDS (ppm): Standing Water, Very
Time Taken: 11:57	Conductivity (µs/c	cm): Little (Vain worth ) I
Location Taken: 0005.dl	/	

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

E OFFICE STATION	
G President St	
and less less and a	9. g.
S S S S S S S S S S S S S S S S S S S	

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
-11-	1-1011 (#87)		
4	2-50Wth (#88)		and the second
1			

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: *-for POO9 & POOL Same conditions.



		Contractor and the second		Page 1 of 2
PROJEC	T (Number & Nar	ne): 1184 S	outh Kent	
Field Sta	ff: S.Mur	ray		
Station:	×7	meteological and the second second		Site Location:
Waterboo	Waterbody: UnKnown		GPS Datum: NAD 83 Easting: 4/16 894	
Drainage	System:			Zone: 17 -7 Northing: 4690647
Location i	n System:			Municipality: Chatham / Kent
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	ate: Oct.21	110	Weather Condition	S:
Time Star	ted: 12:27	angananan karanan karang sa	Wind: 4	Cloud Cover (%): 95 %
Time Finis	shed: 13:03		Precipitation: 0	
ADJACE				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natura	Vegetation (m)	8 0-10 10 to 20	20  to  30  30+
	Vegetation Type	Tree (Mix	eq) Shru	b, tilvita Ceaus (Under Kool)
		GIVASS		
Diposion	Elecal Diain aut	ant of frequent flood (	m); (0.10)	10 to 20 20 to 20 20 t
Zone	Vegetation Type	ent of frequent flood (		
2010	vegetation rype	Philadel	SC Grolowy M	ady Urrass.
	Vegetation Dens	ity (HML):		
Canopy	Type: Type	Shut	Quality	and % shade: Poor /S%
Land	Agricult	ture		
Use	- griene			
Other	(groundwater, s	oils, pools, vegetati	on, etc.)	
Notes			-,a) 1 1	
CHANNE	L MORPHOLOG	(		
Channel V	Width (range (m)):	1-2m		Gradient (H/M/L)?
Bank Heig	ht (range (m)):	3m high	water (a)	2.5 Meander/Straight:
Bank Slop	e (degrees from s	surface of watek):	35	Bank Stability: Grago
Bank Veg	etation Type: '3			Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %	)		
Clay: 🗸	/	Gravel:	Boulder	Muck:
Silt:	/	Pebble:	Bedroci	k: Detritus:
Sand: V		Cobble:	Mari:	Other:
INSTREA		COVER		
Pools:	none of the internet of	Undercut	Banks:	Boulder/Rock:
Riffles:	······	Woody D	ebris:	Cobble:
Backwate		Vegetatio	n:	Other:
INSTREA	M VEGETATION			Description/Abundance
Type (sur	merg./emerg./nd	bating) Family/G	enus/species	
0.1.1.1.1.1.01		7.4	pha. Cpr	Y.)
n samasa	5 Francis - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100	- The state of the second second	I Summing a	n 1 2° and a second
00555		014/1 0 ( 1111		
AHD Aque	tic Habitat Daint	GWI Groundwater	Input SCS Str	ream Cross Section
AHY Aquat	tic Habitat Area	CKC Creek Crossin	a VSS Vis	sual Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS W	/ater Quality Stn
FLW Flow	Monitor Stn	CUL Culvert		

FLOW CONDITIC	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Shall amount of
2			Standing Water
3			(rain water)
4			
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 12°C	D.O. (%):	TDS (ppm):	Small standing Waller
Time Taken: 12:52	Conductivity (µs/	/cm):	Ivain water
Location Taken: Poads, de	1		(min wall)

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
#89-	north		
#90-	South	And a start of the second s	an annan ann an an an an an an an an an
	(1) (ALAMATIN (* 1) ) (ALAMATIN (* 1)) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (* 1) (*	201-04049-00 04 0400-0410-0410-0410-0410-0410-041	
1 - 1 - 0 - 0 - <u> </u>		1-2, 25 and 1-20 - William	million and the set of a set of the

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* channel had some standing water, thought -to be rain water * Typha was present in channel, but was dry.



				Page 1 of 2
PROJEC	T (Number & Na	ame): 1184 South	Kent	
Field Sta	IT: S. Murri	ay		
Station:	47		Site	Location:
vvaterboo	y: un know	» ^	GPS	Datum: 114083 Easting: 4/480
Drainage	System:		Zone	Northing: 4693944
Location	In System:		Munic	cipality: Chatham / Kent
Appr. Rea	ach Length (m):		Lot &	Concession:
Survey D		Veath	er Conditions:	
Time Star	ned: 13 10	Vvind;/	4	Cloud Cover (%): 70°/
	sned. 13 ; 48	Precipi	tation: Non-	
ADJACE	NI LANDS		1 (5 45 ⁰ ) Of	4.459
valley	Silpe.	Gentie (< 5*) Modera	ate (5 - 15°) Steep	(> 15°)
	Extent of Natura	al vegetation (m) 0-1	0 (10  to  20) < <	20 to 30 30+
	vegetation Type	Shrub Herbac	eaus ( Gold	den Kod)
		(n. 655, )	re	
Pinarian	Eload Blain av	topt of fragment flood (m)	(0.40) 40.40	00 001 00 00
Zone	Vegetation Turk	tent of frequent flood (m):	0-10 10 to	20 20 to 30 30+
20110	vegetation type	. Onass, Hert	saceous (	Giorden Acor)
	Vegetation Den	sity (HML):		
Canopy	Type: Herb	aceous, (arass	Quality and % s	shade: Veny Poor Syla
Land	Haricul	ture		
Use	10			
Other	(groundwater,	soils, pools, vegetation, etc.)		
Notes				
CHANNE	L MORPHOLOG	Y		
Channel V	Vidth (range (m))	:.5-2m	<u> </u>	Gradient (H/M/C):
Bank Heig	ht (range (m)):	2.5m high water	@ 2m	Meander/Straight:
Bank Slop	e (degrees from	surface of water): 135	14.00	Bank Stability: Good
Bank Veg	etation Type: Gr	ass, Herbaceous ((	mollen Kod)	Bank Veg. Density (H/M/L)
CHANNEL	SUBSTRATE 9	/o		
Clay:		Gravel:	Boulder:	Muck:
Silt:	have a surger of the surger	Pebble:	Bedrock:	Detritus:
			Marl:	Other:
DUINGIREAL	MADIAT ANL			
POOIS: V		Undercut Banks:	· / · · · · · · · · · · · · · · · · · ·	Boulder/Rock:
Riffies: Deelsustes		Woody Debris:	/	Cobble:
		vegetation:		Other:
Type (sub	merg /emerg /fl	oating) Eamily/Gonus/spa		Description/Abundance
1 3 bc (3 ab	merg./merg./m	anny/Genus/spe		Description/Abundance
		- Jiliphen	Acu S	
Section 1949				and the second sec
	5 12-11			and the second sec
		SMI Surface Mater Inc.	800 Ob 0	as Castion
AHP Aquati	c Habitat Point	GWI Groundwater Input	DOX Discolude	ss Section
AHY Aquati	ic Habitat Area	CKC Creek Crossing	VSS Visual Surve	ev Stn
TMP Temp	Monitor Stn	WEL Well	WQS Water Qua	lity Stn
LW Flow	Monitor Stn	CUL Culvert		

LOW CONDITIO	NS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.48	27.29,27,23,15	Pool
2		The second	
3		1111111-1-11 - feed (first) - 45	
4	(117) (10) (00) (00) (00) (00) (00) (00) (00		
5			
VATER QUALITY			Weite Others to initia (Other Deservations)
Vater Temp. (°C):	10°C	D.O. (ppm): pH:	Standing Worker (175)
(°C): /(	112.00	D.O. (%): IDS (ppm):	clear that gets turbid
ime Taken: )314	0 113:25	Conductivity (µs/cm):	Clear, the pois (a city
ocation Taken: K	oadcoide/Instream		Lasive.
ITE DRAWING	rea and name flows		ries station location approx reach length
hannel modificati	ons adjacent landus	e roads & road pames bridges culverts	north arrow, etc
namer mounicau			
	6		
	N. P	AN AN	A A A A A A A A A A A A A A A A A A A
		Charles 10 X	18 4 11
	$ \land $	ALL CAR	N Z
	P	TOP COM	3
		a later of	1 3-1
		3 Ko S ( MA)	1 5
		5 5 8 8 6	
		2-0-2	2
		22	7
		real P P	
		A TO STIMMEN	rous
	0	all all	the
	0	X	
	278	NOV STON	
	6.5		4
	2	. LADS AND	A Star
	7	STOR I STAN	1 2 3 + F
		12HD 13 00 13	to the
		"It > Filiner	uns algae 0
			<i>v</i>

#### $\frac{\text{Description}}{1 - Worth (401)}$ Description Photo # Photo # #9

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.

* Muscrat hole observed * water was clear, but got turbid very easily.



	0			Page 1 of 2
PROJEC	T (Number & Nar	ne): 1184 South	Kent	
Field Sta	ff: S. Mury	ay		
Station:	27	10-1	Site	Location:
Waterboo	iv: Unknow	ЛО	GPS	3 Datum: NATD83 Easting: 416 409
Drainage	System:		Zone	e: 17 T Northing: 4688480
Location i	in System:		Mun	icipality: Chatham / Kent
Appr. Rea	ach Length (m):		Lot &	& Concession:
Survey D	ate: Oct 2	1110 Weath	er Conditions:	
Time Star	rted: 14:02	Wind:	3 .,	Cloud Cover (%): 954
Time Finis	shed:	Precip	itation: Nonl	1
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°) Moder	ate (5 - 15°) Stee	≥p (> 15°)
	Extent of Natura	Vegetation (m) (0-1	0 10 to 20	20 to 30 30+
	Vegetation Type	Shrub Herbo	reary (C	zalden Rod)
		Grass		. /
Riparian	Flood Plain - ext	ent of frequent flood (m):	0-10) 10 to	o 20 20 to 30 30+
Zone	Vegetation Type	Shrup, there	Da LEGUS	(Grololen Kad)
а.	10020	Qurass		
	Vegetation Dens	ity (HML):		C GAL
Canopy	Type: OhrU	b, Herbaceaus	Quality and %	shade: (21000 50%
Land	+gricult	rure / Reside	dial	
Use		-!!!		
Other	(groundwater, s	solls, pools, vegetation, etc.)		
Notes				
Channel	Midth (range (m))	E.n		Gradient (H/M/D)
Bank Heid	nht (range (m)): /	is high worth	$\Omega 2m$	Meander/Straight:
Bank Slop	ne (degrees from s	surface of water): 125	Car min	Bank Stability: Grood
Bank Veg	etation Type: Sh	with Hartacon	.C.	Bank Veg. Density (H/M/L):
CUANNE	USUBSTDATE %	THOLD, THEY IN SERVE	12.	
Clav:	LOUDGINAL /	Gravel:	Boulder	Muck.
Silt	la go a se susse	Pehble:	Bedrock:	Detritus:
Sand: V	/	Cobble	Marl:	Other:
INSTREA	M HABITAT AND	COVER		
Poole	1.	Undercut Banks:	1	Boulder/Rock:
Diffles	and frances are seen as the second	Woody Dehris	/	Cobble:
Rackwate	r .	Vegetation:	The same of the state of state of the	Other [.]
INSTREA		vegetation		
Type (sub	mera./emera./flo	nating) Family/Genus/sp	ecies	Description/Abundance
1364 (0		willing) i willing, eenseler		
N.o			· · · · · · · · · · · · · · · · · · ·	
				- a mage in the standing of finance control strength of the same of the
CODES:		SWI Surface Water Input	SCS Stream C	ross Section
AHP Aqua	tic Habitat Point	GWI Groundwater Input	DOX Dissolved	l Oxygen Stn
AHY Aquat	tic Habitat Area	CKC Creek Crossing	VSS Visual Su	rvey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Water Q	uality Stn
FLW Flow	Monitor Stn	CUL Culvert		

#### **FLOW CONDITIONS**

Page 2 of 2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.52	6.12.13.10.9	Run
2	1		
3		anna is the design of the second s	by the company of the construction of the second se
4			and the second
5	1		

#### WATER QUALITY

Water Temp. (°C): 10° (	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	SIOW -110W
Time Taken: 14:25/14:11	Conductivity (us/e	m):	North last.
Location Taken: Roook de/Instre	ani		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
<- Communication, adjacent analog, and the second a
La
Field Field
All 200 Roller farm lanewaig

#### PHOTOS TAKEN

Photo #	Description	F	Photo #	Description
=# 93	- north east	(down stream)	a aramanan	
#94	- south west	(up stream)	)	and a second s
				and a second sec
	na na ana ana ang tanang sa ana ang	We will be a wind interesting the restored in		
				1

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* slow flow north east got turbid very easily.



FLW Flow Monitor Stn

CUL Culvert

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nan	10): 1184 South k	Cent
Field Sta	ff: S. Murro	uj	
Station:	AX	1	Site Location:
Waterboo	y: UnKnown	manufacture international contraction of	GPS Datum: NAD 83 Easting: 407731
Drainage	System: Flook	and Hinton	Drain Zone: MT Northing: 44.87-450
Location i	in Svstem:	Gales and the set	Municipality: Chatham I Kent
Appr. Rea	ach Length (m):	and the contraction of the second standards and	Lot & Concession:
Survey D	ate: Oct 211	Wea	ther Conditions:
Time Star	ted: 14:40	Wind	d: U Cloud Cover (%): 90%
Time Finis	shed: 15:10	Prec	ipitation: licelet realing
	Slope:	Contin 1 50 Mad	$\sqrt{(1-1)^2}$ Others (> $15^{\circ}$ )
valley	Siope.		erate (5 - 15') Steep (> 15')
	Extent of Natural	vegetation (m)	1-10 10 to 20 20 to 30 30+
	Vegetation Type:	Tree (Oak) ??	shrub, Herbaceous (Grolden Kool)
		GURSS	
Riparian	Flood Plain - exte	ent of frequent flood (m):	0-10) 10 to 20 20 to 30 30+
Zone	Vegetation Type:	Shrub, Herbai	Ceausi Grololan tool) (grass
		A	
	Vegetation Densi	ty (HML):	
Canopy	Type: Shrub	ree, Herbaceous	Quality and % shade: Poor 30%
Land Use	Agriculti	ire / Residence	
Other	(groundwater, se	oils, pools, vegetation, etc	c.)
Notes			
CHANNE	MORPHOLOGY	·	
Channel V	Vidth (range (m))	5-000	Gradient (H/M/1)
Bank Heid	tht (range (m)):	the lack whether	Meander/Straight
Bank Slop	e (degrees from s	urface of water)	Bank Stability Ganava
Bank Veg	etation Type:	undoe of water). [53	Bank Veg, Density (H/M) ):
Dank veg			Dank veg. Densky (Trivitz).
CHANNEI	SUBSTRATE %		
Clay:	l	Gravel:	Boulder: Muck:
Silt: ~	/	Pebble:	Bedrock: Detritus:
Sand: V		Cobble:	Marl: Other:
INSTREA	M HABITAT AND	COVER	
Pools:	2	Undercut Banks	Boulder/Rock:
Riffles: 🧹	/	Woody Debris:	Cobble:
Backwater		Vegetation:	Other:
INSTREA	<b>WVEGETATION</b>		
Type (sub	merg./emerg./flo	ating) Family/Genus/s	pecies Description/Abundance
٨	1000		
	101.0		ana ana ana ana amin'
AA111102000-14		1114 1 1 1 4 1 1 4 1 1 1 1 1 1 1 1 1 1	
ANN AN A	<u></u>		and the second
CODES:		SWI Surface Water Input	SCS Stream Cross Section
	HP Aquatic Habitat Point GWI Groundwater Input DOX Dissolved C		DOX Dissolved Oxygen Stn
TMP Temp	MP Temp Monitor Stn W/EL Wall WOS VIsual Surv		WOS Water Quality Stn

#### **FLOW CONDITIONS** Discharge/Pool/Riffle/Run/Notes 5 Depths, equally spaced (cm) Wetted Width (m) **Cross-Section** RIFFU 1.15 11,15,17,9,8 1 Hydraulic Head I can 2 3 4 5

1

#### WATER OUALITY

Water Temp. (°C): 10°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	Moderate flow north.
Time Taken: 15 00	Conductivity (µs/c	cm):	
Location Taken: In Stream		V0/45	

Page 2 of 2

#### SITE DRAWING



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
# (	75- north (dawn si	tream)	
the c	76-South (up St	ream S	entering and the state of the s
			and shares at the second state of a second state of the second state o

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use * lots of water, looks like good fish habitat, but no cyprivids whre seen of * raccoon tracks observed. and vegetation, etc.:



WEL Well

CUL Culvert

TMP Temp Monitor Stn

FLW Flow Monitor Stn

#### HABITAT **CHARACTERIZATION**

				Page 1 of	
PROJEC	T (Number & Name): [[]	84 South Ke	tre		
Field Sta	IT: S. Murray				
Station:	28 1	4-(1)(106-1079-11-11) Fridmin(1)) - (101-109-1		Site Location:	
Waterboo	dy: unknown			GPS Datum: NAD 83 Easting: 40 6930	
Drainage	System: 1-100% and	of notwith le	chir /	Zone: 7 T Northing: 468858C	
Location	in System:		N	Aunicipality: chatham / Kent	
Appr. Rea	ach Length (m):	And the second second second	L	ot & Concession:	
Survey D	Date: Oct. 21 10	Weather	Conditions:		
Time Sta	rted: 15:20	Wind: -	3	Cloud Cover (%): 9 53/3	
Time Fini	ished:/6;10	Precipita	tion: None		
ADJACE	NT LANDS	5			
Valley	Slope: Gent	le (< 5°) Moderate	e (5 - 15°) S	Steep (> 15°)	
	Extent of Natural Vegeta	tion (m) 8-0-10	) 10 to 20	20 to 30 30+	
	Vegetation Type: Cara	55			
			-		
Riparian	Flood Plain - extent of fre	equent flood (m):	(0-10) 1	0 to 20 20 to 30 30+	
Zone	Vegetation Type: Girc.	ss, Herbaceo	us (Corol	den Rod)	
	Tre	e (Maple)		· · · · · · · · · · · · · · · · · · ·	
	Vegetation Density (HM)	.):			
Canopy	Type: Herbaceous,	Tree, Cirasos	Quality and	1% shade: Poor 5%	
Land	Agriculture	, ,			
Use					
Other	(groundwater, soils, po	ols, vegetation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel V	Width (range (m)): , <>-	Im	-	Gradient (H/M/L)	
Bank Heig	ght (range (m)): 5m	nigh water	a 2r	Meander/Straight:	
Bank Slop	be (degrees from surface o	of water): 135		Bank Stability: Good	
Bank Veg	etation Type: Tree (Ho	ple) Herbaceous (	Golden Red	Gtrass Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %				
Clay:	Grave		Boulder:	Muck:	
Silt:	Pebb	le:	Bedrock	Detritus:	
Sand:	Cobb	le [.]	Marl:	Other:	
NSTREA		2	IVICIT.		
		Lindersut Daulast	/		
POOIS:	(web-accepted energy energy (avec a constraint of a constraint	Undercut Banks:	/	Boulder/Rock:	
Rimes:		Woody Debris:			
		Vegetation:		Other:	
NSIREA	M VEGETATION		1	Description/Abundance	
rype (sur	omerg./emerg./noating)	Family/Genus/spec	les	Description/Abundance	
No	one.			the second se	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
CODES:	ODES: SWI Surface Water Input SCS Str		SCS Stream	ream Cross Section	
AHP Aquat	P Aquatic Habitat Point GWI Groundwater Input DOX Dis		DOX Dissol	ssolved Oxygen Stn	
AHY Aquatic Habitat Area CKC Creek Cro		Creek Crossing	VSS Visual Survey Stn		

WQS Water Quality Stn
FLOW CONDITIC	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Small amount of
2			Standing water
3			(rain water)
4			,
5			

#### WATER OUALITY

WATEN GOALITT			
Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 11C	D.O. (%):	TDS (ppm):	per la constante de
Time Taken: 15:50	Conductivity (µs/cm):		
Location Taken: Roadside			1

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... Marchi M Grolden Rod Standing water (small amour Tras lder Golden Rool orolden Rod Roch Field

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#97-East		and the second
	#-98-west		
- table or they	anal. Ap		and the second

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use * regetation consisted mostly of grasses. i There were only a couple of Mogeles is a small amount of Golden Rod. and vegetation, etc.:

* coupte scats observed on the walk in.



TMP Temp Monitor Stn

FLW Flow Monitor Stn

WEL Well

CUL Culvert

Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name): 119	14 South Ke	nt		
Field Sta	ff: S. Murray				
Station:	C8		Sit	te Location:	
Waterbod	V: UN KOOUNO	the second	GF	PS Datum: NIVAT	58 = Easting: 40472.3
Drainage	System:		Zo	one: /기 1	Northina: 469 62 80
I ocation i	n System:	Personal construction and R	Mı	inicipality:	attacing 1 Kent
Appr Rea	ich Lenath (m):	and have been and the interview of the second s	0	t & Concession:	
Survey D		Weather	Conditions:		
Time Star		Wind 2		Cloud Cov	ver (%): \$70%
Time Finis	shed: 1(2:5(-	Precipital	tion: Man		
		Troopia	ion. Norde		
	Slone: Contl	Nodorato	(5 15 ⁰ ) St	$con(> 15^{\circ})$	
vaney	Extent of Natural Vacatat		(10 to 20)	$\sim$ 20 to 30	20+
	Vogetation Type:		101020	2010 30	30-
	vegetation type.	(toplar) white	D Commande	)	
	ter	paceous (Otolder	n Koal)		
Disasian	Gira		(210) 10	h- 00 0/	24.00
Riparian	Flood Plain - extent of fre	quent flood (m):	0-10 10	1020 20	J to 30 30+
Zone	vegetation Type:	rass Dhru	D (Suppac	(Willow)	
		perisa cears (C	tolden koci	)	
0	Vegetation Density (HML)	:	0 10 10	N 1 1 0	AA
Canopy	Type: Tree Shout	2	Quality and	% shade: CXC	elent 85 %
Land	Hgriculture				
Other	(groundwater soils not	ale vocatation atc.)			
Notos	(groundwater, sons, por	ons, vegetation, etc.)			
NULES					
	NODDUOLOOV				
CHANNE		2		Gradiont	
Bank Hoia	vidur (range (m)): , 5 -	ZIVA LAATIC (	200	Maandad	Straight:
Dank Fler	a (dagrage from surface a	ligh water (	a 2 SYr	Book Stal	Straight.
Dank Siop	etation Tuna:	water). 135	(Cille Del		Density (PM/L):
bank veg	etation Type. Snrub (Sh	linac ) Her Daceaus	Goden Rog	Conspank veg	. Density (H/M/L).
CHANNE	SUBSTRATE %				
Clay:	Grave		Boulder:		Muck:
Silt: 🗸	Pebbl	e:	Bedrock:		Detritus:
Sand: V	Cobbi	e:	Marl:		Other:
INSTREA	M HABITAT AND COVER		1		
Pools:		Undercut Banks:		Boulder/R	lock:
Riffles:	den en estado en est	Woody Debris: V		Cobble:	
Backwater	1	Vegetation:	34 x x	Other:	
INSTREAM	VI VEGETATION				
Type (sub	merg./emerg./floating)	Family/Genus/speci	ies	Descripti	on/Abundance
		Phymite	20	Sono a	in one Dart of
		1 magine		conce	the change I
					(varial 100)
+++++++++++++++++++++++++++++++++++++++			)+()())111(0.0)0	)))))	very tarke)
CODES		turfono Mietor Innut	000 0	Crass Section	· · · · · · · · · · · · · · · · · · ·
AHP Aquet	ic Habitat Point CWU C	Proundwater Input	DOX Discolu	oloss Section	
AHY Aquat	ic Habitat Area CKC (	Creek Crossing	VSS Visual S	Survey Stn	

WQS Water Quality Stn

LOW CONDITIO	NS				Page
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	y spaced (cm)	Discharge/	Pool/Riffle/Run/Notes
1				and the second s	
2	1		L LINE & DESIGNATION OF A CONTRACTOR	Only m	ioist
3	1		A PARTY AND ADDRESS OF TAXABLE		an ana ana ana ana ana ana ana ana ana
4			and the second second second	en el altra de la companya de	
5					
ATER QUALITY	/				
/ater Temp. (°C)	: /	D.O. (ppm):	pH:	Visible Character	ristics/Other Parameter
r Temp. (°C): 70	J°C,	D.O. (%):	TDS (ppm):	Moist S	soil only
me Taken: /(a	4-	Conductivity (µs/cm):			(
ocation Taken:	loadiside				
TE DRAWING	6	)			
clude: watercou	irse and name flow	direction, riffle/pool/run	habitat, side tribut	taries, station locatio	n, approx. reach length
annel modificat	ions, adjacent andus	se, roads & road name	s, bridges, culverts	s, north arrow, etc	M
Y-	+XRX +	H X Pr	Consider Kall	بر بال ال	XI
× 1	A V Denne			- All	V
Cr- vs	D 212 Curr	A VERT	Nota.	1 >	
LUALT &	Ne signi	All sudding	MASSY	AA	
V KUTALA	ma ton	O SKAR (MAR)	ALKNASS	KAR -	(orn Fill
-XUUY9		TO TO	TH V LI	KAC L	
XII a 12	MASS X	240 01	Mac N	NKAK	
1.2		17 m		$M \times 1 $	2
	and the second		on will boo	MACENT	
	VISA	Para	No Charles	H Alton	Golden Rod Phragm
$\sim$ $\sim$	1 YHE	Ser is	S tom	· XPERS	Jos I Pres
14	dden X	XXXXX	h	A AN	(V=+
5	Rod	LIJAKK \	MAN.	2011	1SCA
0		XALK A	1110/102	Willow, Sh	
6 ⁻	1.30	12-11-0	SY WA	Samp . md	
	al Sup	~ (22)2A	XXIXP	(n)	
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( orn	TIMUT	1	NX ()	1 TON	11147114010
U •					11 11 11 11 11 11 11 240 18 1
Co.			ALL A	X   Y > 0	
C.		Joe	Vune-	XIB \	
Con		Joi	E uppor		

#### **PHOTOS TAKEN**

Description	Photo #	Description
1= Mouth		
2-G	en entre de la company	and the second
		аналаранын алар на талар (аран) (Хараран (арар) (арар на талар на талар на талар на талар на талар на талар на т
10 (11,00 (0, 12		
	$2 = 1   0 \times 1   0 = 1$	Description 1= Nox+b 2= S

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* moist channel Standing turbid water @ culvert that goes under 8th Line. * 10ts of detritus * raccoon tracks observed



							Page 1 of 2
PROJEC	T (Number & Na	me): 1184 South	Kenj	t	ila contenne e s		
Field Sta	ff: S. Murro	ief					
Station:	D8 * SP	FR (yellow)	-		Site Location	on:	Contraction of the Contraction o
Waterboo	y: un Know	$\sim$			GPS Datum	NATO 83 Easting: 3870	476
Drainage	System:				Zone:	Northing: 4678	531-2
Location i	in System:				Municipality	Chatham / Ker	1t
Appr. Rea	ach Length (m):				Lot & Conce	ession:	C.
Survey D	ate: Oct 22	10	Weather	Conditions			
Time Star	ted: 7:45		Wind: C	)	Cl	oud Cover (%): (),	
Time Fini	shed:8:15		Precipitat	ion: Non	e		
ADJACE	NT LANDS						
Valley	Slope:	(Gentle (< 5°))	Moderate	(5 - 15°)	Steep (> 15	°)	
	Extent of Natura	Vegetation (m)	0-10	10 to 20	20	to 30 30+	
	Vegetation Type	: Rare					
		P					
				0			
Riparian	Flood Plain - ext	ent of frequent flood (r	n):	(0-10)	10 to 20	20 to 30 30+	
Zone	Vegetation Type	: Bare		$\smile$			
	Vegetation Dens	sity (HML):				A	_
Canopy	Type: Non	l		Quality a	nd % shade:	Orth - Ulay	Poor
Land	Hgrian	ture					-
Use	- 11						
Other Notes	(groundwater, s	solls, pools, vegetatio	on, etc.)				
CHANNE	L MORPHOLOG	Υ					
Channel V	Width (range (m))	25m	- PO-11	<	Gr	adient (H/M/L):	
Bank Heig	pht (range (m)):	0.1577			M	eander/Straight:	·
Bank Slop	be (degrees from	surface of water): 4	-5.	n	Ba	ink Stability: Crood	
Bank Veg	etation Type: 🚩	are			Ba	ank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %	6					
Clay: V		Gravel:	a	Boulder:		Muck:	
Silt: 🗸	/	Pebble:		Bedrock:		Detritus:	
Sand: 🗸		Cobble:		Marl:		Other:	
INSTREA	M HABITAT AND	O COVER					
Pools:		Undercut I	Banks:		Bo	oulder/Rock:	
Riffles:		Woody De	bris:		Co	obble:	
Backwate	r:	Vegetation	1:		Ot	her:	
INSTREA	M VEGETATION						
Type (sub	omerg./emerg./fl	oating) Family/Ge	enus/speci	es	De	escription/Abundance	
Non	0						
(							
		and the second second			A10 A1 A110		
							()
CODES:		SWI Surface Water	Input	SCS Stre	am Cross Sec	tion	
AHP Aquat	tic Habitat Point	GWI Groundwater In	iput	DOX Diss	solved Oxyger	ı Stn	
AHY Aquat	tic Habitat Area	CKC Creek Crossing	J	VSS Visu	al Survey Stn		
TMP Temp	Monitor Stn	WEL Well		WQS Wa	ater Quality Str	1 ,	
FLVV Flow	wonitor Stn	CUL Culvert					

FLOW CONDITIO	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Only Small amount
2			of Standing Water
3			
4	/		(rain water)
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): / 'C	D.O. (%):	TDS (ppm):	Small amount
Time Taken: 7,05	Conductivity (µs/c	cm):	- of structure unter
Location Taken: Roods de	/		or operating warder

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Hornested field Saybeen field	Standard field	
	( 1 V (dug under?)	

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
Ŧ	101 - east	and the second sec	and a second
1. T.	102 - WEST	a seconda a arrestado	and the second
in the second	- at the same set of the remaining one		
- (0+()) 1)	al construction of the length of the second state of the second st		

### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* Drain is a yellow SAR drain, however it appears that this alrain has been align under see "I" for information on east of drain that is not due under least of



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

	T (1)			Page 1 o
PROJEC	T (Number & Na	me): 184 Sou	th Kent	and an off start of the start and the second start of the
Field Sta	m: S. Murra	4		
Matarbac	V.C. X. SH	RIFERON	ering	Site Location:
Drainago	Y.L.Y. KNOWN	ala de la composición		GPS Datum: NAD 83 Easting: 38655 9
Drainage	System:	Print a strength of the streng		Zone: 11 T Northing: 4680429
	n System.			Municipality: Chatham / Keit
		2110		Lot & Concession:
Time Star	tod: Still	< <u>()</u>		Olevel Orece (%)
Time Star	shod: 9° 00		Procipitation:	
	Slope:	Captile ( 5 P)	Mederate /F 450	$O_{1}$
ancy	Extent of Natur		Moderate (5 - 15 ⁻ )	Steep (> 15°)
	Vegetation Tun	al vegetation (m)	U-10 10 to 20	20 to 30 30+
	vegetation Type	Vee C Mixe	a) Shrut	(Suprac)
		Herbelleand	CONCERN KOOL	Orciss
Riparian	Flood Plain - ex	tent of frequent flood (m	)· 0_10 (	10 to 20 20 to 30 20+
Zone	Vegetation Type	Tree ( Hiree)	) Shart IS.	
		Hetacoco	Capitol 20	
	Vegetation Den	sity (HML):	L'united for	(4)
anopy	Type: Tree	Shrut	Quality a	nd % shade: Excellent 80%
and	Havia 11	url.		
se	0			
Other	(groundwater,	soils, pools, vegetatio	n, etc.)	
lotes				
HANNEL	MORPHOLOG	Y		
hannel V	Vidth (range (m))	12.5-4.5		Gradient (H/M/C)?
ank Heig	ht (range (m)): 4	5m high up	der (co 2.5n	Meander/Straight:
ank Slop	e (degrees from	surface of water): 135		Bank Stability: Good
ank Vege	etation Type:	re(Hixed) Shuts (	Sumac) arass Herba	Aceous Bank Veg. Density (H/M/L):
HANNEL	SUBSTRATE %	6	(100)016	2n Rod)
lay: 🗸	~	Gravel:	Boulder:	Muck
lt: 🗸	2	Pebble:	Bedrock:	Detritus
and: V		Cobble:	Marl:	Other:
STREAM	M HABITAT AND	) COVER		
ools: 🗸		Undercut Ba	anks:	Boulder/Rock:
ffles:	/ /	Woody Deb	ris:	Cobble:
ackwater	1	Vegetation:		Other
STREAM	VEGETATION			
vpe (sub	merg./emerg./fl	oating) Family/Gen	us/species	Description/Abundance
10)	in l			
- Constant Mar	the second second second second	and the second		
				e e conservation de la seconda de la conservation de la conser
	4 -0 -0 1 1 1 1			
DES:		SWI Surface Water In		am Cross Section
IP Aquati	c Habitat Point	GWI Groundwater Inn	ut DOX Dice	olved Oxvgen Stn
Y Aquati	c Habitat Area	CKC Creek Crossina	VSS Visu	al Survey Stn
IP Temp	Monitor Stn	WEL Well	WQS Wat	er Quality Stn
W Flow N	Aonitor Stn	CUL Culvert		

Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
4.45	4,9,15,10,3	Run.
and and an experimental second se	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	
1		
	and the second state of th	The second of th
1		
	Wetted Width (m) 4.45	Wetted Width (m) 5 Depths, equally spaced (cm) 4.45 $4.2,15$ , 10, 3

# WATER QUALITY

Water Temp. (°C): S° (	D.O. (ppm):	pH:	Visible Characteristics/C	other Parameters:
Air Temp. (°C): 3°C	D.O. (%):	TDS (ppm):	slow -tlow	North
Time Taken: 8:45	Conductivity (µs/c	cm):		
Location Taken: In Stream				

## SITE DRAWING

In	iclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
cł	hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
	N Conter 7 conter N
	( ) de de la
	Son 2 All 3 Si Guave All Field.
	Average Residence Sumail Sumail Sumail 2000 V Junk Vaid

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
n - rie - ree i	#103 - noith #104 - south		
	international contract of the description of the second	(a) [-(	and a second s
			12112-1111-1-1112-1-11-11-11-11-11-11-11

# GENERAL COMMENTS

Fish observed, unus	susal conditions, differe	ences from previous site	visit, landowne	er comments,	topography,	general land use
and vegetation, etc.	* found a	dead easter	n fox :	sharke a	on the	rocel
E. E.	# SAR Lyellow	S) drawn ward.				
	XE SLOVU + ICLU	()) ) istal	NA 1010 / 10		tals at	convert
	Texcellent	tish habitast i	NONORARA NI	o gypnin	leis of	Bervela



			Page 1 of
PROJECT (Number	& Name): 1184 Sour	th Kent	
Field Staff: S. M.	uvrqu		
Station: RP-1 (	all)		Site Location:
Waterbody: unk	nown		GPS Datum: NAD 83 Easting: 421299
Drainage System:	101111111 (111110) (111111) (1111111) (11111111) (1111111) (1111111)		Zone: $\square \top$ Northing: $4690441$
Location in System:			Municipality: Chatham /Kent
Appr. Reach Length (	(m):		Lot & Concession:
Survey Date: Qc4	-27-10	Weather Conditions:	
Time Started: 6, )	5	Wind: 3	Cloud Cover (%):
Time Finished: 😽 :	45	Precipitation: None	
ADJACENT LANDS			
Valley Slope:	Gentle (< 5 [×] )	Moderate (5 - 15°)	Steep (> 15°)
Extent of r	latural Vegetation (m)	0-10 10 to 20	(20 to 30/25 30+
Vegetation	Type: Tree (Mix Herbaleau	ced) Shrub ( S (Golden Rod	Sumat, Orrey Ologwood)
Riparian Flood Plair	- extent of frequent flood	(m): 0-10	10 to 20 20 to 30 30+
Zone Vegetation	Type: Type (M)	red) Strut	- (sumac)
	Aterbac	onis (Gidde	in Rock
Vegetation	Density (HML):	eurs contra	
Canopy Type:	roo, Shrut	Quality an	nd % shade: Grooel (a) %
Land Hari	culture / 1	205, dential	
Use ()		Coloren	
Other (groundwa	ater, soils, pools, vegeta	ition, etc.)	
Notes			
CHANNEL MORPHC	LOGY		
Channel Width (range	* (m)): 105 - 4.5	m , n	Gradient (H/M/L)
Bank Height (range (r	n)): 3. Swy hig	in water (a 2	Sm Meander Straight
Bank Slope (degrees	from surface of water): (	135	Bank Stability: Graco
Bank Vegetation Type	: Tree (Mixed) S	hut (Sumac) Hert	Darod, Bank Veg. Density (Ĥ/M/L):
CHANNEL SUBSTR	ATE %	Corold	len Rod)
Clay:	Gravel:	Boulder:	Muck:
Silt: V/	Pebble: V	Bedrock:	Detritus:
Sand: V	Cobble: V	Marl:	Other:
INSTREAM HABITAT			
Pools: V	Undercu	ut Banks: 🗸 🖉	Boulder/Rock:
Riffles:	Woody I	Debris:	Cobble:
Backwater:	Vegetati	on:	Other:
INSTREAM VEGETA	TION		
Type (submerg./eme	rg./floating) Family/	Genus/species	Description/Abundance
Man	٤		
CODES:	SWI Surface Wate	er Input SCS Strea	am Cross Section
AHP Aquatic Habitat Ar	Dint GVVI Groundwater	Input DUX DISS	olved Oxygen Stn
TMP Temp Monitor Stn	WEI Well	WOS Wat	al Survey Stn tor Quality Stn
FLW Flow Monitor Stn	CUL Culvert		

			, ago = or E
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.27	18.24.20 14.14	200
2		· · · · · · · · · · · · · · · · · · ·	
3			
4			
5			ferne ("Annal" and a same and area and area and a second second and a second second second second second second

# WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 10C	D.O. (%):	TDS (ppm):	Slaw they horth (c)
Time Taken: 8:25	Conductivity (us/c	m):	allvert, standing
Location Taken:			water north of advert

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run/habitat, side tributaries, sta	ation location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north a	rrøw, etc D
the stand of the woody	
IN APRIL OF CLEISTON	1005
	L'un N
- 1 (20) ON	Cill
Field Thomas Illight S 2 400 The	Field
KIN SACTOR	TGiblen
VII/IC SE VI/I	Rod
and what is what	A carlar 20
4 7 1 4 XXX V V Burner De CAL	A G C PD
- IL The ALL I I COMMERCE ALL	-2012-11-12/2
ADDRY Channel	- PRUGLERDA
out man what what when	474195777482
	- Grey Dogwood
Kailload X Crossing	Thicket.
2222222777	La Croken Lod
DRY Channel	PRY Chample 1_
	State Variation in the
	A A A A A A A A
bet upper The the	and a log log has
	San Aler String Sch
- man here a stand	and the second second
FULL TO FILL TO FILL	
	1 Sugarison

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1-110gon connera	-north)	
	AZ-1109 on Celmerce	-South)	
17	Cite in the cite cite		
		-	

# GENERAL COMMENTS

Page 2 of 2



	9			Page 1 of 2
PROJEC	T (Number & N	lame): ∥%4 ≤	south Kent	
Field Sta	aff: S. Murro	iy.		
Station:	RR2	1		Site Location:
Waterbo	dy: UNKnow	Δ		GPS Datum: NHD 83 Easting: 470701
Drainage	e System:	417 (175 (basis) - 168 (basis) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	104 (C. 1) (C. 1)	Zone: 17 1 Northing: 46960015
Location	in System:			Municipality: Chatham / Kent
Appr. Re	ach Length (m):			Lot & Concession:
Survey [	Date: Oct.2	1'10	Weather Conditions	
Time Sta	arted: 9/00		Wind: 3	Cloud Cover (%): O V
Time Fin	ished: 930		Precipitation: 6	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natu	ral Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type: Tree (Mixed) Shrub (Willow)			
		Herbaceu	us (Golden	Rod)
Ripariar	Flood Plain - e	extent of frequent flood	l (m): 0-10	10 to 20 20 to 30 30+
Zone	Vegetation Ty	pe: Tree (Mix.	ed) Shrub (Will	ow) Hert-cileous ( 1000lotin Rod)
	Vegetation De	nsity (HML):		
Canopy	Type: Type	Shrut the ballow	us Phragmilles Quality a	and % shade: 61000 45%
Land Use	Agricul	ture / Reside	ntial	
Other	er (groundwater, soils, pools, vegetation, etc.)			
NOTES				
CHANNE		GY		
Channol	Width (rango (m			Gradient (H/M/L)

Channel Width (range (m)): 🖉 5 - 1	Gradient (H/M/L)
Bank Height (range (m)): 105 high welly (2,5m	Meander/Straight:
Bank Slope (degrees from surface of water): 135	Bank Stability: Good
Bank Vegetation Type: Her Suceaus (molden Roa) Tree (Mixed)	Sprt.(b(latilitary) Bank Veg. Density (H/M/L):

CHANNEL SUBSTRATE %				
Clay:	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	
Sand:	Cobble:		Other:	
INSTREAM HABITAT AND	COVER	1		
Pools:	Undercut Banks	I,	Boulder/Rock:	
Riffles: Woody Debris:			Cobble:	
Backwater:	ackwater: Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./flo	oating) Family/Genus/s	species	Description/Abundance	
	PhyaGan	nites	Pockets	
· · · · · · · · · · · · · · · · · · ·			and for the former of the second s	ed (make one and the second
	+++ ( ++++++++++++++++++++++++++++++++	the set in the description of the set		
	The second second second			
CODES:	SWI Surface Water Input	SCS Stream Cr	oss Section	
AHP Aquatic Habitat Point	HP Aquatic Habitat Point GWI Groundwater Input		DOX Dissolved Oxygen Stn	
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Sur	VSS Visual Survey Stn	
TMP Temp Monitor Stn	WEL Well	WQS Water Qu	uality Stn	
FLW Flow Monitor Stn	CUL Culvert			

Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes	FLOW CONDITIC	DNS				Pa	ge 2 of 2
1   2     3   4     5   D.O. (ppm):     Vater Temp. (*C):   D.O. (ppm):     PIT Temp. (*C):   D.O. (%):     Time Taken:   Q.25     Conductivity (ustom):   D.B.Y     Direction:   D.O. (%):     Time Taken:   Q.25     Conductivity (ustom):   D.B.Y     Direction:   D.B.Y     Direction:   D.B.Y     Britten Rawing   D.O. (%):     Time Taken:   Q.25     Conductivity (ustom):   D.B.Y     Directions:   D.G. (%):     Time Taken:   Q.25     Conductivity (ustom):   D.B.Y     Directions:   D.G. (%):     Temperature   D.G. (%):     Time Taken:   Q.25     Conductivity (ustom):   D.B.Y     Directions:   D.G. (%):     Temperature   D.G. (%):     Temperature   Temperature     Matter   D.G. (%):     Direction:   D.G. (%):     Direction:   D.G. (%):     Direction:   D.G. (%):     <	<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	y spaced (cm)	Discharg	e/Pool/Riffle/Run/No	otes
2   4     4   5     Water Temp. (*C): D.O. (ppm): D.O. (ppm): D.O. (%): TEDS (ppm): TEDS (ppm): DRY     Time Taken: Patersed     Jost Conductivity (µs*cm): DRY     Jost Conductivity (µs*cm):     Jost Conductivity (µs*cm):     Jost Conductivity (µs*cm):	1		5 5 (11) (4 - 10) (4 - 11) (11) (11) (12) (4 - 12) (4 - 10) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 12) (4 - 1	n [°]			
3   H     4   5     WATER QUALITY     Water Temp. (°C):   D.O. (ppm):   pH:   Visible Characteristics/Other Parameters:     Air Temp. (°C):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):     Inter Taken:   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):     Joation Taken:   D.O. (ppm):   Conductivity (µs/cm):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):   D.O. (ppm):     Joation Taken:   D.O. (ppm):   Conductivity (µs/cm):   D.O. (ppm):   D.O. (ppm): </th <th>2</th> <th>-241-01-011010-01-01-01-01-01-01-0</th> <th>Carrier International College Constants</th> <th>united second second sections</th> <th></th> <th>The second s</th> <th>1 - 1 - 1</th>	2	-241-01-011010-01-01-01-01-01-01-0	Carrier International College Constants	united second second sections		The second s	1 - 1 - 1
4     S     WATER QUALITY     Water Temp, (°C):   D.O. (ppm):   pH:   Visible Characteristics/Other Parameters:     Air Temp, (°C):   D.O. (%):   TDS (ppm):   DRY     Jocation Taken:   2.5   Conductivity (µs/cm):   DRY     Jocation Taken:   2.5   Conductivity (µs/cm):   DRY     JSTE DRAWING   Site Drawing   DRY   Drawet     Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, thannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc   N     Wassi dance   N   N   N     Wassi dance   Golden   N   N     Wassi dance   N   Golden   N     Wassi dance   N   Golden   N     Wassi dance   N   Golden	3			all and a second second second		284	
5     WATER QUALITY     Water Temp. (°C):   D.O. (ppm):   pH:   Visible Characteristics/Other Parameters:     Aix Temp. (°C):   D.O. (%):   TDS (ppm):   DRY     Time Taken:   O:   Scatter Top Parameters:   DRY     STE DRAWING   Conductivity (µs/cm):   DRY     Include:   Watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc   N     Variable   Galden   N     Variable   Galden   N     Variable   Rod   Water Top Reverse   N     Variable   Rod   Water Top Reverse   N     Variable   Galden   N   N     Variable   Rod   Water Top Reverse   N </th <th>4</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	4						
WATER QUALITY Water Temp. (°C): DY C. D.O. (ppm): pH: Visible Characteristics/Other Parameters: Air Temp. (°C): PY C. D.O. (%): TDS (ppm): DRY Location Taken: OF Pactward SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Water Course and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Water Course and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar Caladar	5						
Water Temp. (°C): D.O. (ppm): pH: Visible Characteristics/Other Parameters: D.O. (%): TDS (ppm): DRY Conductivity (µs/cm): DRY SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Winnel Watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Winnel Watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Winnel Watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc N Water Text and the top of the reaction of the reaction of the top of the reaction of the reaction of the top of the reaction of th	WATER QUALIT	Y					
Air Temp. (°C): N2 °C. D.O. (%): TEDS (ppm): DRY Location Taken: 9: 25 Conductivity (µs/cm): DRY SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc N N N N N N N N N N N N N	Water Temp. (°C)	PRY.	D.O. (ppm):	pH:	Visible Charact	teristics/Other Parame	eters:
Time Taken: 9.25 Location Taken: on Pathony SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc N N N N N N N N N N N N N	Air Temp. (°C):	2"0	D.O. (%):	TDS (ppm):	-		
Location Taken: on Palway SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc N N N N N N N N N N N N N	Time Taken: 🍳	25	Conductivity (µs/cm):			)RV	
SITE DRAWING Include: watercourse and name, flow direction, iffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc N Water and a stream of the stream o	Location Taken:	In Railway			di la contra di la		
nclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	SITE DRAWING	k.					
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	Include: watercou	urse and name, flow	direction, riffle/pool/run	habitat, side tributa	ries, station locat	tion, approx. reach ler	ngth,
Ditch Same type as Rin	channel modificat	ions, adjacent landus	se, roads & road names	s, bridges, culverts,	north arrow, etc.	· /\	
Lozosidence Lozosidence Field Ditch Same type as Riv	~	TX a	Chim Ber	/			
Lo Rosidence Golden Field Ditch Same type as Rin		Willow 19	CHIM YEAR C	7		L.	
Lozosidence Golden Field Ditch Same type as Rin	1-	1 Staring	KIN AND	- roplar		10	
Lozosidence Golden Field Ditch Same type 25 Riv			10 200	No.	amites	2	
Golden Field Rod Hill Golden Field	1	~	X THE	HAL PINK	()		
Field Rod Hill Gudden Field	LD	kes; dence	_ NYUT	UX L	V		
Field Rod Hill Golden Field Ditch Same type as Rin			1 0 2 2	- 14-02A			
Field Rod All Are type as Rin			XIA	2, What (	eadv :		4
Field Rod Hill Area Phrogenites Ditch Same type as Rip			NEL	12/22	9		
Field Rod Hill Acoden Field			A Star	STA	~~~~		
Field Rod fillithe Gudden Field		Gra	naen	2 2000	-Phrage	utes	÷.
Rield Millie Guiden Field. Ditch Same type as Rip.		1	200 196	7779-11	° A		
Ditch Same type as RID.	6		TMA	MUNDAL.	IL CE		
Ditch Same type as Rip	L.	lici	11/274	1041974	scolder -	12 0 1	
Pitch Same type as RID.	-		11-121	( TP	K5 d	I	28
Ditch Same type as RID.				4 CATL		é	
Pitch Same type as RID.					~		
Pitch Same type as RID							
121 tch Same type as Khip			_	τ		(DI)	
		1-1-1-d	1 Sam	re ty	pea	D SIN	
		· · · · · ·					

#### PHOTOS TAKEN

Photo #	# Description	Photo #	Description
	PICH - north		
	<i>6.10</i>		
			and a second

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* drain is only to the north. * ditch is same as in "RIII"

		NATURAL RES	Wetland Biologists	ions Inc.	HABITAT CHAPACTERIZATION
	T (Number 9 Ne				Page 1 of 2
PRUJEU	off: CH	me): 1184 Sau	th Kent		
Station	DDZ MUrr	dy	and the second second	Site Location:	2 - Charles Martin Provent
Waterbo	AC MAKING		(	GPS Datum	Easting: //
Drainage	e Svstem:	V. 1	the second s	Zone	Northing 95 (97)
Location	in System:			Municipality:	
Appr. Re	each Length (m):			Lot & Concession	
Survey I	Date: () (+. 2	7110	Weather Conditio	ns:	
Time Sta	arted: 9'40	and the second second	Wind: 3	Cloud Co	over (%):
Time Fin	ished: 9:55		Precipitation: C	24. 化相关性管理机	
ADJACE	INT LANDS	C. A. A. M. S. M. S.		and the second se	
Valley	Slope:	Gentle (< 5°)	Moderate (p. 15°)	Steep (> 15°)	Provide State Stat
3	Extent of Natura	Vegetation (m)	(-10 ) to 22	20 20 to 30	30+
	Vegetation Type	Thee (Mi	ixed) Her	Saul Cours ( U	aden Kod)
	Sector Contraction	The Antherine	and starting and		
Diparian	Diana Diala	and all from a life and		10 10 00 0	001-00
	Vegetation Type	tent of frequent flood (	(m):		20 to 30 30+
Lone	vegetation Type	- HEIDAL	ever (Conver	(EN XOU)	
	Vegetation Dens	sity (HMI):	923-2-3	· · · · · · · · · · · · · · · · · · ·	S
Canopy	Type: VOP	Hutalacus T	upha Quality	and % shade Po	05 15.4.
Land	Haven	Lival, C	H dami	and stonado. TO	
Jse		der all			10 L 11
Other	(groundwater,	soils, pools, vegetat	ion, etc.)		<b>N</b>
Notes		Kild - Martin			Å.
CHANNE		Y		- antification of the	
Channel	Width (range (m))	.5-1m		Gradient	(H/M/L):
Bank Hei	ght (range (m)):	2,5m his	ih water (	22m Meander	/Straight?
Bank Slo	pe (degrees from	surface of water):	135	Bank Sta	ibility: Grood
Bank Veg	getation Type:	ee, Hertracoo	S. Crass	Bank Ve	g. Density (H/M/L):
CHANNE	L SUBSTRATE %	6		Strange Stranger and	
Clay: 🗸	1 /	Gravel:	Boulde	er:	Muck:
Silt: 🗸	/	Pebble:	Bedroo	ck:	Detritus:
Sand: 🔪	/ 0	Cobble:	Mari:		Other:
NSTREA	M HABITAT AND	COVER	/		
Pools: V		Undercut	Banks:	Boulder/	Rock:
Riffles:		Woody D	ebris:	Cobble:	
Backwate	er:	Vegetatio	n: , / Ciupha	+ Watorco Other:	
NSTREA	M VEGETATION			7	State Street
ype (sul	bmerg./emerg./flo	oating) Family/G	enus/species	Descript	ion/Abundance
San Till Turk		71	1Pha.		and the second se
		v ot	all overs	190 - 1 - 201116 Jul - 10 - 10 - 10	
	4 d - m - 42 m - 12	1 2 1 1 1		·····	
ODES:		SWI Surface Water	Input SCS S	tream Cross Section	
HP Aqua	tic Habitat Point	GWI Groundwater I	nput DOX D	issolved Oxygen Stn	
HY Aqua	tic Habitat Area	CKC Creek Crossin	g VSS Vi	isual Survey Stn	
MP Temp	Monitor Stn	WEL Well	WQS V	Nater Quality Stn	
LVV Flow	wonitor Stn	CUL Culvert		144	

1.11

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1-2.6	10, 10, 17, 16, 9	Pool
2		The first second	
3			a
4			
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 100	D.O. (%):	TDS (ppm):	Standing Wally
Time Taken: 9:50	Conductivity (µs/c	cm):	0
Location Taken: In Stream			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

	21 Kill Polar
	(TSPP) YZ Field
	Cold - K May 12 odors
	(a.s. /// All Altoreass
	5055 All Standard
	Cigan Rod in a Milling Golden Rod.
	States Water WIII
	alle solling the second solling the second solling the second solution is a second solution of the second solution of the second solution of the second solution is a second solution of the seco
	L. prinkey tills
	Kailway Crossing
	tiela
J	

### PHOTOS TAKEN

Photo #	Description	Photo #	Description
		5.	
	AF L- VIOYT K		and a second
	#2 - South		
	alaarii b + (		and a second
		(m) (i) (i) (i) (i) (i) (i) (i) (ii) (ii	and and the second s

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * musicy at observed



				Page 1 of 2
PROJECT	(Number & Nam	e):1184 Sa	oth Kent	and the second
Field Staf	E D. Murra	[		
Station:K	154			Site Location:
Waterbod	y: unknow		niddiriidiaa aan ee jiiraa aa	GPS Datum: NAD X3 Easting: 419 12-5
Drainage	System:		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Zone: 1/ -1 Northing: 4(69,4884
Location in	n System:	(1) (1) (1) (((((((((((((((((((((((((((		Municipality: Chathoum/Kent
Appr. Rea	ch Length (m):		Wester Or Press	Lot & Concession:
Survey Da	ate: Oct 27'	10		S:
Time Stan	ted: 10,00		VVINC: 15	
	sned. 10.28		Precipitation: ()	
	IT LANDS	Operation ( 4 E%)	Madagata (5. 45%)	Otore (> 15%)
valley	Siope:	Gentle (< 5°)	Moderate (5 - 15-)	Steep (> 15 ⁻ )
	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	vegetation Type:	-Tree	ruxed) - Shru	B Sumac)
		-Herboic	eaus LGralder	Kod)
Riparian	Flood Plain - exter	at of frequent floor	1 (m): 0_10	10 to 20 20 to 30 30+
Zone	Vegetation Type:			
			Lacare Int	Iden Rod
	Vegetation Densit	v (HML):	Sallon	(ach New)
Canopy	Type: Nr. P.O	Shirt	Quality a	and % shade: Poor 2 04
Land	Havicult	1.158	n	
Use	0			
Other	(groundwater, so	ils, pools, vegeta	ation, etc.)	
Notes				
CHANNEL	MORPHOLOGY			
Channel W	Vidth (range (m)):	5-3	~	Gradient (H/M/L):
Bank Heig	ht (range (m)): 7	. 5m high	water (2 21	Meander/Straight:
Bank Slope	e (degrees from su	Irface of water):	35	Bank Stability: Goool
Bank Vege	etation Type: True	e. Shout	Herbaceous.	Bank Veg. Density (H/M/L):
CHANNEL	SUBSTRATE %			
Clay:	/	Gravel:	Boulder	Muck:
Silt:	1	Pebble:	Bedrock	: Detritus:
Sand: V	Contraction and the second second	Cobble:	Marl:	Other:
INSTREAM	HABITAT AND	COVER		
Pools:	1	Underci	ut Banks	Boulder/Rock
Riffles:	/	Woody	Debris:	Cobble [.]
Backwater	XXX-1111111	Vegetat	ion:	Other:
INSTREAM	<b>IVEGETATION</b>			
Type (sub	merg./emerg./floa	ting) Family/	Genus/species	Description/Abundance
	1) and de			
0	vonc.		- 2 ( 1000 - 100 - 100 - 100 ) - 0, 100 - 0,	an 2010 - The Alexandra Charles and the Alexandra and the Alexandra and the Alexandra Alexandra and the Ale
	Weather and the second			a second a second s
	He off	()	0	
CODES		CIAIL Culfore LAL	os lanut 000 04	arm Grane Section
AHP Aqueti	c Habitat Point	GWI Groundwate		solved Oxviden Str
AHY Aquati	c Habitat Area	CKC Creek Cross	sing VSS Vis	al Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS W	ater Quality Stn
		A REAL PROPERTY OF A REAL PROPER		

|--|

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.91	71014.115	Pool
2			
3	1	and any other states and the states of the s	
4	17999-118.45-1181-1102-0020-0-110-00-110	ana	
5			

# WATER QUALITY

Water Temp. (°C): 100	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 12°C	D.O. (%):	TDS (ppm):	
Time Taken: 10:14	Conductivity (µs/c	2m):	
Location Taken: 11 Stream			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Repar - Willie consisten Dol. when Field is
cedars
Shrabs (M)
Field Di sternding ()
AAAAA? Bibion, SESSI
Railway Crossing

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1- north.		
	#2 South		water and the second
			a na a construction and a second s

### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* very turtsid.



FLW Flow Monitor Stn

CUL Culvert

Aquatic, Terrestrial and Wetland Biologists

					Page 1 of
PROJEC	CT (Number & Na	me): \\%4	South K	ent	· · · · · · · · · · · · · · · · · · ·
Field Sta	aff: S. Murr	ay			
Station:	KKS			Site L	ocation:
Waterbo	dy: WIKIYa	JVN.		GPS I	Datum: NAP 83 Easting: 418421
Drainage	e System:			Zone:	NT Northing: 4694330
Location	in System:	11 11		Munic	ipality: Chatham/Kent
Appr. Re	ach Length (m):	~		Lot &	Concession:
Survey [	Date: Oct 2	0117	Weath	er Conditions:	
Time Sta	irted: 70:35		Wind:	3	Cloud Cover (%):
Time Fin	ished: 10:50		Precipit	tation: 🔿	
ADJACE	NT LANDS				
Valley	Slope:	Gentle (< 5	°) Modera	te (5 - 15°) Steep	(> 15°)
	Extent of Natura	I Vegetation (n	n) 0-1(	0 (10 to 20)	20 to 30 30+
	Vegetation Type	: Tree	(Mixeo	Shut	(Sumare)
		Hert	Daleous	s (rolden	Rod)
Riparian	Flood Plain - ext	ent of frequent	: flood (m):	0-10 10 to 2	20 20 to 30 30+
Zone	Vegetation Type	: Chrut	> (sunna	c) Herbaici	2045 (Golden Rod)
		C	211955		
	Vegetation Dens	sity (HML):			
Canopy	Type: Shru-	b. Tree.	Aertoicoc	SQuality and % s	hade: 2008 15%
Land	Maricu	iture		·	
Use	0				
Other	(groundwater, s	soils, pools, v	egetation, etc.)		
Notes					
CHANNE	L MORPHOLOG	Y			
Channel \	Nidth (range (m)):	15-14	5m		Gradient (H/M/L)
Bank Heig	ght (range (m)):	Sm hig	h wate	r (2) 21n	Meander/Straight
Bank Slop	be (degrees from s	surface of wate	er):		Bank Stability: Ogeo
Bank Veg	etation Type:	nub (Sur	iac) the tac	Laus (Giolden 1-	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %	, 0	(plice	S	×
Clay: 🗸		Gravel:		Boulder:	Muck:
Silt: V	/	Pebble:		Bedrock:	Detritus:
Sand: 1/		Cobble:		Marl:	Other:
INSTREA	M HABITAT AND	COVER			
Pools:		Un	dercut Banks:	1.5	Boulder/Bock:
Riffles:	and a second	We	ody Debris:	- I water a second as the second	Cobble:
Backwate	r .	Ve	detation:	richa	Other:
INSTREA	M VEGETATION		gotation.		
Type (sub	omerg./emerg./flo	pating) Fai	milv/Genus/spe	cies	Description/Abundance
			-		See the second
			- MY/OR		- Sial
	· · · · · · · · · · · · · · · · · · ·			Al ( 4 A ( 5)) ( 4 - A A) +	and a second
n_n=2				······································	
00050					
ODES:	tio Liphitet Detet	SWI Surface	Water Input	SCS Stream Cros	ss Section
AHY Aquat	tic Habitat Point	GVVI Ground	water input	UUX Dissolved O	xygen Stn
TMP Temp	Monitor Stn	WEL Well	orosaniy	WQS Water Qual	ity Stn

Page 2 of 2

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.65	4710.11 8.5	Pool
2	in the manual second	and the first state of the second state of the	
2	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 19	$(1+1)^{(n-1)}(q) = (1+1)^{(n-1)}(q) = (1+1)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q)^{(n-1)}(q$	
		and a second	In the state of the second
4		ana ana ana ana amin'ny soratra ara amin'ny soratra amin'ny soratra amin'ny soratra amin'ny soratra amin'ny so	
5	-		

## WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 12 °C	D.O. (%):	TDS (ppm):	Sternoung too big
Time Taken:	Conductivity (uslo	cm):	Usald V (
Location Taken:	ann i z		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

field 20 rossina ail was antwal N.TWY

#### PHOTOS TAKEN

Description	Photo #	Description
HI-north		anna ann an a
11-7 - South	······································	
and a contract of the state of	1	
(a) (b) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b		
	Description H1 - n6vth un - south	Description Photo #

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc. A very turbid water



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Aquatic, Terrestrial and Wetland Biologists

				Page 1 of
PROJEC	T (Number & Name):	184 South	Kent	
Field Sta	IF: S Murray			
Station:	K6	-100,-1148-11-14-0 Weilliene Hanna	Site	Location:
Waterboo	y: Linknaun	warman an and second second second	GPS	Datum: NHD 83 Easting: 417633
Drainage	System:	water and the second	Zone	: 17 T Northing: 4693821
Location	in System:		Muni	cipality: Chathow / Kent
Appr. Rea	ach Length (m):	~	Lot 8	Concession:
Survey D	Date: 0 - 2 - ( 11	C Weathe	er Conditions:	
Time Star	πea: 10,55	Wind:	4	Cloud Cover (%):
Time Fini	sned: / / / O	Precipit	ation:	
ADJACE	NT LANDS			
Valley	Slope: Ge	entle (< 5°) Modera	te (5 - 15°) Stee	p (> 15°)
	Extent of Natural Vege	tation (m) 0-10	10 to 20	20 to 30 30+
	Vegetation Type:	Tree Utixe	el), Shri	15 (Sumac)
		Herba Clou	S (Orcher	2. Kog)
Dipasian	Elegal Dising and a function	C		
Zone	Flood Plain - extent of	frequent flood (m):	0-10 10 to	20 20 to 30 30+
20116	vegetation rype.	Arup (Sumac		
	Vegetation Donaity (FI	erbaceaus.	C. Groleten	LOG) J GIRASS
Canopy	Type:	vic).	Quality and %	abada: Casa de State
Land	Mart Cultur	MILD	Quality and %	shade. Grand 55 V
Use	- Ter Carrow			
Other	(groundwater, soils	nools vegetation etc.)		
Notes			· · · · · · · · · · · · · · · · · · ·	
CHANNE	L MORPHOLOGY			
Channel V	Vidth (range (m)): , 5	$\sim (w)$		Gradient (H/M/L);
Bank Heig	ht (range (m)): 2014	> high roal	Fer Calls	Meander/Straight:
Bank Slop	e (degrees from surface	e of water): 135		Bank Stability:
Bank Vege	etation Type: Tille S	mut tertallou	<	Bank Veg. Density (H/M/L):
CHANNEL	SUBSTRATE %			
Clay: V	Gra	avel:	Boulder	Muck:
Silt: V	Pet	ble:	Bedrock	Detritus
Sand:	Col	oble:	Marl:	Other:
INSTREAM	M HABITAT AND COVE	ER		
Pools:		Undercut Banks:	1 1	Boulder/Pook:
Riffles		Woody Debris:		Cobble:
Backwater		Vegetation:		Other:
NSTREAM		regetation.		
Type (sub	merg./emerg./floating)	Family/Genus/spe	cies	Description/Abundance
	177037	- 17 - 14 - 17 - 14 - 17 - 17 - 17 - 17		•
		10.14		
ODES:	SWI	Surface Water Input	SCS Stream Cro	ss Section
HP Aquati	c Habitat Point GW	Groundwater Input	DOX Dissolved (	Dxygen Stn
HY Aquati	c Habitat Area CKC	Creek Crossing	VSS Visual Surv	ey Stn
IVIP Temp	Vionitor Stn WEL		WQS Water Qua	ality Stn

FI OW CONDITIO	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			Chey Save shiding
2			water a sait-
3			enol
4			
5			

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): D.(	D.O. (%):	TĐS (pp	om): standing walder
Time Taken:	Conductivity (µs/cm	ī):	
Location Taken:			(Sath)

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... esidenc 0000\' Trees Sumac Field Field Gidden Rod Godden Rod Crossing Zailway 10 015 Buijomats CULWERT nanugat

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
H	1 north		
	- James The of Algel and a strain and and and		
TI	A SOUTH		and a second sec
()=+	1000 (1000		and a second
n - 11 - 12 - 12 - 14	- an announce	All and the second seco	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use the south side any. and vegetation, etc .: On



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

				Page 1 of 2
PROJEC	T (Number & Na	me): 1184 Sout	h Kent	
Field Sta	ff: <u>S</u> MU	way		
Station:	X7	manded and and a second a	· · · · · · · · · · · · · · · · · · ·	Site Location:
Waterboo	y Lunkna		nanodi baya ana ana ana ana ana ana	GPS Datum: 101-083 Easting: +16192
Drainage	System:			Zone: 777 Northing: 4692793
Location i	n System:	- Marcol and constant and the loss of the second	where the analysis of the second s	Municipality: (hotharm / K-ent
Appr. Rea	ach Length (m):	-10		Lot & Concession:
Survey D	ate: OCA 2	-1D	leather Conditions	
Time Star			Vind: 4	Cloud Cover (%):
Time Finis	sned: 124	P	recipitation:	
ADJACE	NT LANDS		4 - 0	
valley	Siope:	Gentle (< 5°) M	loderate (5 - 15)	Steep (> 15 ⁻ )
	Extent of Natura	Il Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type	E TRES UMIN	eel Shr	ut lyney Degwood + Juna
		terbaceal	S (Calche	an Rool) L
Diporion	Elead Diain and	ant of fragment flaged (m)	0.40	
Zone	Vegetation Type		0-10	101020 201030 30+
Lono	vegetation Type	-tert con	umac	Carey Dog Wocol)
	Vegetation Dens	sity (HMI).	S COBIDEN	RIDI DITTUS
Canopy	Type: To 0.0	Christian -	Quality a	nd % shade Grand Soly
Land	favilut	AUVE	actionity a	
Use	Andrea			
Other	(groundwater, s	soils, pools, vegetation,	etc.)	
Notes			1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
CHANNE	MORPHOLOG	Y		
Channel V	Vidth (range (m))	: .5-2		Gradient (H/M/L):
Bank Heig	ht (range (m)):	1-4n high	valor @3.	Son Meander/Straight:
Bank Slop	e (degrees from	surface of water):		Bank Stability: Groot
Bank Vege	etation Type:≲∖∖	rub Hertarpous	Guass	Bank Veg. Density (H/M/L):
CHANNE	SUBSTRATE %	0	1	7
Clay:	/	Gravel:	Boulder:	Muck:
Silt: 🗸	/	Pebble:	Bedrock:	Detritus:
Sand: 🧹	/	Cobble:	Marl:	Other:
INSTREA	M HABITAT AND	COVER	1	
Pools: 🗸		Undercut Ban	iks:	Boulder/Rock:
Riffles:	/ / -	Woody Debris	s: 1	Cobble:
Backwater	/	Vegetation:		Other:
NSTREAM	<b>VEGETATION</b>			
Type (sub	merg./emerg./flo	pating) Family/Genu	s/species	Description/Abundance
	Nal .			
	.J.J.A. \&	194091-11 20 - 20 - 2 (05.2012) - 10.000 ACCORDURE	1811/00/00/00/00/00/00/00/00/00/00/00/00/0	
	and definitions and an other states of the states of	entration and the second second		the second se
			Here is the statement of second	the second
ODES.		SIMI Surface Mater Int.	+ <u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	am Cross Section
AHP Aquat	ic Habitat Point	GWI Groundwater Input		am cross section
AHY Aquat	ic Habitat Area	CKC Creek Crossing	VSS Visu	al Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Wa	ter Quality Stn
LW Flow	Monitor Stn	CUL Culvert		

		_
--	--	---

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.17	3 5.11 9.5	Pool
2			
3			
4			
5		S	

## WATER QUALITY

Water Temp. (°C): 10°C	D.O. (ppm);	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 17.	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/c	xm):	
Location Taken:			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Field AF Proto	Field W
Curdle? 20ad	5-1-1
Ditch of the Contract on the Contract	Ditch
Sur Africa de	+++++
the Kailway Crossing	- Ctore
anus francis a the frances	2000
TOIDIN RAPPORT THE YOU TWO	A
BOSTON JANY / ARA DIGGO	

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
-+1	1 - north (d/	$\langle \rangle$	
7	DESCUL LI		
-4	L San L CU	( )	ny hai manana da ar 1. Tarat 20 Juni 19 Jakan Milan (19 Jakan) in 19 Jakan (19 Jakan)
2-2-202 2000		nance	
- No ogia - 2 - Vitana	and a substance of the provided states of the second states of the secon	$(1,2,\ldots,n)$ . The second seco	and spring and the second s

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



Aquatic, Terrestrial and Wetland Biologists

				Page 1 c	
PROJEC	1 (Number & Na	me): 1184 Sc	roh Kent		
Field Sta	F 2: Mur	vay.			
Station:	K0			Site Location:	
vvaterboo	y: unknown			GPS Datum: NAD 83 Easting: 415598	
Drainage System:			Zone: 17 Northing: 4692356		
	in System:		and the second se	Municipality: Chertherm TKent	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	late: 064 2	7	Weather Conditions		
Time Star	rted: 11 40		Wind: L	Cloud Cover (%): 🧷	
Time Finis	shed: 12:00		Precipitation: 0		
ADJACE	NT LANDS				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natura	I Vegetation (m)	0-10) 10 to 20	20 to 30 30+	
	Vegetation Type	: Tree (	Hixed		
		Herbac	oous ( Golder	Red	
		INVAS	5	1 1 2017	
Riparian	Flood Plain - ext	ent of frequent flood	(m): (0-10)	10 to 20 20 to 30 30+	
Zone	Vegetation Type	Herbach	Ooles (Gidden	Rod) (Augss	
	Vegetation Dens	ity (HML):			
Canopy	Type: Tree		Quality a	nd % shade: Yoor - 10%	
Land Use	Hgricut	evr / Re	sidertial		
Other	(groundwater, s	oils, pools, vegeta	tion, etc.)		
Notes		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
CHANNEL	MORPHOLOG	(			
Channel V	Vidth (range (m)):	Sm-1 Sa	0	Gradient (H/M/L)	
Bank Heig	ht (range (m));		ALV CO DIO	Meander/Straight	
Bank Slop	e (degrees from s	surface of water)	35 0 211	Bank Stability	
Bank Vege	etation Type: He	thallows (b	palata Dad Ku	Bank Veg, Density (H/M/L):	
CHANNEL	SUBSTRATE %	LEATERY TO	POLICIT NOLI OF	ass bank veg. Density (H/M/L).	
	SUBSTRATE /	Gravel	Douldon	M	
Silt.	/	Babble:	Boulder:	Muck:	
Sand:	/	Cobble:	Bedrock:	Detritus:	
				Other:	
	f	Undercu	t Banks:	Boulder/Rock:	
Rimies: Υ		Woody E	Debris:	Cobble:	
sackwater:		Vegetatio	on:	Other:	
NSTREAM	I VEGETATION				
ype (sub	merg./emerg./fio	ating) Family/C	Senus/species	Description/Abundance	
	Norre 1				
ODES		SWI Surface Minte	r Input	um Crass Postian	
HP Aquatio	c Habitat Point	GWI Groundwater	Input 505 Strea	alved Oxygen Sta	
HY Aquatio	c Habitat Area	CKC Creek Crossi	ng VSS Vieus	al Survey Stn	
MP Temp I	Monitor Stn	WEL Well	WQS Wate	er Quality Stn	
LW Flow M	Ionitor Stn	CUL Culvert			

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	. 89	25863	Pool
2	and a start of the	1 - 1 - 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3	
2		The first interaction of the state of the st	
n der stert wir i main-	$(q_{1},q_{2},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{3},q_{$	and the second sec	AND ALL ALL ALL AND AL
4		and a second	(1) In the product of the state of the st

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	SIGN FLOW
Time Taken: 11:50	Conductivity (µs/c	cm):	Nov+L-
Location Taken: In Shuce			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
I The fill the strees IN
Gely 1 ANY THE Residence
All Criass Gudden Rod
Giolden Root + Grass
ARailway Crossing III
A REN A I TO TO TO
CP & S DE ADT Residence
" / Or of the first the start the start of t

	Description	Photo #	Description
Photo #	Description	Flioto #	Description
	#1- north (	$\left( \left( \begin{array}{c} s \\ s \end{array} \right) \right)$	
0 6 HR H	and the second second second second second second second	and the state of the second states and the	A CONTRACTOR OF
	*		and and set of the set

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

K green Svogs Scen K raccoon Fracks observed.

Page 2 of 2



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nan	ne): 1184 - S	auth Kent	C	
Field Sta	ff:S. Mun	Cal 1			
Station:				Site Location:	
Waterbo	dy: iun Knou	SND		GPS Datum: MAD 83 Easting: 412 698	
Drainage System:			Zone: 7 Northing: 4690262		
Location	in System:		10 () () () () () () () () () () () () ()	Municipality: Charl-ann / Kent	
Appr. Re	ach Length (m):			Lot & Concession:	
Survey [	Date: OCA . 2		Weather Conditions		
Time Sta	rted: 12 32	and the state of t	Wind: C	Cloud Cover (%):	
I ime Fin	sned: 15°07		Precipitation:		
ADJACE					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natural	Vegetation (m)	0-10 10 to 20	(20 to 30) 30+	
	Vegetation Type:	Nrees (	Mixed)		
		terbac	ROUS CORDO	ten Rool)	
Disselar		(Juas S	2. 30		
Riparian	Flood Plain - exte	ent of frequent flood	(m): 0-10	10 to 20 20 to 30 30+	
Zone	vegetation Type:	Herballou	S (Jolain B	col )	
	Vegetation Donsi	WILLING SS			
Canopy	Type: Densi		Quality a	and % shado: (organal SC) °/	
Land	Havicult	THEY Daile ou	S Quality a	and 70 shade. Oras SO 7.	
Use	Hgr (unic	AT COL	and the star of the second		
Other	(groundwater, s	oils, pools, vegetat	tion. etc.)		
Notes		,, , , , , , , , , , , , , , , , , , , ,	,		
CHANNE	L MORPHOLOGY				
Channel \	Nidth (range (m)):	.5-4m		Gradient (H/M/L))	
Bank Heig	ght (range (m)): 🧹	Em high I	water (a) 3	Meander/Straight:	
Bank Slop	be (degrees from s	urface of water):		Bank Stability: Crocol	
Bank Veg	etation Type: Her	toacears (	Dirass	Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %	/		/	
Clay: 🗸	/	Gravel:	Boulder:	Muck:	
Silt: 🗸	1	Pebble:	Bedrock	Detritus:	
Sand: 🗸		Cobble:	Marl:	Other:	
NSTREA	M HABITAT AND	COVER	1		
ools:		Undercut	: Banks:	Boulder/Rock:	
Riffles: U	/ /	Woody D	ebris:	Cobble:	
<b>Backwate</b>	r	Vegetatio	on:	Other:	
NSTREA	<b>M VEGETATION</b>				
ype (sub	omerg./emerg./flo	ating) Family/G	ienus/species	Description/Abundance	
	None.				
2.C211_2210777	1.001.00				
- 11 - HARPHILL I				and the second sec	
		*: ***********************************	(*****)*******************************	$= 0.02 + 1 = -100 \left[ \frac{1}{2} \left[$	
ODES:		SWI Surface Wate	r Input SCS Stre	am Cross Section	
HP Aqua	tic Habitat Point	GWI Groundwater	Input DOX Dise	Dissolved Oxvaen Stn	
HY Aquat	Y Aquatic Habitat Area CKC Creek Crossin		ng VSS Visu	ial Survey Stn	
MP Temp	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn	
LW Flow	Monitor Stn	CUL Culvert			

Page 2 of 2

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	. 68	23541	Pitte
2	(1)/21	an analysis contraction of the same second	
3		The second	hydrolic heard of
A	a presidente a service a s		Zem
5		the second s	Net state

#### WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH: Visible Characteristics/Other Parameters:
Air Temp. (°C): 144 C	D.O. (%):	TDS (ppm): $(-100 - 1 - 100)$
Time Taken: \`), 50	Conductivity (µs/cm)	wall is turbed
Location Taken: 11 4 4 000		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ... Freid x Giolden Roge all ailway OSSIAG 26 str potruppions + ssinals to ost notions

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	HI-north (C	1751	
	#2-South (1	x/s)	
			n - na - na - i na -
		and the second state of th	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* cyprimids seen * raccoon tracks observed

HABITAT CHARACTERIZATION

Page 1 of 2

PROJEC	T (Number & Nam	1e): 11964 S	with Ke	K1	
Field Sta	ff: S Murr	re U			
Station	RT3	~ 1		Site Lo	cation:
Waterboo	y: unknow	n		GPS Da	atum: NAD83 Easting:
Drainage	System:	auf manifester and an and an and an		Zone:	Northing:
Location i	in System:			Municip	ality: Chatham /kent
Appr. Rea	ach Length (m):	The manufacture and the second second		Lot & Co	oncession:
Survey D	ate: 0-1.29	3'10	Weather Conditi	ions:	
Time Star	ted:		Wind: 5		Cloud Cover (%):
Time Finis	shed:		Precipitation: ()	)	
ADJACE					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°	) Steep (?	> 15°)
	Extent of Natural	Vegetation (m)	0-10 (10 tc	20-15	20 to 30 30+
	Vegetation Type:	Succe - ()	Diveo!	200	
	1-3-1		trainiliano	~	
		Cornes S	- There all the burger		
Riparian	Flood Plain - exte	ent of frequent flood (	(m): 0-10	10 to 20	) 20 to 30 $30+$
Zone	Vegetation Type:	Shutb(4			
	regetation of	Harbara	and a company	Rand	Calace
	Vegetation Densi	ty (HML):		Tendina ye	
Canopy	Type: Type	Shrub, Her	DAL POUS Qual	itv and % sha	ade: (3000 50%)
Land	Havicutte	WR. I Dec.	Jonfial	10 0110 71 11	
Use	- Igr instant		A CLARK		
Other	(groundwater, se	oils, pools, vegetat	ion, etc.)		
Notes					
CHANNE	L MORPHOLOGY				
Channel V	Vidth (range (m)):	.5-4M			Gradient (H/M/L):
Bank Heig	ht (range (m)):	2m Nigh	water @	200	Meander/Straight:
Bank Slop	e (degrees from s	urface of water): 13	35		Bank Stability: 6000
Bank Vegr	etation Type:	mob. Herts	roous, Gu	ass	Bank Veg. Density (H/M/L):
CHANNEI	SUBSTRATE %		<u>,</u>		
Clay: 🧹		Gravel:	Boul	der:	Muck:
Silt: V	/	Pebble:	Bedr	ock:	Detritus:
Sand: [	/	Cobble:	Marl		Other:
INSTREA	M HABITAT AND	COVER			
Pools: 1	1 4 4	Undercut	Banke		Boulder/Rock:
	an fan an ser fan ei se	Woody D	Danna.	+(3 + 3 − (4) → (1)	Cobble
Packwater		Venetatio	CDII3.		Other
		Vegetatio	11.		Other.
Type (sub	mera /emera /flo	ating) Family/G	enue/enecies		Description/Abundance
1360 (00-	Inci ga cino, ga	atting) i anny	Ciluarapeoree		DescriptionAstructure
Į VV	sne	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
			111.359(a)10.1 - 4(01)4	(i	da ana an - a - a - a - a - a - a - a - a
CODES:		SWI Surface Water	r Input SCS	Stream Cross	Section
AHP Aquat	ic Habitat Point	GWI Groundwater I	input DOX	Dissolved Oxy	ygen Stn
AHY Aquat	ic Habitat Area	CKC Creek Crossin	ig VSS	Visual Survey	Stn
MP remp	Monitor Stn	WEL Well	WQS	Vvater Quality	y Stn

Page	2	of	2
------	---	----	---

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.92	361124	Run
2	in the second		
3			
4			
5			

# WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 5°C	D.O. (%):	TDS (ppm):	
Time Taken: 6.0	Conductivity (µs/o	cm):	1
Location Taken:			

# SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

	27)	
Rai	Iway Cross	sing.
pupturs	S. Realing	Ecubloural

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	Hel- have the of	15	
COMPANY AND AND A	and the first of the territory and the first of the territory and terr	A service of the serv	A CONTRACTOR OF
	#2- South - My	5	
	and the second sec		a second s

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJECT	Г (Number & Name): 118	4 South Kent	
Field Staf	F: S. Murray		
Station: K	(KIH		Site Location:
Waterbod	<b>y:</b>		GPS Datum: 1040 83 Easting:
Drainage	System:		
Location in	n System:		Municipality: Chotheyn
Appr. Rea	ich Length (m):		Lot & Concession:
Survey D	ate: 0ct.2810	Weather Conditions	
Time Star	ted:	Wind: 5	
Time Finis	shed:	Precipitation:	
ADJACEN	NT LANDS		
Valley	Slope: Gentle (< 5	³ ) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation (m	i) 0-10 10 to 20	25-20 to 30 30+
	Vegetation Type: Trees	(Mixed)	
	terba	Leous (Golden 7	Roal) Swass
Riparian	Flood Plain - extent of frequent	flood (m): 0-10	(10 to 20) 20 to 30 30+
Zone	Vegetation Type: Herban	ears ( Goolden -	+20cl)
	(9110	155	
	Vegetation Density (HML):	0	N. J. A.
Canopy	Type: Type	Quality	and % shade: 180- 40%
Land Use	Agriculture Pe	sidential	
Other	(groundwater, soils, pools, v	egetation, etc.)	
Notes			
CHANNE	L MORPHOLOGY		
Channel V	Width (range (m)): ,	hannel internet in the state of	Gradient (H/M/L):
Bank Heig	ght (range (m)): 4m) から	water (w?	2m Meander/Straight:
Bank Slop	be (degrees from surface of wate	er): 135	Bank Stability: C400C1
Bank Veg	etation Type: Herbaceous,	Orrass	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %	2	
Clay;	Gravel: V	Boulder	Muck:
Silt: V	Pebble: 🗸	Bedrock	c: Detritus:
Sand: U	Cobble: 🗸	Marl:	Other:
INSTREA	M HABITAT AND COVER		
Pools:	Ur	Idercut Banks:	Boulder/Rock:
Riffles:	/ _/W	oody Debris:	Cobble:
Backwate	er: 🖉 Ve	getation:	Other:
INSTREA		<b>X.</b>	
Type (sul	bmerg./emerg./floating) Fa	mily/Genus/species	Description/Abundance
	Non /		
00001000000000000000000000000000000000			
CODES	SIVI Surface	e Water Innut	ream Cross Section
AHP Anus	atic Habitat Point GWI Group	dwater input DOX Di	ssolved Oxygen Stn
AHY Aqua	atic Habitat Area CKC Creek	Crossing VSS Vis	sual Survey Stn
TMP Tem	p Monitor Stn WEL Well	WQS M	Vater Quality Stn
FLW Flow	Monitor Stn CUL Culver	t	

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.86	2,4,5,56	Ruh
2		, , , , , , , , , , , , , , , , , , , ,	
3			
4			
5			

Page 2 of 2

### WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm):	pH:	Visible Charac	cteristics/0	Other Parameters:
Air Temp. (°C): 5%	D.O. (%):	TDS (ppm):	-FIOLA	15	towards
Time Taken:	Conductivity (us/e	:m):			
Location Taken:			TOr	to the -	

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Eveld Gruss Rod Field Großen Rod Field
Railroad Crossing

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	the north (d/s)		
	th-south (145)		
	1.2		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT DN

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CHARACTERIZATIC

	T (1) 1 0 1	1			Р	age 1 of 2
PROJEC	T (Number & Nan	ne): 1184 Sou	ith Ke	nt	and a second product and a second	
Field Sta	ff: S.Murra	Y				
Station:	SK23		n in an	Site L	-ocation:	
Waterboo	iy: Un known		GPS	Datum: NAD 63 Easting:		
Drainage	System:	an a san an a	Zone:	Northing:		
Location i	in System:	-06, 40, 40, 40, 40, 40, 40, 40, 40, 40, 40	Munic	cipality: Chatham / Kent		
Appr. Rea	ach Length (m):			Lot &	Concession:	
Survey D	ate: $Oc + .28$	2.1187 	Weather Co	nditions:	number of the second	and and a series
Time Star	ted:		Wind: 4		Cloud Cover (%): 100%	
lime Finis	shed:		Precipitation	0		
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5	- 15°) Steep	o (> 15°)	
	Extent of Natural	Vegetation (m)	0-10	10 to 20	20 to 30 30+	
	Vegetation Type:	Tree CHU	(xed)			
		Herbacoo	us (Giola	len Rool	)	
		Corrass		0		
Riparian	Flood Plain - exte	ent of frequent flood (	(m): 🤇	0-10) 10 to	20 20 to 30 30+	
Zone	Vegetation Type:	terbacec	us (601	den Rod	<u>\</u>	
		Ghass	~			
	Vegetation Densi	ty (HML):				
Canopy	Type: Tree	Shructo		Quality and % s	hade: Excellent 75%	
Land Use	Agricult	USC				
Other	(groundwater s	oils nools vegetat	ion etc.)			
Notes	(groundwater, o	ono, poolo, regetat				
CHANNE	MORPHOLOGY	,				
Channel V	Vidth (range (m))	5-200			Gradient (H/M/L)	
Bank Heig	the transfer $(m)$ : $\leq$	Dr. bich i v	ator Q	1400	Meander/Straight	
Bank Slop	e (degrees from s	urface of water):	aler C	-TV V )	Bank Stability:	
Bank Veg	etation Type: +0	charloous c	Durace		Bank Veg. Density (H/M/L):	
CLIANNEL	CURETDATE #	1	14452		Bank veg. Bensky (ThM/L).	
	SUBSIRATE %	Cravel	<i>J.</i>	Devilden		
		Gravel.	6 Martin	Boulder.	Muck:	
Sill.	£	Cebble.		Bedrock.		d > )
					Other:	
INSTREAD		COVER	/			
Pools: V	- j	Undercut	Banks:		Boulder/Rock:	
Riffles:		Woody De	ebris:	x)	Cobble:	i (ai) - i (a (iii) )
Backwater		Vegetatio	n:		Other:	
NSTREAM	VEGETATION					
l'ype (sub	merg./emerg./flo	ating) Family/G	enus/species		Description/Abundance	
1	John		8.03			
			- 1			19500 10101010101
1	- (************************************		11			······································
		SIMI Surface Mater	loout f	CC Stroom C	es Soction	
HP Aquat	ic Habitat Point	GWI Groundwater	niput S	DOX Dissolved	ss section )xvgen Str	
AHY Aquat	ic Habitat Area	CKC Creek Crossin		VSS Visual Surve	ev Stn	
MP Temp	Monitor Stn	WEL Well	- -	NQS Water Qua	lity Stn	
LW Flow	Monitor Stn	CUL Culvert				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.19	3,5,9,107	Pool
2			
3			1
4		and the second	
5			

#### WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): (°C)	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/o	cm):	
Location Taken:			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ... 600 02 ailwar Trees illo <.5.05

# **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
+	+1- north (cl/s) 14	19 on contera	
et i	2 - South (415) 15	o on camera	
		and a second state of the	
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

Page 2 of 2



Resource Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

					Page 1 of	
PROJEC	T (Number & Na	me): 1184 South	Kent			
Field Sta	ff: S. Meur	ay				
Station	(K24	0444-0499 (0 = F04 = == 00 = = F = 111 = (14 ) = F = (11=012)	Site Location:			
Waterboo	y: unknow	$\cap$	GP	S Datum: NAD & 3 Easting:		
Drainage	System:	(14.11)	Zor	ne: /7 — Northing:		
Location i	in System:		Mu	nicipality: Chathern /	Kent	
Appr. Rea	ach Length (m):		Lot	& Concession:		
Survey D	ate: Oct. 28	We We	ather Conditions:			
Time Star	rted:	Wi	nd: 4	Cloud Cover (%): 100 %,		
Time Fini	shed:	Pre	ecipitation: 0			
ADJACE	NT LANDS		10.00			
Valley	Slope:	Gentle (< 5°) Mo	oderate (5 - 15°) Ste	ep (> 15°)		
	Extent of Natura	al Vegetation (m)	0-10 10 to 20	25 20 to 30 30+		
	Vegetation Type	Tree (Mixed	() Shrub (M	ixed)		
		Herbaceous	(Golden Ros	>()		
		Girass	C	~		
Riparian	Flood Plain - ext	tent of frequent flood (m):	0-10 10	to 20 20 to 30 3	0+	
Zone	Vegetation Type	: Herbaceous	Coulden Ro	cl)		
	Manufatian Disa	Grass				
Canony	Vegetation Dens		Quality and 9	abada G 10	1-11	
and	Type. 1000	Shrub	Quality and %	shade. Excellent	12%	
_allu leo	Fignaus	XUVE.				
Othor	(groundwater	soils pools vegetation a				
Notes	(groundwater,	sons, pools, vegetation, e				
10103						
CHANNE	MORPHOLOG	v				
Channel V	Vidth (range (m))	2000		Gradient (H/M/L)		
Bank Heid	ht (range (m)): /	the high with	r Q Zno	Meander/Straight	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Sank Slop	e (degrees from	surface of water):		Bank Stability:	· · · · · · · · · · · · · · · · · · ·	
Bank Veg	etation Type: He	Advans Grass		Bank Veg. Density (H/M/L	):	
CHANNEL	SUBSTRATE %	/a		5 9 62	0	
Clay:	/	Gravel:	Boulder:	Muck:	/	
Silt: V		Pebble:	Bedrock:	Detritus:		
Sand: V	/	Cobble:	Marl:	Other:	9 - N - N - U - UNU	
NSTREA	M HABITAT AND	) COVER				
Pools	/	Undercut Bank		Boulder/Bock:		
Riffles		Woody Debris:		Cobble:		
ackwater	/	Vegetation:		Other:		
NSTREA		vogotation				
ype (sub	merg./emerg./flo	oating) Family/Genus	/species	Description/Abundance		
<i>7</i> 1 (	-A					
	None	annan man nganan sama aga sa s				
		10000000000000000000000000000000000000		(1)		
1	ter a real a fail ar da					
ODES		CIA/L Curface Materia		Prove Contion		
HP Aquat	ic Habitat Point	GWI Groundwater Input	DOX Dissolut	ross Section		
HY Aquat	ic Habitat Area	CKC Creek Crossing	VSS Visual Si	irvev Stn		
MP Temp	Monitor Stn	WEL Well	WQS Water C	uality Stn		
LW Flow	Monitor Stn	CUL Culvert				

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.95	7913158	Run
2		) , , ) ) =	- 1
3			and the second sec
4	Constant of the second se		
5			

# WATER QUALITY

		mLl:	Visible Characteristics/Other Parameters:
vvater Temp. (°C): 9°C	D.O. (ppm):	рп.	VISIBLE Offaracteristics/Officer Faranteters.
Air Temp. (°C): ( 0° ( _	D.O. (%):	TDS (ppm):	Slow flow north
Time Taken:	Conductivity (us/c	:m):	(torbid)
Location Taken:			

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	-til-north (dis)	151	
	# - South (1115)	157	
	and 2 condition (m/ S.)		
+44100000000000000000000000000000000000	and a second secon	+	- HILLER - H
	the second		the little we done to one is the manufacture and the most of the methods and

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

Page 2 of 2



			Page 1 of
PROJEC	T (Number & Name): 1184 Sc	uth Kent	
Field Sta	ff: S. Murrall		
Station:	2R25 1	In the second se	Site Location:
Waterboo	y: unknown		GPS Datum: 心府已 83 Easting:
Drainage	System:		Zone: 7 Northing:
Location i	in System:		Municipality: Chatham / Kent
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: Oct, 28'10	Weather Condition	S:
Time Star	ted:	Wind: 4	Cloud Cover (%): / OO %
Time Fini	shed:	Precipitation: 🔿	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
ADJACE	NT LANDS		
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation (m)	0-10 (10 to 20	)-15 20 to 30 30+
	Vegetation Type: Tree (	Mixed) Shri	its (Sumac)
	Hertac	Lecus Corolden	Roch
	GIRAS	s o	
Riparian	Flood Plain - extent of frequent floo	od (m): (0-10 )	10 to 20 20 to 30 30+
Zone	Vegetation Type: Herbaco	ous (Golden)	Roch)
	Girass		
	Vegetation Density (HML):		
Canopy	Type: Tree, Shrub,	Herbaceous Quality	and % shade: Poor 201.
Land	Agriculture		
Other			
Uther	(groundwater, sons, pools, vege	tation, etc.)	
Notes			
CHANNE	L MORPHOLOGY		
Channel V	Vidth (range (m)): 5m-2n	0	Gradient (H/M/L)
Bank Heig	ht (range (m)): 3m high	water @ 2.4	Meander/Straight:
Bank Slop	e (degrees from surface of water):		Bank Stability: Groool
Bank Veg	etation Type:		Bank Veg. Density (H/M/L):
CHANNEI	_ SUBSTRATE %		
Clay: //	Gravel:	Boulder	: Muck: V
Silt: 🗸	Pebble:	Bedrocl	c: Detritus:
Sand:	Cobble:	Marl:	Other:
NSTREA	M HABITAT AND COVER		
Pools: 🗸	Under	cut Banks:	Boulder/Rock:
Riffles:	Woody	/ Debris:	Cobble:
Backwater	Vegeta	ation	Other:

INSTREAM VEGETATION	$\sim$					
Type (submerg./emerg./floating)		Family/Genus/species			Description/Abundance	
	****	Rickwe	ec/	ormeter - 2011	some in pockets	
territoria en la construcción de la			100	20 Marine - 17 Marine - 1990 Marine - 1990 Marine - 1990		
CODES:	SWI SL	Inface Water Input	SCS	Stream Cross	Section	
AHP Aquatic Habitat Point	GWI G	roundwater Input	DOX	Dissolved Ox	ygen Stn	
AHY Aquatic Habitat Area	CKC Cr	reek Crossing	VSS	Visual Survey	Stn	
TMP Temp Monitor Stn	WEL W	/ell	WQS	Water Quality	y Stn	
FLW Flow Monitor Stn	CUL CI	livert				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.42	591284	Run
2	and the factor of the President State of the State		
3	and the second	and the defendance of a line of a line of the second	
4	() () () () () () () () () () () () () (	numerican providence	
5		a an	

# WATER QUALITY

Water Temp. (°C): 9 °C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 7°C	D.O. (%):	TDS (ppm):	Slow flow Morth
Time Taken:	Conductivity (µs/cm):		(Water turbid)
Location Taken:			

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Corrido Good Stan	Golden Kog Hanss Corn Field
Railway	Crossing
SSNUM Cholden (Kond	Charles and the second of the
Jerusidund	The trans of the the power of the

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
#1	- north (153 m	(amera)	Commentation and provide a sub-sector of the sector of the
#2	- South [154 on	(amera)	nananing and a second state of the second
	edit		
		and the statement in the second strain strain the second strain s	

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

Page 2 of 2



				Page 1 of
PROJEC	T (Number & Nan	ne): 1184 Sa	Hr Kent	
Field Sta	ff: S. Hur	ray		
Station:	(R27			Site Location:
Waterboo	iy: Linknow	>10		GPS Datum: NH1063 Easting:
Drainage	System:			Zone: /
Location i	n System:			Municipality: Chatham 1 Kent
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	ate: Oct. 22	510	Weather Conditions	
Time Star	ted:		Wind:	Cloud Cover (%):
Time Finis	shed:		Precipitation: 🖒	
ADJACE	NT LANDS			
Valley	Slope:	(Gentle (< 5°))	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 (10 to 20)	718 20 to 30 30+
	Vegetation Type:	Tree (Mit	ecl) Shrub	(Mixed)
		Herbace	ous (Grolder	n Rool)
		CAVESS		
Riparian	Flood Plain - exte	ent of frequent flood (r	n): (0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Herbeiceou	is (Golden't	Rod)
		GIRASS		
	Vegetation Densi	ty (HML):		
Canopy	Type: Tree	, Shrut	Quality a	ind % shade: Poor 20%
Land Use	Hgricht.	ture		
Other	(groundwater, s	oils, pools, vegetatio	on. etc.)	
Notes				
		and the second se		
CHANNE		,		
Channel V	Vidth (range (m)):	Im		Gradient (H/M/L):
Bank Heig	ht (range (m)): <	.sm high	mater @:	2m Meander/Straight:
Bank Slop	e (degrees from s	urface of water): 3	5	Bank Stability: Groco
Bank Vege	etation Type: Her	taceousion	Iden Rod) Gras	Bank Veg. Density (H/M/L):
CHANNEL	SUBSTRATE %			
Clay:		Gravel:	Boulder:	Muck:
Silt:	<pre></pre>	Pebble:	Bedrock:	Detritus:
Sand: V		Cobble:	Marl:	Other:
INSTREA!	M HABITAT AND	COVER		
Pools:		Undercut F	Banks:	Boulder/Bock:
Riffles: V	1	Woody De	bris:	Cobble:
Backwater		Vegetation	C.	Other
INSTREAM	<b>VEGETATION</b>			
Type (sub	merg./emerg./flo	ating) Family/Ge	nus/species	Description/Abundance
N	one			
	A DEC NO. 10			The second
CODES:		SWI Surface Water	nput SCS Stre	am Cross Section
AHP Aquat	ic Habitat Point	GWI Groundwater In	put DOX Diss	solved Oxygen Stn
AHY Aquati	ic Habitat Area	CKC Creek Crossing	VSS Visu	al Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS Wa	iter Quality Stn
-LW Flow	Monitor Stn	CUL Culvert		
Page 2 of 2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.98	25642	Run
2		······································	
3			
		alaana ah aa aa aa ah ah ah ah ah ah ah ah ah	
5	and the set of the set	and a second	and an entrementation of the second states and the second states and the second states and

### WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): S°C	D.O. (%):	TDS (ppm):	a 1 - 2 - 2
Time Taken:	Conductivity (µs/c	xm):	
Location Taken:			

### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Grass Coule and Coule	Field
Ninth	Line
Cridden Pod + Chillis	Field

### PHOTOS TAKEN

Photo	# Description	Photo #	Description
	#1- north (d)	$\leq$ )	
	#2- South (41	5)	

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* apprinids seen.



HABITAT **CHARACTERIZATION** 

Aquatic, Terrestrial and	d Wetland Biologists
Aquality, refrestriat and	u welland biologist

PROJEC	T (Number & Nan	ne): 1184 Sout	n Kent	an an ann an			
Field Sta	m: S. Mur	ray	0.1				
Station:	SKZE		Sit	e Location:			
vvaterboo	y unknow	<i>D</i>	GP	S Datum: IVH1 ) X3 Easting:			
Drainage	System:		Zoi	ne: 17 Northing:			
Location	in System:		Mu	inicipality: Chatham / Kent			
Appr. Rea	ach Length (m):		Lot	t & Concession:			
Survey D	Date: Oct. 28	5'10	Weather Conditions:				
Time Star	rted:	controlled to control on the last sector	Wind: 4	Cloud Cover (%): 200			
Time Fini	shed:		Precipitation: ()				
ADJACE	NT LANDS						
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°) Ste	eep (> 15°)			
	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 30 30+			
	Vegetation Type:	Tree (M	ixed) Shrut	S (Mixeel)			
Riparian	Flood Plain - exte	ent of frequent flood (m)	0-10 10	to 20 20 to 30 30+			
Zone	Vegetation Type:			Shut (Mireal)			
	- age tailor rype.	(aleas	(	SHIND (I VICEDA)			
	Vegetation Densi	ty (HMI)					
Canopy		Shout	Quality and %	shade Erroppont Tra			
Land	Havi Cul	, same	Guanty and 7	shade. Account 15%			
Use	gina	fure					
Other	(groundwater, s	(groundwater, soils, pools, vegetation, etc.)					
Notes							
		,					
Channel V	Vidth (range (m)):	2		Gradient (H/M/())			
Bank Hois	abt (range (m)):	2m		Moonder(Streight			
Dank Heig		Soon nigh wa	terter Losm	Denk Stability Co			
Dank Siop	e (degrees from s	urface of water): 135		Bank Stability: Grocel			
bank veg	etation Type:			Bank Veg. Density (H/M/L):			
CHANNE	L SUBSTRATE %						
Clay:	A 1946-1991 AM	Gravel: 🦯	Boulder:	Muck:			
Silt: V	/	Pebble:	Bedrock:	Detritus:			
Sand: V		Cobble:	Marl:	Other:			
INSTREA	M HABITAT AND	COVER					
Pools:		Undercut Ba	anks:	Boulder/Rock:			
Riffles:	Contraction of the second	Woody Deb	ris'	Cobble:			
Backwater	- /	Venetation:		Other:			
INSTREAM		vegetation.					
Type (sub	merg./emerg./flo	ating) Family/Gen	us/species	Description/Abundance			
. )   0 (0 0 0	l		usiopeoles	Becomption/Abundance			
	vone	an a mun financia ana ana					
	xer		[10.5404] = (= 0.5404) = (= 5404)	1			
- and the second				and the second			
CODES:		SWI Surface Water In	out SCS Stream (	Cross Section			
AHP Aquat	ic Habitat Point	GWI Groundwater Inn	It DOX Dissolver	d Oxvaen Stn			
AHY Aquat	ic Habitat Area	CKC Creek Crossing	VSS Visual St	urvev Stn			
TMP Temp	Monitor Stn	WEL Well	WQS Water 0	Quality Stn			
LW Flow	Monitor Stn	CUL Culvert					
LW Flow	Monitor Stn	CUL Culvert					

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.08	2612.84	Run
2		······································	•
3	3		
4		and the second	
5		annishanning sename second (Rashisting & Wannishi) (With Wei) -	

# WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	
Time Taken:	Conductivity (µs/e	em):	
Location Taken:			

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



### PHOTOS TAKEN

Photo #	Description	Photo #	Description
4	=1 - north (0/5)159		
	12 - South (W/S) 1100		
	el fre en la surface el con a cara a la cara el con e	normal second	

### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

							Page 1 of
PROJEC	T (Number & Nam	1e): 1184 Sou	th Kent				
Field Sta	iff: S. Murro						
Station:	KK29	······································	NUMBER OF STREET, STRE	Site Location:	·····	Q48.000000000000000000000000000000000000	11-1111-C-11111-C-111
Waterboo	dy: unknow			GPS Datum: /\	JAD & 3 Eastin	g:	olia amisi
Drainage	System:		the construction of the second s	Zone: 17 -	Northin	g:	
Location	in System:		A MARTIN AND AND AN AN AN AND AN AND A	Municipality:	2hatham	/ Kent	
Appr. Rea	ach Length (m):			Lot & Concess	ion:		11-14-2201-2
Survey D	Date: 0c-1,25	510	Weather Condition				
Fime Sta	rted:		Wind: 4	Cloud	<b>l Cover (%):</b> 70	307.	
Time Fini	ished:		Precipitation: O				
ADJACE	NT LANDS						
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)			
1	Extent of Natural	Vegetation (m)	0-10 ( 10 to 20	) 20 to	30 30+		
	Vegetation Type:	Tree (	Mixed)				
		Herbac	eous Cholde	n Roel)			
		Girass					
Riparian	Flood Plain - exte	nt of frequent flood	(m): (0-10)	10 to 20	20 to 30	30+	
Zone	Vegetation Type:	Girass				ä	
		Tree (	Hixed)				
	Vegetation Densit	ty ((HML):	2 5				
Canopy	Type: Tree		Quality a	and % shade: $\geq$	xcellen	1 8	5%
Land	Agricult	rure					
Jse	0						
Other	(groundwater, so	oils, pools, vegeta	tion, etc.)				
Notes							
HANNE	L MORPHOLOGY						
Channel \	Nidth (range (m)):	2.5		Gradi	ient (H/M/L):		
ank Linie	abt (manage (mall)	1	A CO O.	A	1.101 . 11		

Bank Vegetation Type:	surface of water). 155	in the second se	Bank Veg, Density (HM/L):
	K OFASS		Dank Veg. Densky (m/w/2).
Clav:	Gravel	Boulder	Muck:
Silt:	Pebble:	Bedrock:	Detritus:
Sand:	Cobble:	Marl:	Other:
INSTREAM HABITAT AND	COVER	/	
Pools:	Undercut Banks: 🛩	//	Boulder/Rock:
Riffles:	Woody Debris: 🗸	/	Cobble:
Backwater:	Vegetation:		Other:
INSTREAM VEGETATION			
Type (submerg./emerg./fl	oating) Family/Genus/spe	cies	Description/Abundance
None			
and the second s	a second a second and the second s		
CODES:	SWI Surface Water Input	SCS Stream Cro	oss Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved	Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Surv	vey Stn
TMP Temp Monitor Stn	WFI Well	WQS Water Qu	ality Stn
		Trate trater at	,

FLOW CONDITIO	ONS			Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	ly spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.36	5,6,10,	7.4	(P00)
2	manal mante a rol nor-	· · · · · · · · · · · · · · · · · · ·		
3			1775 - 14 - 14	and the second sec
4		be and a constant of the data of the data of the second states of the second states of the second states of the		
5				
WATER QUALIT	Y			
Water Temp. (°C)	): 9°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	7°C	D.O. (%):	TDS (ppm):	Standing Wall
Time Taken:		Conductivity (µs/cm):		water pars is the
Location Taken:				ilon north side -
SITE DRAWING				· · · · · · · ·
Include: waterco	urse and name, flow	direction, riffle/pool/run	habitat, side tribu	utaries, station location, approx. reach length,
channel modificat	lions, adjacent landu	se, roads & road name	s, bridges, cuiven	
110	< (2)	an Ca	$ = A ( \subseteq $	IT BUT ST
105	BIL	241-11	1 111	V-14112-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
	JAG )	(ILC)	RIGHT	1 Olif
A C	4	-X-()///	ASIGNE	12 Town of the
d a	A St	ffla //	CDC	55 53614-24
( eller	1 - 3 - 3	tall a	D TH T	ILITIN ITA)
		2 30 C	- Wood	up alloris prested
				, area
it	. [		$\bigcap$	HI was
VIDA		all		10221191
VILC	0.00			
		-15 0		
	, i	0 2.1 MA	$\sim$	V
	68	1 1. 15	× 1	
	18		Junto	
1	24	AL AL	5	Field
all.	[	AN AN	11	
Sil	2	AN EIN	たう	
	(	KA I, V	Cod	
	C	PH V	WZ2	
PHOTOS TAKEN	1	9	- U	
Photo #	Decorintion		Photo #	Description

Page 2 of 2

Description Photo # #1-north (dis) #2- South (u/s)

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* did drawing facing South. * water was black on the south side of the railway.

C	
1	

HABITAT CHARACTERIZATION

		ć		Page 1 o
PROJEC	T (Number & Nar	ne): 1184 Sou	the Kent	
Field Sta	ff: G. Murro	uy		
Station:	\$235	X		Site Location:
Waterboo	y: unkrown			GPS Datum: NHO 83 Easting: 422077
Drainage	System:			Zone: 7 T Northing: 464700
Location i	in System:			Municipality: Chartharn / Kent
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	ate: 0c+.29	10	Weather Conditions	S:
Time Star	ted: 8:35		Wind: '5	Cloud Cover (%): )() ()* /.
Time Fini	shed: 9:15		Precipitation: ()	
ADJACE	NT LANDS			
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natura	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type	Tree (Mi)	(ed) Sh	rub, (Mixed)
		terbacec	us (Golder	r Roel)
		Grass		
Riparian	Flood Plain - exte	ent of frequent flood (m	<u>):</u> 0-10	10 to 20 20 to 30 30+
Zone	Vegetation Type	STUD (H	ixed)	DIN COS
-	Venetation Dasa	They Dall	ars (010/016	20 FOOD (94 FOR S)
Canony	Type:		Quality	and % shada: A agoal (55%)
Land	Type. Well	Lice		
Lise	ngrau	AUI-E		
Other	(groundwater, s	oils pools vegetatio	n. etc.)	
Notes	(9.000,000,000,000,000,000,000,000,000,00	ene, peere, regetane.	.,,	
			· · · · · · · · · · · · · · · · · · ·	
CHANNE		(		
Channel V	Vidth (range (m)):	05- 10m		Gradient (H/M/L):
Bank Heig	ht (range (m)):	5.11 high	valer a 2	Meander/Straight:
Bank Slop	e (degrees from s	surface of water);		Bank Stability: (32000)
Bank Veg	etation Type: He	rtacous, G	rass, shub	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %			~
Clay:	1	Gravel:	Boulder	: Muck:
Silt: /	free and the second second	Pebble:	Bedrock	c Detritus:
Sand:	/	Cobble:	Marl:	Other:
INSTREA	M HABITAT AND	COVER		
Pools: V		Undercut Ba	anks:	Boulder/Rock:
Riffles:	f	Woody Deb	oris:	Cobble:
Backwate		Vegetation:	a	Other:
INSTREA	M VEGETATION			
Type (sub	omerg./emerg./flo	ating) Family/Ger	ius/species	Description/Abundance
		Phye	Conites	Small amount to the
		and the former and a second second second	7.1.1.1.1.1.	left / above chosin on
		a training and a spectrum and the	9	harti side
		and the second sec	+	<ul> <li>A state of the second seco</li></ul>
CODES:		SWI Surface Water In	put SCS Str	ream Cross Section
AHP Aquat	tic Habitat Point	GWI Groundwater Inp	out DOX Dis	ssolved Oxygen Stn
AHY Aquat	tic Habitat Area	CKC Creek Crossing	VSS Vis	sual Survey Stn
TMP Temp	Monitor Stn	WEL Well	WQS W	/ater Quality Stn
FLVV Flow	wonitor Stn	CUL Culvert		

Page 2 of 2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	), ()	3,5,96.2	Run
2			
3			
4			and an A. A.R.A. IS an analyzing strain of an and an and an an
5		And the second	

# WATER QUALITY

Water Temp. (°C): 7°C	D.O. (ppm):	pH: Visible Characteristics/Other Parameters:
Air Temp. (°C): 5°(	D.O. (%):	TDS (ppm): STOUS TTOW MOVTH
Time Taken: 9:05	Conductivity (µs/cm	
Location Taken:		

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
Phyagymites Field N
Magazing Pool
KRaitway Crossing 1444
HOTICIAN HALL AND THE SAME AND HOTICI
F.BIG SMIND LONG PARTS 1042 SCHAR
FI GALL, CALLER ST

### PHOTOS TAKEN

Photo #	Description	Photo	# D	Description
	-#1- north (dis)			
1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	TOOLA	the set of		and the second s
ar ien de la sé	The south (UID)	$\cdots  x = \cdots + ((1, \mathbf{s}) (x = -\mathbf{s} - \frac{1}{2} \mathbf{k}) \mathbf{k} (x = -\mathbf{s} - \frac{1}{2} \mathbf{k} \mathbf{k} \mathbf{k} (x = -\mathbf{s} - \frac{1}{2} \mathbf{k} \mathbf{k} \mathbf{k} \mathbf{k} \mathbf{k} \mathbf{k} \mathbf{k} k$		and the second
Contraction of the				and the second sec

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * Simerdous algal

Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

PROJECT	(Number & Nan	ne): 1184 Co.	Sh Vont	
Field Staf	F.S. Heirra.	1.001	K CIU	
Station I	107 YD7			Site Location:
Materhod	I LIDKNOUDO			GPS Datum: 1100 53 Easting: 383223
Drainage	System:	,		Zone: 17 T Northing: 4675204
Location in	n System:	an a		Municipality: (hotham) Kent
Appr Rea	ch Length (m):	10440000000000000000000000000000000000		Lot & Concession:
Survey D	ate: Nov Nall	1)	Weather Condition	15:
Time Star	ted: 1/2'02	V	Wind: 2	Cloud Cover (%): 10 cl %
Time Finis			Precipitation: Lich-	$\vdash colo$
			- indipidation ingre	( Touri
ADJACEN	Slana:	Contlo (< 5%)	Modorato (5 15°)	Steen (> 15°)
valley	Supe.		0 10 10 to 2	20 to 30 30+
	Extent of Natura	r vegetation (m)	0-10 10102	912 2010 00 000
	vegetation Type	· GIRASS	C Ide T	Taccal
		Herbaccous	- Grolden +	00/1 rease
Diparian	Elood Plain ext	ent of frequent flood (m	0-10	10 to 20 20 to 30 30+
7000	Vegetation Type	ent of nequent hood (if		
-016	vegetation type			
	Vegetation Dens	ity (HML).		
Canopy	Type: Dhug an	inter Hertracon	, c Quality	and % shade: Poor 15%
Land	Davier	LUCO I ROS	doutial.	
Use	guar	the press	cherofican	
Other	(groundwater, s	soils, pools, vegetatio	n, etc.)	
Notes				
CHANNE	L MORPHOLOG	Y		
Channel V	Width (range (m))	: 5-1.5m		Gradient (H/M/L):
Bank Heig	ht (range (m)):	3m high wa	tera	Meander/Straight:
Bank Slop	e (degrees from	surface of water):		Bank Stability:
Bank Veg	etation Type:			Bank Veg. Density (H/M/L):
CHANNE	USUBSTRATE %	6		
Clav:	/	Gravel:	Boulde	er: Muck:
Silt	/	Pebble:	Bedro	ck: Detritus:
Sand:	/	Cobble:	Marl:	Other:
INSTREA	M HABITAT AND	COVER		
Deele:	/	Lindercut F	lanks:	Boulder/Rock:
Diffice:	· · · · · · · · · · · · · · · · · · ·	Woody De		Cobble:
Rillies.		Voody De	Dhruge	tes Other
	MVECETATION	vegetation	. v - [],	dies other.
Type (eut	mera emera fi	oating) Family/Ge	nus/species	Description/Abundance
i she (au	Jillerg. enlerg.m			·
400-300-000-000-000-000-00-000-00-00-00-0		Thra	givite s	and the second
	(0 - 17.77) (1 - 17 - 77 - 77 - 77 - 77 - 77 - 77 -		J	(1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 + 1) = (1 +
	2411.4 (3) - 22-2 (4) - (41111 ()			a mana a ana a second contraction of the second
		01411 0 1 1111 1		trace Cross Section
CODES:	tis Lisbitet Detat	SWI Surface Water I	nput SCS S	Dissolved Oxygen Stn
AHP Aqua	tic Habitat Point	CKC Creek Crossing		risual Survey Stn
TMP Tem	Monitor Stn	WEL Well	WQS	Water Quality Stn
FLW Flow	Monitor Stn	CUL Culvert		

FLOW CONDITIC	DNS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		10 - 1	Standing water
· · · · · · · · · · · · · · · · · · ·			the second secon
3		an and a second second of the last deal are assured as the	a allert
5		and the second	

# WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 12°C	D.O. (%):	TDS (ppm):	standing water
Time Taken:	Conductivity (µs/c	m):	
Location Taken:		a to be the second seco	~ culvert

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ...



# PHOTOS TAKEN

Photo #	Description	Photo #	Description	
#1-	North rulst South least			
	1			

### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* apprind seen * raccoon tracks observed



HABITAT CHARACTERIZATION

		Pag	e 1 of 2
PROJECT (Number & Name): 1184	South Kent		
Field Staff: S. Hurray			
Station: AR14		Site Location:	
Waterbody: UNKNOLON		GPS Datum: NAD 83 Easting: 392813	The style is the second
Drainage System:		Zone: /7 T Northing: 4680886	ο
Location in System:		Municipality: Chatham / Kent	
Appr. Reach Length (m):		Lot & Concession:	reserve provide
Survey Date: NOV. 17'10	Weather Condi	tions:	***
Time Started: 8118	Wind: 3	Cloud Cover (%): 80'le	1220-000 2 Inc. 1010-010
Time Finished: でいろう	Precipitation: 🔨	onu	Anninian ign - in
ADJACENT LANDS			
	~ ~ ~	ALL STANDARD CONTRACTOR STATE	

Valley	Valley         Slope:         Gentle (< 5°)					
	Extent of Natural Vegetation (m) 0-10 10 to 20 25,(	20 to 30 30+				
	Vegetation Type: Tree (Mixed) Shrub (Mix	ed)				
	Herbaceous Coolden Rool, -	Tensel				
	Girass					
Riparian	an Flood Plain - extent of frequent flood (m): 0-10 (10 to 20	20 to 30 30+				
Zone	Vegetation Type: Shrub (Hixed) Herbaceau	S (Golden Rod Teasel)				
	Cirgss	,				
	Vegetation Density (HML):					
Canopy	y Type: Tree, Shrub Quality and % sha	de: Poor 25%				
Land	Agriculture / Residencial					
Use						
Other	(groundwater, soils, pools, vegetation, etc.)					
Notes						

# CHANNEL MORPHOLOGY

Channel Width (range (m))	:.5-4m arg. 15	m	Gradient (H/M/L)	
Bank Height (range (m)):	5m high wate	r Q 25m	Meander/Straight:	
Bank Slope (degrees from	surface of water): 135		Bank Stability: Gooc	0.481C
Bank Vegetation Type: Sh	rub (Mixed) Herbaceous	(Golden Rod, Tease	Bank Veg. Density (H/M/L):	
CHANNEL SUBSTRATE %	6 GIRASS	C		
Clay:	Gravel:	Boulder:	Muck:	
Silt:	Pebble:	Bedrock:	Detritus:	
Sand:	Cobble:	Marl:	Other:	
INSTREAM HABITAT AND	) COVER			
Pools:	Undercut Banks:	/	Boulder/Rock:	
Riffles:	Woody Debris: 🛩	/	Cobble:	141 I - 11. H 1 1 1. I - I - I
Backwater:	Vegetation:		Other:	
INSTREAM VEGETATION				
Type (submerg./emerg./fl	oating) Family/Genus/sp	ecies	Description/Abundance	
	Tilimente	ous algae		
		the state of the s	in the second	
CODES:	SWI Surface Water Input	SCS Stream Cros	s Section	
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved O	xygen Stn	
TMP Temp Monitor Str		WOS Water Qual	y Str	
FLW Flow Monitor Stn				

Cross-Section       Wetted Width (m)       5 Depths, equally spaced (cm)       DischargePool/Kiffle/RunNotes         1       1.6.8       5.7.7.8       High and an an and an and an an and an an and an an and an and an	LOW CONDITIC	ONS			Page 2 of 2
1       1.6.8       5.9.7.2.8.3       KitHu         2       3       Hydrolic Head of Icm         4       5       D.0. (ppm): pH: Wisble Characteristics/Other Parameters: Water Temp. (°): S*C. D.0. (%): TDS (ppm): Usater is S/Other Parameters: D.0. (%): TDS (ppm): Usater is S/Other Parameters: S/Other S/Other Parameters	<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equall	y spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2       3       Hydrolic. Head of Jan         4       5       D.O. (ppm): pH: Visible Characteristics/Other Parameters: Air Temp. (°C): S° C. D.O. (%): TDS (ppm): Usate S pretty Turbid         Inter Temp. (°C): S° C. D.O. (%): TDS (ppm): Usate S pretty Turbid       Turbid	1	1.68	5,9,12,	8,3	Kiffle
3       Hydrolic Head of Lander Street	2	4	, , , )	-	
4       4         VATER QUALITY         Value Temp. (°C): S° C       D.O. (ppm):       pH:       Visible Characteristics/Other Parameters:         in Temp. (°C): S° C       D.O. (%):       TDS (ppm):       Water       S         Inter Taken: S: 2.5       Conductivity (µs/cm):       Water       S       Turbid         Order to any the strength of the strenge	3	1.			Hydrolic Head of Icm
5         VATER QUALITY         Vater Temp. (*C): St C.       D.O. (pm): pH: Visible Characteristics/Other Parameters:         int Temp. (*C): St C.       D.O. (%): TDS (ppm): Visible Characteristics/Other Parameters:         int Temp. (*C): St C.       D.O. (%): TDS (ppm): Visible Characteristics/Other Parameters:         int Temp. (*C): St C.       D.O. (%): TDS (ppm): Visible Characteristics/Other Parameters:         int Temp. (*C): St C.       D.O. (%): TDS (ppm): Visible Characteristics/Other Parameters:         int Te DRAWING       Torother and the control of the con	4				I
VATER QUALITY         Valet Temp. (*C): S*C       D.O. (ppm);       pH:       Visible Characteristics/Other Parameters:         ine Taken: S: 2: S       Conductivity (us/om):       Us/dect is pretty         ine Taken: In stream       Stream       Us/dect is pretty         int Temp. (*C): S*C       D.O. (*S):       TDS (ppm):       Us/dect is pretty         int Taken: In stream       Conductivity (us/om):       Us/dect is pretty         int E DRAWING       Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, hannel modifications/ adjacent landuse; roads & rgad names, bridges, culverts, north arrow; etc.       Golden         Golden us/dect us/d	5				
Visite Temp. (*C): S* C       D.O. (ppm): pH:       Visible Characteristics/Other Parameters:         in Temp. (*C): S* C       D.O. (%): TDS (ppm):       TDS (ppm):         ine Taken: C): S* C       D.O. (%): TDS (ppm):       Turbit         ocation Taken: I): S* C       Conductivity (us/cm):       Turbit         ocation Taken: I): S* C       Conductivity (us/cm):       Turbit         intel Decamped and the main set of the main set	VATER QUALIT	Y			
air Temp. (°G):       B.C. (%):       TDS (ppm):       Watter is pretty         ime Taken:       Z::25       Conductivity (µs/cm):       Watter is pretty         inte Taken:       Z::25       Conductivity (µs/cm):       Watter is pretty         inte Taken:       S::25       Conductivity (µs/cm):       Watter is pretty         inte modifications:       adjacent landuse; roads & road names, bridges, culverts; north arrow; etc.       Gradient         adden and       Watter is pretty       Residence	Vater Temp. (°C)	: 5°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
ime Taken: 2:25 Conductivity (us/om): contine Taken: In Stream ITE DRAWING include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Contact and the stream Contact and	ir Temp. (°C):	$\chi^{\circ}($	D.O. (%):	TDS (ppm):	water is pretty
ocation Taken: In Stream ITE DAWING notude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc adden and the stream of the	ime Taken: 🤗	:25	Conductivity (µs/cm):		turbid
ITE DRAWING         nelude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, hannel modifications/ adjacent landuse, roads & roads a road names, bridges, culverts, north arrow, etc       Goldent         Goldent and se, roads & roads & roads a road a names, bridges, culverts, north arrow, etc       Goldent         Goldent and se, roads & roads & roads a road names, bridges, culverts, north arrow, etc       Feedback         Goldent and set in the	ocation Taken:	n stream.			1
Photo # Description H - Porth & Cast (Cl)S H - Served, unusual continues, differences from previous site visit, landowner comments, topography, general land us indivegetation, etc		1101-0410			
hannel modifications/adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Golden in the arrow in the	clude: watercol	urse and name, flow	direction, riffle/pool/run	habitat, side tri	ibutaries, station location, approx. reach length,
ENCLA COMMENTS ish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land us nd vegetation, etc.: * Kestreed, turt looks like good fish	hannel modificat	ions/adjacent landu	se, roads & road names	, bridges, culve	erts, north arrow, etc Grolden Re
Relichen Red Relichen Red Relichen Relichen Pod volos Relichen Pod volos Relichen Pod volos Relichen Pod volos Relichen Pod volos Relichen Pod volos Relichen Pod volos Relichen Photo # Description HI - North Relichen HI - South west (U/S) FZ - South west (U/S) SENERAL COMMENTS Ish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land us nd vegetation, etc.: & Kestrel observed, but looks like good fish	mite	IVAL	FAR I	: Mise	TALA
Biolden Rood The second of the second of th	Upine	TATHER	1000	( power55)	r Marsol
PHOTOS TAKEN Photo # Description H Cost (d)S H Cost (d	Golden Rod-	5 KACTER	THA -	DF CON	tree
HOTOS TAKEN Photo # Description Photo # Description HI - North Last (d15) HZ - South west (U15) SENERAL COMMENTS Seneral conditions, differences from previous site visit, landowner pomments, topography, general land us and vegetation, etc.: & Kestrel observed, with looks like good fish	Tone	4 BUTIV	1501	North Contraction	11 Residence
The comments topography general land us not veget and the start of the	Sesion	- ABALA	Ny BA The	water	Sally I have a second
Photo # Description HI - North East (dis) The way of the second	The low	-ASBIN	NIT	1	
HOTOS TAKEN hoto # Description HI - North Last (d15) HZ - South west (u15) EERERAL COMMENTS ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land us nd vegetation, etc.: If kestrel observed, tut looks like good fish	(call	CARES VIVE	MileBa anti	201	L OXAY
HOTOS TAKEN HOTOS		201-40	11000-2000		
Energy     Conserved     Rot       Bod wood     Bod wood     Bod wood       HOTOS TAKEN     Bod wood     Bod wood       Hoto #     Description     Photo #       Bod wood     Bod wood     Bod wood       HOTOS TAKEN     Bod wood     Bod wood       Hoto #     Description     Photo #       Bod wood     Bod wood     Bod wood       HOTOS TAKEN     Bod wood     Bod wood       HOTOS TAKEN     Bod wood     Bod wood       Hoto #     Description     Description       HI = North Rast (MIS)     Bod wood     Bod wood       HI = North Rast (MIS)     Bod wood     Bod wood       HI = North Rast (MIS)     Bod wood     Bod wood       HI = North Rast (MIS)     Bod wood     Bod wood       HI = North Rast (MIS)     Bod wood     Bod wood       HI = North Rast (MIS)     Bod wood     Bod wood       <			11		
HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HOTOS TAKEN HI - NORTH LAST (d/S) HI - NORTH LAST (d/S) HI - South west (U/S) HI - South west (U/S) HI - South west (U/S) HI - NORTH LAST (d/S) HI - NORTH	<	/			
Picture of the second state of the second stat	T T	easel	$\sim$		
PHOTOS TAKEN Photo # Description Photo # Description HI = north Rast (dis) HZ = Suth west (uis) SENERAL COMMENTS isis observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land us ind vegetation, etc.: If kestre observed up the road from Site. # no cyprivids observed, tut looks like good fish	<	·	in ser	Kd.	200
PHOTOS TAKEN Photo # Description Photo # Description HI - North Rast (d15) HZ - South west (u15) BENERAL COMMENTS Tish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land us ind vegetation, etc.: * Kestrel observed, provide the good fish					uspl uspl
PHOTOS TAKEN Photo # Description Photo # Description #1 - north Last (d/s) #2 - south west (u/s) SENERAL COMMENTS Tish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land using vogetation, etc.: If kestrel observed, up the voget from Site is the apprinds observed, that looks like good fish	5 CC	= hables =			
PHOTOS TAKEN Photo # Description Photo # Description FI - North Rast (d/s) FZ - South west (u/s) SENERAL COMMENTS Tish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land using vogetation, etc.: If kestre observed up the road from site # no cyprimids observed, but looks like good fish	0-	n l		11	
Photo #       Description       Photo #       Description         File       File       File       File         SENERAL COMMENTS       File       File       File         Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:       *       *       *         *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *       *	-	MD Laton	MAR A	1005	G. MAN
Photo #     Description       Photo #     Description       H = north     Rast       H2 = South     West       Current     Photo #       Description     Photo #       Description       H2 = South     West       Current     Current       SENERAL COMMENTS       Tish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:       K kestrel     observed, up the     road       K no     Currinds     otherwead, that	TYPE	HIL MAAN	16/2011	RODA	age INVERTING
Photo #     Description       Photo #     Description       #I - north     East       #I - north     East       GENERAL COMMENTS       Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:       # Kestrel     observed, up the       # No     Cuprinids	Field	WARDER L	R.Q.	N P	VI AND LAND
PHOTOS TAKEN       Photo #       Description       Photo #       Description         #I = north east (dis)         #Z = south west (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         BENERAL COMMENTS       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         SENERAL COMMENTS       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         SENERAL COMMENTS       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = north east (uis)       #I = north east (uis)       #I = north east (uis)         #I = north east (uis)       #I = nort		XIM XI HILLER	wighter Set hich	Ser R &	AN MARKON I A A
PHOTOS TAKEN         Photo #       Description       Photo #       Description         #1 - North Last (dis)       #2 - South west (uis)       #2         SENERAL COMMENTS       Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:       # Kestrel observed, up the road from site.         ************************************	240 K-2) / (	NW VIE	the source of	- IN	19 MA 10 5 10 9
PHOTOS TAKEN Photo # Description Photo # Description #1 - Morth Rast (d.s) #2 - South west (u.s) GENERAL COMMENTS Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * Kestrel observed up the road from Site. * no aprimids observed, but looks like good fish	TE+C	TRANTRA	the me	TARM	SA MARCINE 125 ×
Photos TAKEN       Photo #     Description       #1 - North Rast (dis)       #2 - South west (uis)       #2 - South west (uis)	Strant	- HK Th	the att	1 8/1	In PAR Field
Photo # Description Photo # Description #1 - north East (dis) #2 - South west (uis) ENERAL COMMENTS Seneral conditions, differences from previous site visit, landowner comments, topography, general land use ind vegetation, etc.: * Kestrel observed up the road from site * no cyprimids observed, but looks like good fish	~~~	14 JX	SYN 2	1	. Alla Ling
hoto # Description Photo # Description #1 - North East (dis) #2 - South west (uis) ENERAL COMMENTS ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use nd vegetation, etc.: It kestrel observed up the road from site. # no cyprimids observed, but looks like good fish	HOTOS TAKEN				
#1 - north Rast (dis) #2 - South west (uis) <b>SENERAL COMMENTS</b> ish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use nd vegetation, etc.: It kestrel observed up the road from site. * no cyprimids observed, but looks like good fish	hoto #	Description		Photo #	Description
H2 - South west (U15) ENERAL COMMENTS ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road from Site visit, landowner comments, topography, general land use ish observed, up the road fro	# - 1	north east	$(d_{15})$		
BENERAL COMMENTS ish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use nd vegetation, etc.: It kestrel observed up the road from site. # no cyprimids observed, but looks like good fish	#2-5	South west	(uis)		
SENERAL COMMENTS Tish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use ind vegetation, etc.: * Kestrel observed up the road from site. * no cyprimids observed, but looks like good fish	1145 March 11				and the second
SENERAL COMMENTS Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land us and vegetation, etc.: If Kestrel observed up the road from site. #no cyprimids observed, but looks like good fish	Anne de la principal	· · · · · · · · · · · · · · · · · · ·			
SENERAL COMMENTS Fish observed, unusual conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: It kestrel observed up the road from site the cyprimids observed, but looks like good fish	· · · · · · · · · · · · · · · · · · ·	anne ann a san Sans a ll			
tish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land us and vegetation, etc.: It kestrel observed up the road from site the cyprimids observed, but looks like good fish	GENERAL COM	MENTS			
*no cyprinids observed, but looks like good fish	ish observed, ur	nususal conditions, c	lifferences from previou	s site visit, land	downer comments, topography, general land use
*no apprinteds observed, but looks like good fish	nd vegetation, e	tc.: * Kestra	el observed u	ip The	TURNI TROTH SITE,
	×	no cyprini	ds observed	1, but	looks like good fish

hatsi4at * water is turbid (could have had cyprinids but couldn't * raccoon tracks observed: * raccoon tracks observed

2.55

HABITAT CHARACTERIZATION

					Page 1 c
PROJEC	T (Number & Nan	ne): 1184 Sou	th Ken	t	· · · · · · · · · · · · · · · · · · ·
Field Sta	#: 5. Murra	ef			
Station:	HR 15			Site Lo	cation:
Vvaterboo	V: unknowr	)	1. 3 (1. 1. (1. (1. (1. (1. (1. (1. (1. (1.	GPS Da	atum: /VAD 83 Easting: 392721
Drainage	System:		5.5	Zone:	Northing: 4679794
Location I	n System:		46/1474 111 240-1111/1111/1111/11	Municip	ality Chatham Kent
Appr. Rea	ach Length (m):			Lot & Co	oncession:
Time Stor	tod: C. US	J	Weather Cond	itions:	
Time Star	abod: 9:45		Wind: 5	~	Cloud Cover (%): So %
			Precipitation.	0	
	Slope:	Gentle (55%)	Modorato /5 1	5°) Stoop (>	150
vancy	Extent of Natural	Vegetation (m)		to 20	20 to 30 20 t
	Vegetation Type:			10 20 25-	2010 30 30+
	vegetation type.	Hadachar	SI GUID	nrus	Tassal
		THILLOU	SC GOUL	en Room	, leaser)
Riparian	Flood Plain - exte	ent of frequent flood (r	n): 0-1	0 (10 to 20	2 20 to 30 30+
Zone	one Vegetation Type: Hertra Cerus (Ceralden Rod)				
		Grass	- Control	Teasel	
	Vegetation Densi	ty (HML):		0.001	
Canopy	Type: Tree,	Shruts	Qu	ality and % sha	de: Poor 15%
Land	Agricul	ture			
Other	(groundwater s	oils pools vegetatio	n etc.)		
Notes	(groundwater, s	ons, pools, vegetativ	, etc.)		
CHANNEL	MORPHOLOGY				
Channel V	Vidth (range (m)):	5-11500	Auro In		Gradient (H/M/
Bank Heig	ht (range (m)):	3.5m hich	in the second	2 2 mg	Meander/Straight
Bank Slop	e (dearees from s	urface of water):	Sumary	2 Linit	Bank Stability: Grood
Bank Vege	etation Type: He	taceous (local	den Prol G	-955	Bank Veg. Density (H/M/L)
CHANNEI	SUBSTRATE %	Te	use ()		
Clay: 10%		Gravel: 15%	Bo	ulder:	Muck: 10%
Silt: 10%		Pebble: 151	Be	drock	Detritus: 5%
Sand: 20	1/0	Cobble: 151	Ma	r):	Other:
INSTREAM	HABITAT AND	COVER			
Pools:	1		Banks /	-	Boulder/Rock:
Riffles:	/ /	Woody De	bris:		Cobble
Backwater		Vegetation			Other:
INSTREAM	VEGETATION	Togotation			
Type (sub	merg./emerg./flo	ating) Family/Ge	nus/species		Description/Abundance
$\sim$		Pilione	2 untour	1000	
	10145 (0100-00-000-00000000000000000000000000	TUUV	- I I IVUS O	d-	
- n anali - in				uni <u>n</u> ge eine numm-	ferror of the second second second second second
1.1111-000-000-000			an 41 1014 - 4142440480-1	or entrem entrem entre	Contraction of the second s
CODES:		SWI Surface Water I	nput SCS	S Stream Cross	Section
AHP Aquati	c Habitat Point	GWI Groundwater In	put DO	X Dissolved Oxv	igen Stn
AHY Aquati	c Habitat Area	CKC Creek Crossing	VSS	6 Visual Survey	Stn
TMP Temp	Monitor Stn	WEL Well	WQ	S Water Quality	Stn
-LW Flow N	/onitor Stn	CUL Culvert			

FLOW CONDITIO	NS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.17	47.15.95	Riffle
2	ана (т. т. т. р. т. т. р. т. т. т. р. т		and the second se
3			Hydrolic Head
4			=2.5cm
5			
WATER QUALITY	/		
Water Temp. (°C)	:5°C	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 8		D.O. (%): TDS (ppm):	a figurath gast
Time Taken: "O",	55	Conductivity (µs/cm):	a give round east
Location Taken:			
SITE DRAWING		the state of the second s	tion station location approx reach length
Include: watercou	irse and name, flow d	rection, riffle/pool/run habitat, side tributat	neth arrow etc.
channel modificat	ons, adjacent landus	o has a road names, bridges, cuiverts, i	The second secon
VENOV/	1 CANE	Clothe V Real	ALC PRESE
1 Xno	- alter	TOO!	Field Field
	ALC:	(Hurtsid) (	HARAM -
6	iden all	Pellingo Lipport	Shrub Shrub S
	7001 11	fill one new Grass	
TT		Campont Slot	
N	14	asel olds	
	<u></u>		poolaten Rod
	$\bigcirc$		1
11/2			
V	ET THE	cement slab	
Actor	ALLI	12 ACTIV	
TAV 100	101 11 10 10	O PANAGA	11999
1/10	0 11 1	10 million of the	
16-V	(Vally)	GP 25T XI DIH	1000
ATV -50	10 100 BB	as all and	Thomas the
All	BAKK	HON SEV BOARS	ALT AN VERY
not	- 1000 AD	A A A A A A A A A A A A A A A A A A A	And Post
120195	S MALLY	AZY US STATI	Usb.
	- MAN	Y. The Plant	p (g)
PHOTOS TAKEN	Description	Photo #	Description
Photo #	Description	FILOLO #	Description
#2	South wills		alaataan ahaan
the second se	Sough with	( ( ( V S )	
	30-7000		
· · · · · · · · · · · · · · · · · · ·	er anteren an en		
GENERAL COM	IENTS		
Fish observed, un	ususal conditions, dif	ferences from previous site visit, landown	er comments, topography, general land use
and vegetation, et	c.: VK av or	mide obsavoral	
	* cypri	iuus onserved	
	* racc	oon & great the	heron tracks seen
	Cohew o	picture tacing sout	r)
		()	

C	

HABITAT **CHARACTERIZATION** 

5

PROJECT	T (Number & Nam	1e): 1184 So	with Kent	and a state of the second state	
Field Stat	ff: S Murra	1			
Station:	AR25			Site Location:	
Waterbod	ly:			GPS Datum: NAD 83 Easting: 386	0811
Drainage	System:			Zone: T T Northing: 465	81240
Location i	n System:			Municipality: Chathom / Kent	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	ate: Nov. 1711	)	Weather Condition	ons:	(-Y-)-(F-Y)-(P-=0)-(-(-)-(-)-(-)-(-)-(-)-(-)-(-)-(-)-(-)
Time Star	ted: 10:45		Wind: 3	Cloud Cover (%): 🕚 🏹 🗧	
Time Finis	shed: 11/05		Precipitation: 🔿		
AD.IACE					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°	) Steep (> 15°)	
, anoy	Extent of Natural	Vegetation (m)	0-10 (10 to	20 20 to 30 30+	
	Vegetation Type	Troo - Wix	rd Shat	Mixed	
	, Jogetation Type.	Hartscont	s - Contolen	Pod Teasel	
		Grass	S CIDINUL S	and was at 1	
Rinarian	Flood Plain - exte	ent of frequent flood	(m); 0-10	10 to 20 20 to 30 30+	
Zone	Vegetation Type	Nextación	Galden R	rl, leasel	
	vegetation rype.	theman	S - Una locut 150		
	Vegetation Densi	ty (HML):			
Canopy	Type: True	shout	Qual	ity and % shade: (wood 50%	
Land	Agricultur	P Pailvaa			
Use	Junio	y partiou			
Other	(groundwater. s	oils, pools, vegeta	tion, etc.)		
Notes					an an an an an an
	L MORPHOLOGY	1			
Channel	Width (range (m)):	,5-1.5		Gradient (H/M/L))	······································
Bank Heig	ght (range (m)):	Sm		Meander/Straight:	
Bank Slop	pe (degrees from s	surface of water):	i ann an an the strategy and a	Bank Stability: Good	
Bank Veg	getation Type: Her	taceous (Tease	el Golden Rod) (	Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %				
Clay: 10	x	Gravel: 51	Boul	der: Muck: 20%/o	
Silt: 10	/.0	Pebble: 45 1/2	Bedr	ock: Detritus: //)*/o	
Sand 2	0%	Cobble: 7 Ou	Marl	Other:	
INSTREA	M HABITAT AND	COVER			
Dealer	/	Undergu	t Banks	Boulder/Rock:	
POOIS:		Woody [	Dobrie:	Cobble:	e idžioslacijska plane odna
Rimes:		Vocetati	on: Duni	, Les Other:	
Dackwate	M VECETATION	vegetati	on. Inragn		
Type (at	hmerg lemora /fl	pating) Family/(	Genus/species	Description/Abundance	
i ype (su	unlerg/enlerg/m		Unitarapeolog		
			ragm TES	**************************************	
			0		
			2 - TANK - K MANYANY MAR	the second se	
CODES:		SWI Surface Wate	er Input SCS	Stream Cross Section	
AHP Aqua	atic Habitat Point	GWI Groundwater	r Input DOX	Dissolved Oxygen Stn	· · · · · · · · · · · · · · · · · · ·
AHY Aqua	atic Habitat Area	CKC Creek Cross	ing VSS	Visual Survey Sur Water Quality Sto	
TIME Tem	p Monitor Stn		VVQC	vvaler quanty out	
LAN LIOM					

# **FLOW CONDITIONS** Page 2 of 2 **Cross-Section** Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 1.92 7, 10, 14, 15, 9 1 Standing water 2 3 alver 4 tur bid 5 + taken on east side WATER QUALITY Water Temp. (°C): 6°C Visible Characteristics/Other Parameters: D.O. (ppm): pH: Standing water a culvert, very furtid Air Temp. (°C): ノつ^あこ D.O. (%): TDS (ppm): Time Taken: 10:50 Conductivity (µs/cm): Location Taken: In stream SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ... McKinley Koa MOUN N PHOTOS TAKEN Photo # Decoription

1 11010 #	Description	Photo # Description
	#1-east	
	#2-West	
	$= +(0)(\cdots \cdots (1-1)\cdots (1-1)\cdots (1-1)\cdots (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1-1) (1$	construction for the second

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: * channel had standing turbiol water, water was mostly on easy side, with water just under ? Surrounding culvert on west side.



Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

					Page 1 of
PROJEC	T (Number & Nar	ne): 1184 Sou	igh Kent		
Field Sta	#: 3 Kurra	4		014	
Station:	4220		eachtean an a	Site Location:	
Waterboo	iy:		mannanti, territoria matalia	GPS Datum: NAD 83 Easting:	
Drainage	System:		a general and a second second second second	Zone: 17 T Northing:	
Location i	in System:		1010 _10101 0	Municipality: Chatham / Kent	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	ate: Nov. 17/10		Weather Conditions	S:	
Fime Star	ted: //:30		Wind: 4	Cloud Cover (%): ひ%。	
Time Finis	shed: //:45		Precipitation:		
ADJACE					
/alley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natural	Vegetation (m)	0-10 10 to 20	+ (S 20 to 30 30+	
	Vegetation Type:	GIRASS			
		Shirub (M	ixed)		
				424 22 224 22 22	
Riparian	Flood Plain - exte	ent of frequent flood (	(m): (0-10)	10 to 20 20 to 30 30+	
Zone	vegetation Type:	Herbaceon	S (Crololen K	or clease)	
	Venetation Deep	Grass			
Canony	Vegetation Dens		0	and 0/ abadas Days (The	
anopy	Type: Shut	, Hertsaleou		and % shade: Poor 5%	_
.and Jse	Agnaut	ure			
Other	(groundwater, s	oils, pools, vegetat	ion, etc.)		
Notes	right to	reside Dra	eke Road.		
CHANNE		,			
Channel V	Vidth (range (m)):	5-2500	HIM DW.	Gradient (H/M/L):	
Bank Heid	ht (range (m)):	· 5 = 5.077	Shit and	Meander/Straight	
Bank Slop	e (degrees from s	urface of water)	254 6 2	Bank Stability	34-34-9
Bank Veg	etation Type: He	trace ous (100	Men Port Trase	Bank Veg Density (H/M/L)	
HANNEI	SUBSTRATE %	includes 1010	Courses S	Dank vog. Denoky (Hittine).	
lav: ) A	%	Gravel: 5 1/0	Boulder	Muck: $\supset$ () $\%$	
ilt: 20	°/ .	Pebble 5%	Bedrock	Detritus:	- 9_4
and: 20	) 1/2	Cobble: 5%	Marl [.]	Other:	0.0. 3.2.0.0
STREA	M HABITAT AND	COVER	(HGH).		
ools:	/	Undercut	Banke	Boulder/Bock	
liffles		Woody D	obrie:	Cobble:	
ackwater		Vegetatio		Other:	Managementer Art
		vegetatio	n	Other.	
vpe (sub	mera./emera./flo	ating) Family/G	enus/species	Description/Abundance	
an - sta	vone			a 1994 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997	
		en e			
ODES:		SWI Surface Water	Input SCS Str	eam Cross Section	
HP Aquat	ic Habitat Point	GWI Groundwater I	nput DOX Dis	solved Oxygen Stn	
HY Aquat	ic Habitat Area	CKC Creek Crossin	g VSS Vis	ual Survey Stn	
MP Temp	Monitor Stn	WEL Well	WQS W	ater Quality Stn	
	VIONITOR Stn	CUL Culvert			

Cross-Section -Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1 1.98	11.14 19 20 12	Run
2		
3	and an	
4	a server the second second and the second	
5	an aga ann ann an ann an ann an an an an an a	

# WATER QUALITY

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): //°	D.O. (%):	TDS (ppm):	Turbid Water
Time Taken: //: 37	Conductivity (µs/cm):		with a very slaw
Location Taken: In Streach	· /		-low north-

# SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



# PHOTOS TAKEN

Photo #	Description	Photo #	Description	
7	+1-north (dis)			
#	-2- South (415)			20 - 10 10 - 10
		Communities for the local section of the section of the		
				m.

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* water very turbid, but lots of it, called have apprivids, but too turbid to see * Cotton-tail Observed

Page 2 of 2



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

			Page 1 of 2				
PROJEC	CT (Number & Name): 1184 Sa	oth Kent					
Field Sta	aff: S. Murray		The second				
Station:	AR27		Site Location:				
Waterbo	dy:		GPS Datum: NAD 83 Easting: 397974				
Drainage	e System:		Zone: 17 T Northing: 4685317				
Location	in System:		Municipality: Chotham / Kent				
Appr. Re	ach Length (m):		Lot & Concession:				
Survey [	Date: Nov. 17/10	Weather Condition	15:				
Time Sta	inted: 11:55	Wind: 4	Cloud Cover (%): 🔘 🎢				
Time Fin	ished: 12;15	Precipitation: ()					
ADJACE	INT LANDS						
Valley	Slope: Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)				
	Extent of Natural Vegetation (m)	0-10 10 to 2	0 25 20 to 30 30+				
	Vegetation Type: Shruts(	lixed) Tre	· (Mixed)				
	Herbace	us (molden	Rod				
	Pairass		(-1)				
Riparian	n Flood Plain - extent of frequent flood (m): 0-10 (10 to 20) 20 to 30 30+						
Zone	Vegetation Type: Herbaceous (Grolden Rad Tease)						
	Shrub ()	lixed) (gira	55				
	Vegetation Density (HML):						
Canopy	Type: Shrub, Tree, He	Haceous Quality	and % shade: Excellent 75%				
Land	Agriculture / Residential.						
Use	0						
Other	(groundwater, soils, pools, vege	etation, etc.)					
Notes							
	1 1 m						
CHANNE	L MORPHOLOGY						

Channel Width (range (m))	1.5-	4m (AVG	2m	Gradient (H/M/L)	
Bank Height (range (m)):	4.5m	high wa	tor az.	Meander/Straight:	
Bank Slope (degrees from	surface of	water): ()		Bank Stability: Good	and the second second
Bank Vegetation Type: Sh	rub Mixed	d) True (Hixed)	Herbaceous (+ Te	Bank Veg. Density (H/M/L):	
CHANNEL SUBSTRATE	%	,	0		
Clay: 20%/0	Gravel:	5%	Boulder:	Muck:	
Silt: 20%	Pebble:	5%	Bedrock:	Detritus: 20%	
Sand: 20%	Cobble	10.10	Marl:	Other:	
INSTREAM HABITAT AND	D COVER				
Pools:		Undercut Banks:	/	Boulder/Rock:	
Riffles:		Woody Debris: 🗸		Cobble:	
Backwater:		Vegetation:	filimentous alg	ac Other:	need or and a
NSTREAM VEGETATION			1		
Type (submerg./emerg./fl	oating)	Family/Genus/sp	ecies	Description/Abundance	
		filimanton	S algod		
THE DESCRIPTION OF THE PARTY OF			a for the second	(1000) [100000000000000000000000000000000	in the community of the
· ITTE Decision report because of a contract of the		and the second	0	1	E - D - a (1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
A REAL AND A				111-112-11-11-11-11-11-11-11-11-11-11-11	
ODES:	SWI Su	face Water Input	SCS Stream Cr	oss Section	
HP Aquatic Habitat Point	GWI Gr	oundwater Input	DOX Dissolved	Oxygen Stn	
HY Aquatic Habitat Area	CKC Cr	eek Crossing	VSS Visual Sur	vey Stn	
MP Temp Monitor Stn	WEL W	ell	WQS Water Qu	ality Stn	
LW Flow Monitor Stn	CUL Cu	lvert			

Cross-Section       Wetted Width (m)       5 Depths, equally spaced (cm)       Discharge/Pool/Riffle/Run/         1       / 2 8       4, 9, 15, 10, 3       R:4         3       4       5	Mataa
1       1.2.8       4,9.15,10,3       KitHu         2       3       4         5       5         WATER QUALITY         Water Temp. (°C): 5 °C       D.O. (ppm): pH: Visible Characteristics/Other Para Slow flow horth         Air Temp. (°C): 1/°C       D.O. (%): TDS (ppm): Visible Characteristics/Other Para Slow flow horth         Location Taken: 12:08       Conductivity (µs/cm): Location Taken: 12:08         Location Taken: 10       Stream         SITE DRAWING       Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station tocation, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, nofth arrow, etc.         Visible Characteristics/Other Para Slow flow for the pool/run habitat, side tributaries, station tocation, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, nofth arrow, etc.         Visible Characteristics/Other Para Slow flow for the pool/run habitat, side tributaries, station tocation, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, nofth arrow, etc.         Visible Characteristics/Other Para Colspan="2">Conductivity (µs/cm): Location Taken: 1/2:08         Conductivity (µs/cm):	votes
2       3         4       5         WATER QUALITY         Water Temp. (°C): 5 °C       D.O. (ppm): pH: Visible Characteristics/Other Para Slow Flow horth         Air Temp. (°C): 1/2       D.O. (%): TDS (ppm): Slow Flow horth         Location Taken: 12:08       Conductivity (µs/cm): Location Taken: 12:08         Location Taken: 10       Stream         SITE DRAWING       Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station tocation, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc.         Trees         Group of the pool of the	
3 4 5 WATER QUALITY Water Temp. (°C): 5 °C D.O. (ppm): pH: Visible Characteristics/Other Para Air Temp. (°C): ] / C D.O. (%): TDS (ppm): Visible Characteristics/Other Para D.O. (%): TDS (ppm): Slaw How Morth	
4       5         WATER QUALITY       Water Temp. (°C): S C D.O. (ppm): pH: Slow Flow hort         Air Temp. (°C): JJ¢C D.O. (%): TDS (ppm): Slow Flow hort         Time Taken: J2:08       Conductivity (µs/cm): Conduc	521 - 550000000000
5         WATER QUALITY         Water Temp. (°C): 5 °C       D.O. (ppm): pH: D.O. (%): TDS (ppm): Time Taken: 12:08       Visible Characteristics/Other Para Slow flow horth         Stream:         Stream: <t< td=""><td></td></t<>	
WATER QUALITY         Water Temp. (°C): 5 °C       D.O. (ppm): pH:         Air Temp. (°C): 1 °C       D.O. (%): TDS (ppm):         Time Taken: 12:08       Conductivity (fis/cm):         Location Taken: 10 Stream       Slow Flow horth         SITE DRAWING       Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow etc.         Image: Provide the state of the state o	
Water Temp. (°C):       5 °C       D.O. (ppm):       pH:       Visible Characteristics/Other Para Slow How horth         Air Temp. (°C):       1/°C       D.O. (%):       TDS (ppm):       Slow How horth         Time Taken:       1/2:08       Conductivity (µs/cm):       Slow How horth         Location Taken:       1/2:08       Conductivity (µs/cm):       Slow How horth         SITE DRAWING       Include:       watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach         channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc.       Trees         face       1/0       1/0       1/0         reace       1/0       1/0       1/0       1/0       1/0         reace       1/0       1/0       1/0       1/0       1/0       1/0         reace       1/0       1/0       1/0       1/0       1/0       1/0       1/0         reace       1/0	
Air Temp. (°C): )//C D.O. (%): TDS (ppm): One of a first of the second s	meters:
Time Taken: 12:08 Conductivity (Jus/cm): Location Taken: In stream. SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow etc Tree S three S thr	
SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc.	
SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Tree S the set of the set o	
Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Tree S Shows Here Real Cement State	
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc Tree S tree S the set of the	length,
The Grand State of the state of	
The Shrubs And Crass and And Shrubs And Shrubs And	
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(manal 1961 2)	(0)
Services Killes Aller Aller Aller Services	2
+ Soon + Smith	11

# PHOTOS TAKEN

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Photo #	Description	Photo #	Description
	# 1 north (clis)		
and the second sec	#2 South (415)		
Lawyer-we live	and the second of the second sec		annan an a
la a a sinne			and and a state of the second s

### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* apprinides observed. * lots of detritus i only small amounts of filimentus algae observed.

C

HABITAT **CHARACTERIZATION** 

5

PROJECT	(Number & Name):	1184 South	Kert	
Field Staf	F: S. Murray			
Station:	AR28		Site Loo	ation:
Waterbody	<b>y:</b>		GPS Da	tum: NAD 83 Easting:4029-77
Drainage S	System:	nan san a part san anno s	Zone:	1 T Northing: 4686872
Location in	n System:		Municipa	ality: Chatham / Kent
Appr. Rea	ch Length (m):		Lot & Co	oncession:
Survey Da	ate: Nov 1710	We	eather Conditions:	
Time Start	ted: 12:30	Wi	nd: 4	Cloud Cover (%): 0°/3
Time Finis	shed:12,50	Pre	ecipitation:	
ADJACEN	T LANDS			
Valley	Slope: G	ientle (< 5°) Mo	oderate (5 - 15°) Steep (>	• 15°)
	Extent of Natural Veg	etation (m)	0-10 (10 to 20) 15m	20 to 30 30+
	Vegetation Type:	Tree (Mixe	a)	
		Shrub (M)	red	
		Herbareaus	(Golden Rod)	
Riparian	Flood Plain - extent o	f frequent flood (m):	(0-10) 10 to 20	20 to 30 30+
Zone	Vegetation Type: _	ertourous	Clauten Roal	)
		Grass		
	Vegetation Density (H	HML):		1
Canopy	Type:		Quality and % sha	ide: Poor (20%)
Land	Agriculture	Resident	tal	
Use	, g. coorte			
Other	(groundwater, soils	, pools, vegetation,	etc.)	
Notes				
CHANNE	L MORPHOLOGY	1		Construct (DAM)
Channel V	Vidth (range (m)):	- 7m (AV	g (m)	Gradient (H/M/L):
Bank Heig	ht (range (m)): 3	Sm high (	water (a) 2.5m	Wieander/Straight:
Bank Slop	e (degrees from surfa	ice of water): ()		Bank Stability: (3700
Bank Veg	etation Type:			Bank Veg. Density (HAVIAL):
CHANNE	L SUBSTRATE %			
Clay: 20	5%0 6	aravel: 5%	Boulder:	Muck: /0 7.
Silt: 20	) ⁹ / ₀ P	ebble: 510	Bedrock:	م/ Oetritus: ، ۵۰/ه
Sand: 2	0 1/0 C	obble: 10%	Marl:	Other:
INSTREA	M HABITAT AND CO	VER		
Pools.	/	Undercut Ban	ks:	Boulder/Rock:
Riffles		Woody Debris		Cobble:
Backwater	- /	Vegetation:	/ Cilimontais alga	Other:
INSTREA		· · · · · · · · · · · · · · · · · · ·	0	N
Type (sub	omerg./emerg./floatir	g) Family/Genus	s/species	Description/Abundance
			1 5 0 0 0 0	Sparse proceets of it
	rimental parate and its features in a second	- P tiliment	nous ague	epoce (Court welt )
	T	- Phragn	nites.	Sparese (sommarst sank)
-++			enterna entre de la companya de la c	n de la caracter de l
		1	000.01	Castian
CODES:	S	WI Surface Water Inpu	It SUS Stream Cross	s Seculori
AHP Aquat	tic Habitat Point G	KC Creek Crossing	VSS Visual Survey	/ Stn
TMP Temp	Monitor Stn M	/EL Well	WQS Water Qualit	ty Stn
FLW Flow	Monitor Stn C	UL Culvert		

			1 490 2 01 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	.58	2,3,53,1	Run
2			
4	dentre in energy and a	(1) - (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1) + (1)	the second second second states and the second seco
5	Ales is an and anna a		1 A

# WATER QUALITY

Water Temp. (°C): 6°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): ၂၂၀၄	D.O. (%):	TDS (ppm):	Still water
Time Taken: 72:40	Conductivity (µs/cm):	and a second	
Location Taken: In stream-			

# SITE DRAWING



# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1- north		
1000	#2- south.		
	Testing on the second s	····	

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* apprinds observed

* raccoon -Fracks observed

Page 2 of 2

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- "(~	

HABITAT **CHARACTERIZATION** 

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------------	---	-----	----	---	---	----	---

PROJECT	T (Number & Nan	ne): 1184 South	~ Kent			
Field Stat	ff: S Murra	Y				
Station:	ARZY			Site Location:		
Waterbod	ly:			GPS Datum: NAD 87 Easting: 402 639		
Drainage	System:			Zone: 17 T Northing: 4686567		
Location i	n System:			Municipality: Chatham / Kent		
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	ate: Nov. 17'16	C	Weather Conditions			
Time Star	ted: /3:05	······	Wind: 4	Cloud Cover (%): ッパ		
Time Finis	shed: 13:20	entre anne e ar - mannar ann an an an Albara	Precipitation: ()			
		~				
Valley	Slope	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
valley	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 30 30+		
	Vegetation Type					
	vegetation rype.	Shut ( II)	ind) How	tacases (Gralden Part)		
		ALCOC MUX	ier	incedus ( variant Room)		
Piparian	Flood Plain ovt	ant of frequent flood b	m): (0-10)	10 to 20 20 to 30 30+		
Zone	Vegetation Type		( volda	al & Teasal		
LOUG	vegetation type.	The succous	( Undiaten For	- I TERNEL J		
	Vegetation Dens	ity (HML):				
Canopy	Type: Tree S	Shrut	Quality a	nd % shade: Poor 25%		
Land	Dancy Hure, I Desidential					
Use	Jun	/ / ~~				
Other	r (groundwater, soils, pools, vegetation, etc.)					
Notes						
CHANNE	L MORPHOLOG			2171		
Channel V	Width (range (m)):	5-4m (	Avg 2.5m)	Gradient (H/M/Ľ))		
Bank Heig	ght (range (m)):	4.5 High U	saller@ 3n	Meander)Straight:		
Bank Slop	be (degrees from s	surface of water):		Bank Stability: Good		
Bank Veg	etation Type: Sh	rub (Mixed) He	rbaceous ( auplet	Bank Veg. Density (H/M/L):		
CHANNE	L SUBSTRATE %		Grass.			
Clay: 20	/>	Gravel: 51	Boulder:	Muck: 2.0%		
Silt: 2.0%		Pebble:	Bedrock	Detritus: 5%		
Sand: 10	)*/~	Cobble: /01/.	Marl:	Other:		
INSTREA	M HABITAT AND	COVER	· · · · ·			
Poole		Undercut	Banks	Boulder/Rock:		
Rifflee		Woody D	ebris:	Cobble:		
Backwate	r /	Venetatio	r. C. filingenderes	olane Other:		
INSTREA	M VEGETATION	vegetatio	N THUMPHOND			
Type (sub	omerg./emerg./flo	oating) Family/G	enus/species	Description/Abundance		
		G.		Concer		
		-t: line	entous algal			
5 54 500 m		namou na fizi e namu				
(++++)	and)			and a second		
		014/1 0	000.01	Cross Costion		
CODES:	tio Liebitet Detet	SWI Surface Water	Input SUS Stre	eam cross Section		
AHY Aqua	tic Habitat Point	CKC Creek Crossin	nput DOA DIS a VSS Vier	ual Survey Stn		
TMP Tem	Monitor Stn	WEL Well	WQS W	ater Quality Stn		
FLW Flow	Monitor Stn	CUL Culvert				

Cross-Section Wetted Width (n	a) 5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1 2.12 2	9,14,20,21,12	Pool (turbial)
3	1	
5		
WATER QUALITY		â
Water Temp. (°C): ( o°C	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): ۲۴۲	D.O. (%): TDS (ppm):	water very turbid
	The second	
Time Taken: 3:10	Conductivity (µs/cm):	
Time Taken: )3:10 Location Taken: In stream	Conductivity (µs/cm):	
Time Taken: )3:10 Location Taken: In stream SITE DRAWING	Conductivity (µs/cm):	
Time Taken: )3:10 Location Taken: <u>In stream</u> SITE DRAWING Include: watercourse and name, flow	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa	aries, station location, approx. reach length,
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land	Conductivity (µs/cm): / direction, riffle/pool/run habitat, side tributa / se, roads & road nameş, bridges, culverts,	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa use, roads & road names, bridges, culverts,	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa use, roads & road names, bridges, culverts,	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land Residure	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa use, roads & road names, bridges, culverts,	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent lands Residure	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa use, roads & road names, bridges, culverts, the second seco	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: <u>In stream</u> SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land Residence Residence	Conductivity (µs/cm): v direction, riffle/pool/run habitat, side tributa use, roads & road names, bridges, culverts, bridges, culverts,	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent land Residence	Conductivity (µs/cm):	aries, station location, approx. reach length, north arrow, etc
Time Taken: )3:10 Location Taken: In stream SITE DRAWING Include: watercourse and name, flow channel modifications, adjacent lands Residence	Conductivity (µs/cm):	aries, station location, approx. reach length, north arrow, etc

Lociden Rod, teasel's grass to colden Rod	
(INHS) (INHS)	N
Field Eield Eield	
mollim - 10 100 100 - 2000 - 2000	1
PHOTOS TAKEN	

Photo #	Description	Photo #	Description
1	#1- north		
	#2-South		
			And the second s
		i i i i i i i i i i i i i i i i i i i	and a second
101 W 104	XX - XX		

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* vater very turbid : deep * lots of litter (beer cans etc.)



Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

			1.24	
PROJEC	T (Number & Nan	ne): 1184 Sout	th Kent	
Field Stat	T: D. plurre	щ		Site Location:
Station:	HK 35			GPS Datum Muss Co. Easting ////
vvaterbod	y: unknowr	7		Zone: Data Nothing: 41217
Drainage	System:		······	Aunicipality 21 Street 1 1 4
Location i	n System:	ayaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa		Internation Kent
Appr. Rea	ach Length (m):		ather Or with	
Survey D	ate: Nov. 17 10	)	eather Conditions	Cloud Cover (9/1) 7 54/
Fime Star	ted: 17.55	Wi		
Time Finis	shed: /5120	Pre	ecipitation: ()	
ADJACE	NT LANDS		-0-	e
Valley	Slope:	Gentle (< 5°) Mo	oderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type:	Grass		
		Herbaceous.	(Golden	Kool, Teasel)
		The (Mixed		
Riparian	Flood Plain - exte	ent of frequent flood (m):	0-10 (	10 to 20 20 to 30 30+
Zone	Vegetation Type:	Herbaceous (1	rolden Kool	, Teasel)
		Shrub (Mixe	OL) Gras	2
	Vegetation Dens	ity (HML):	<b>O</b>	rd V shadar Par - Cri
Canopy	Type: Shrut	>	Quality a	
Land Use	Agricultu	re , Residenti	al 3 Cra	Un forest.
Other	(groundwater, s	oils, pools, vegetation,	etc.)	
Notes				
CHANNE	L MORPHOLOG	1		
Channel V	Nidth (range (m)):	.5-5m / Aug	2.5)	Gradient (H/M/L):
Bank Heig	ght (range (m)): S		- 00e e 1000 e 400 e 500 e 100	(Meander/Straight:
Bank Slop	be (degrees from s	surface of water):		Bank Stability: 67000
Bank Veg	etation Type: Sh	ruts, Herbaceou	15, Giras	Sank Veg. Density (H/M(L))
CHANNE	L SUBSTRATE %			
Clay: 10	0/2	Gravel: 20%	Boulder:	Muck: 10°/ .
Silt: 16.	10	Pebble201/2	Bedrock	: Detritus:
Sand:20	10	Cobble: 51/2	Marl:	Other:
INSTREA	M HABITAT AND	COVER		
Pools'	1,	Undercut Ban	ks:	Boulder/Rock:
Riffles		Woody Debris		Cobble:
Backwate	r /	Vegetation:	/	Other:
INSTREA	M VEGETATION	, ogotation.		
Type (sul	bmerg./emerg./fla	pating) Family/Genus	s/species	Description/Abundance
		N.	mes ala	0.2750
		tiliment	nus augo	Using from Start Start
ana ana ang ang ang ang ang ang ang ang				nees a service for the main many many in an environment of the many many many many many many many many
Heese	***** Te-14 5:5 5:5 -4	и-ран- и - ки - <mark>ф</mark> ан- и - и - и		
00050		CIAIL Curfore Mister Inn		am Cross Section
AUD Agus	tic Habitat Daint	GWL Groundwater Input		solved Oxygen Stn
	nic Habitat Point	CKC Creek Crossing	VSS Visi	ual Survey Stn
TMP Tem	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn
FIW Flow	Monitor Stn	CUL Culvert		

Cross-Section	Wetted Width (m)	5 Depths. equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	2.37	12 11 9 4 1	Pup (West Sich
2		······································	
3		- and the second s	and the second
4		The same scale of the second state of the seco	
5			
WATER QUALITY	(		
Water Temp. (°C)	(0°C D	.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 🍸	2°C D	.O. (%): TDS (ppm):	western flow
Time Taken: 13	:10 C	onductivity (µs/cm):	tertich 1 2014
Location Taken:	n stream	/	- Masser Walter
SITE DRAWING			
channel modificati	ons, adjacent landuse,	roads & road names, bridges, culve	Surgss
Field	5 qm	There is a starting	samue smil Residence
PHOTOS TAKEN	Description	Dhoto #	Description
-+-	-1- past //		Description
	z-west (d		
ENERAL COMM	ENTS	ances from provinus site visit lands	punor commonto tonography gonoral land use
nd vegetation, etc		ences nom previous site visit, idhut	wher comments, topography, general land Use
	* Inte	of inter - no	Pak de di
	1010	of waver = no -	TISH ODSErved, however
	this c	channel could sup	Port Larger fish Csuckers et

Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Nam	ne): 1184 Sout	n Ken	t	in an			
Field Stat	ff: S. Jurra	4						
Station:	AR 36	1			Site Loc	ation:		
Waterbod	y:				GPS Dat	um: NHD 8	3 Easting: 4(1576	
Drainage	System:				Zone:	1 T	Northing: 4693406	
Location i	n System:				Municipa	lity: Chao	than / Cent	
Appr. Rea	ach Length (m):				Lot & Co	ncession:		
Survey D	ate: Nov. 17' 1	0	Weather C	Conditions				
Time Star	ted: 15:20		Wind: 2		with an and a state of the stat	Cloud Cove	er (%): 70 °/	
Time Finis	shed: 15:40		Precipitatio	on: ( )				
ADJACE	NT LANDS	$\langle \rangle$						
Valley	Slope:	Gentle (< 5°)	Moderate	(5 - 15°)	Steep (>	15°)		
	Extent of Natural	Vegetation (m)	0-10	10 to 20		20 to 30	30+	
	Vegetation Type:	Tree-Mir	ced					
		Carass						
		Herbaceou	S (Gold	deta R	ocl.	Tease	)	
Riparian	Flood Plain - exte	ent of frequent flood (r	m):	(0-10)	10 to 20	20	to 30 30+	
Zone	Vegetation Type:	Herbaceon	15 (60	iden.	Root	Tease	)	
		Shrub (	Mixeo	1) Cr	rass		/	
	Vegetation Densi	ty (HM):		12		~	4 1 mm	
Canopy	Туре:		~ ~	Quality a	nd % sha	de: Poor	(15%)	
Land Use	Agricul	ture, Resid	dential	(traile	Qr.)	highw	ay som autu	l-
Other	(groundwater, s	oils, pools, vegetati	on. etc.)					
Notes	401 10	$cotod \sim t$	50000 0	100	from	char	nel	
	* Small	Channel		and	)			
CHANNE		/						
Channel V	Nidth (range (m)):	25m-1na				Gradient (H	H/M/L):	
Bank Heid	aht (range (m)): L	ton high u	later (	2 15	(	Meander/S	traight:	
Bank Slop	be (degrees from s	surface of water): 13	5			Bank Stabi	lity: Grood	
Bank Veg	etation Type: He	tacious, Shi	nto.			Bank Veg.	Density (H/M/L):	
CHANNE	L SUBSTRATE %	and the second se						
Clay: 7/	29-	Gravel: 10%		Boulder:			Muck: 51	
Silt: 1	0 1			Bedrock:	arer 0.000 are 1		Detritus: 5	
Sand 2	0.1,	Cobble: 10%	<pre>(1)</pre>	Marl:	****		Other:	
INSTREA	M HABITAT AND	COVER						
Dealer	/	Undercut	Banks:	2		Boulder/Ro	ock:	
Diffloor		Woody Dr	baliks.		1 1/ 107 a 1144 14	Cobble		
Rilles.	and when for a new minimum and	Vegetation		a pototo s	aland	Other:		
		vegetation	1. V A1	THUE O, O W	- Maria	outon		
	hmera /emera /flo	ating) Family/G	enus/specie	es	V	Descriptio	on/Abundance	
i the (an	A	anny/or						
	None.	( ) ) ( ( ( ( (	() () () () () () () () () () () () () (	(a)=(a)=(a)=(a)=(a)=(a)=(a)=(a)=(a)=(a)=		funder of the second second		
104				- ingina da - ma		i - navis	3- 11 https://www.uke.com/article/	
	11117 - V. A	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	0 (100		h - 11 8 1411			- 17
CODES:		SWI Surface Water	Input	SCS Stre	am Cross	Section		
AHP Aqua	itic Habitat Point	GWI Groundwater I	nput	DOX Dis	solved Oxy	gen Stn		_
AHY Aqua	tic Habitat Area	CKC Creek Crossin	g	VSS Visu	al Survey	Stn		
IMP Temp	Monitor Stn	WEL Well		VVQS VVa	ater Quality	Sui	$\sim$	
ILVV MOW	WOHILOF SUT							_

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	.57	2.3.6.41	Run
2			
3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	And the second second second second second second second second	and a second
4			I waa a waa a waa a waa a waa a a a a a

# WATER QUALITY

Water Temp. (°C): 6°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): /2°C	D.O. (%):	TDS (ppm):	turbid water
Time Taken: 15:35	Conductivity (us/cm	):	a tlow to
Location Taken: In Stream			the west

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. Crown Tores N Road Shobeler Charbs TOP Croiden Rod Teasel & Grass nee aro Juas 5 (Som

### **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
	#1- east (415)		
	#2- West (dis)		· (and (and (a))) · (a) · (b)
	and second se		
	(1, 1, 1, 2, 3, 3, 3, 4, 4, 5, 1, 1, 1, 2, 3, 3, 3, 1, 1, 3, 3, 5, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	(1 = 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	iene (seliega (no estança estara antinanea matricina matricina) interestante e

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* muskrat observed. * water very turtsid. * 401 50m South of channel.

Page 2 of 2

NATURAL RESOURCE SOLUTIONS INC.

Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

8

PROJECT	(Number & Name)	1184 South Ver	)
Field Staf	ES Murcaul		
Station:	1240		Site Location:
Waterbod	LUNKNOWM	and a second s	GPS Datum: NAD 83 Easting: 4222276
Drainage	Svstem:		Zone: MT Northing: 4690658
Location in	n Svstem:	1 (224) (2) (4) (24) (24) (24) (25) (25) (25) (25) (25) (25) (25) (25	Municipality: Chatham / Kent
Appr. Rea	ch Lenath (m):	and the second	Lot & Concession:
Survey Da	ate: 116 18 110	Weather	Conditions:
Time Star	ed: 8:35	Wind: \	Cloud Cover (%): _O'/s
Time Finis	hed: 9:00	Precipitat	ion: 🔿
ADJACEN			
Valley	Slope:	Gentle (< 5°) Moderate	(5 - 15°) Steep (> 15°)
	Extent of Natural Ve	egetation (m) 0-10	(10 to 20-15) 20 to 30 30+
	Vegetation Type:	Tree (Hired) Sh	muts (Mused)
		extrain cuis (Imalder	Rod Hilkweed
Riparian	Flood Plain - extent	of frequent flood (m):	(0-10) 10 to 20 20 to 30 30+
Zone	Vegetation Type: S	hauts (Mixed) The	e (Hixed)
		0	
	Vegetation Density	(HML):	
Canopy	Type: Thee, St	nrut	Quality and % shade: Eccelurt 85%
Land Use	Agricultur-	e / Residential	· · · · · · · · · · · · · · · · · · ·
Other	(groundwater, soil	s, pools, vegetation, etc.)	
Notes	* Very tur	tord water è very	Sinky
		v	
CHANNE	MORPHOLOGY		
Channel V	Vidth (range (m)):	1-3m (AV9, 1.5m)	Gradient (H/M/L):
Bank Heig	ht (range (m)): 5	m high water	( Sm (Meander/Straight:
Bank Slop	e (degrees from sur	face of water): 135	Bank Stability: Goccol
Bank Veg	etation Type: Tree	(Mixed), Shuch (Mixed), Hert	Manual (Hitk weed ) Bank Veg. Density (H/M/L):
CHANNE	SUBSTRATE %	2	
Clay: 2.0	$)^{6}/s$	Gravel:	Boulder: Muck: 20%
Silt: 2	00/	Pebble:	Bedrock: Detritus: 20%
Sand: 2	01/0	Cobble:	Marl: Other:
INSTREA	M HABITAT AND C	OVER	
Pools:	1 1	Undercut Banks: 🧹	Boulder/Rock:
Riffles	free free man	Woody Debris:	Cobble:
Backwate	· /	Vegetation:	Other:
INSTREA	W VEGETATION		1
Type (sub	merg./emerg./float	ing) Family/Genus/speci	es Description/Abundance
	1 0	· · · · · · · · · · · · · · · · · · ·	
terrent and territor	ACU/XS-		- Ne series a series e series
	ma (m. 1997) a 2 12 - 11 - 11 - 11 - 11 - 11 - 11 -	n in a star and a star a s I star a star	and the second
CODES:		SWI Surface Water Input	SCS Stream Cross Section
AHP Aqua	tic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aqua	tic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
IMP Temp	Monitor Stn		www water quarty out

LOW CONDITIC	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.09	6,7,7,8,5	Ruh
2		to an a second s	e en la companya de l
3		1-12 p - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
	N HEAVENNESS SEC. N.S	the second secon	and the second sec

### WATER QUALITY

Water Temp. (°C): 5°C	D.O. (ppm):	pH:	Visible Cha	aracte	ristics/Othe	r Parame	eters:
Air Temp. (°C): ち'	D.O. (%):	TDS (ppm):	Very	Hu	1 Sid	(130)	é.
Time Taken: 8,50	Conductivity (µs/c	m):				0000	
Location Taken: In Stream	1		Lorth	a	South	urst	flow

### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc ....



# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	the north (u/s) the south (ak)		
· · · · ·			and a second sec
er en la companya			ne i ne i ne internet i ne i ne i ne i ne i ne i ne i n

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: Klots of toirds (Cardinal black capped chicade de) * water very turbed & sediment very Saky



HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Nam	1): 1184 So	with Kent			
Field Sta	ff: S. Hurrd	4				
Station:	ARYI	1		Site Location	•	
Waterboo	y: Unknown			GPS Datum:	14073 Easting: 424469	4414.00.00.0
Drainage	System:			Zone: 17 T	Northing: 4689027	
Location i	in System:			Municipality:	hedham ikent	
Appr. Rea	ach Length (m):			Lot & Concess	sion:	
Survey D	Date: 1) ov 19/10	)	Weather Condition	ons:		
Time Star	rted: 9:05		Wind:	Cloud	d Cover (%): 🔿	
Time Fini	shed: 9125		Precipitation: ()	All Classified Company and a real		
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°	Steep (> 15°)		
	Extent of Natural	Vegetation (m)	0-10 10 to	20 20 to	30 30+	
	Vegetation Type:	Trop ( Mix	red Shutt	Haved)		
		Hertogra	ous ( radder	) Rooh Teas	el, Milkwerd)	
		GIRASS	5	······		
Riparian	Flood Plain - exte	nt of frequent floo	d (m): (0-10	) 10 to 20	20 to 30 30+	
Zone	Vegetation Type:	Shrub (H	Urep) terbo	LEOUS ( Gtalde	n Dod, Tease, Kilkwood	)
		Grass				<u></u>
	Vegetation Densi	ty (HMD):				
Canopy	Type: Tree.	Shrutz, Her	incerus Qual	ty and % shade: 🤇	2000 - 5070	
Land	Aquicutta	re				
Use	0.					_
Other	(groundwater, soils, pools, vegetation, etc.)					
Notes						
CHANNE	L MORPHOLOGY	~			-	
Channel \	Width (range (m)):	15-4 44	2. Sin	Grad	lient (H/M/L):	
Bank Heig	ght (range (m)): し	m high (	Baller (2) 1.5	Mea	nder/Straight:	ingen here
Bank Slop	pe (degrees from s	urface of water):	135	Bank	CStability: Grood	
Bank Veo	etation Type: Sho	uto, Herbaion	us, Grass	Bank	< Veg. Density (H/M/L):	

Bank Vegetation	Type: Shrub, Herbaleous	Grass
CHANNEL SUBS	TRATE %	

Clay: 20%	Gravel:	Boulder:	Muck: ⊃ () %.
Silt: 2.0%	Pebble:	Bedrock:	Detritus: 10 1/6
Sand: 2.0%	Cobble: 10%	Marl:	Other:

# **INSTREAM HABITAT AND COVER**

Pools:	Undercut Banks:	Boulder/Rock:
Riffles:	Woody Debris:	Cobble:
Backwater:	Vegetation: Typha	Other:
INSTREAM VEGETATION	11	×

Type (submerg./emerg./floating)		Family/Genus/species		Description/Abundance
		Tipha		Sparse
CODES:	SWI Su	Inface Water Input	SCS Stream Cros	ss Section
CODES: AHP Aquatic Habitat Point	SWI Su GWI Gr	Inface Water Input	SCS Stream Cros DOX Dissolved C	ss Section xygen Stn
CODES: AHP Aquatic Habitat Point AHY Aquatic Habitat Area	SWI Su GWI Gr CKC Cr	Inface Water Input roundwater Input reek Crossing	SCS Stream Cros DOX Dissolved C VSS Visual Surve	es Section Exygen Stn Ey Stn
CODES: AHP Aquatic Habitat Point AHY Aquatic Habitat Area TMP Temp Monitor Stn	SWI Su GWI Gr CKC Cr WEL W	Irface Water Input oundwater Input reek Crossing /ell	SCS Stream Cros DOX Dissolved C VSS Visual Surve WQS Water Qua	es Section Exygen Stn Ey Stn lity Stn

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.47	23842	Run.
2			Construction of the second
3			
4		a de la companya de l	The second
5			and the second s

# WATER QUALITY

Water Temp. (°C): 5	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 6°C	D.O. (%):	TDS (ppm):	olow that south
Time Taken: 9:10	Conductivity (µs/cm):	in the of the second	tword water
Location Taken: In Stream			

# SITE DRAWING

Include: watercourse and name, flow direction, riffle	e/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & ro	pad names, bridges, culverts, north arrow, etc.
Fredd andemson + Crass	The Felde
Eds	thre
	SO TWINS A
125021 + 120261	States The same
Cololen Zon	i) i i i i i i i i i i i i i i i i i i
Tele XX	and we to all and the story
TRANK MAL	
prate tosh	
TENNI	AL TRANSPORT OF LANDE
- Carl	(Hundss ) Start ( )

# PHOTOS TAKEN Photo # Description #1- Nor #1- (#15) #2- Sat #1- (#15)

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: - Kwater fairly turb, cl

# Page 2 of 2

C

HABITAT **CHARACTERIZATION** 

K,

PROJEC	T (Number & Nam	e): 1184 Sout	th Kent	an and a linear many star a construction of a star and a star and a star and a star and a star a star a star a		
Field Stat	ff: S. Hurra					
Station:	AR42			Site Location:		
Waterbod	y: unknown		· · · · · · · · · · · · · · · · · · ·	GPS Datum: NAD 83 Easting: 425281		
Drainage	System:		and the second second second second second	Zone: 7 T Northing: 4687921		
Location i	n System:		And Anna and	Municipality: Chatham / Kent		
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	ate: Nov. 1811	D	Weather Conditions			
Time Star	ted: 9:35		Wind: 2_	Cloud Cover (%):		
Time Finis	shed: 9:55		Precipitation: 🕖			
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°)>	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural	Vegetation (m)	0-10 ( 10 to 20	)-12 20 to 30 30+		
	Vegetation Type:	Tree ( Mix	ed) Shruts	(Muxed)		
		Hertacoous	(Golden Roci			
		Girass				
Riparian	Flood Plain - exte	nt of frequent flood (I	m): (0-10)	10 to 20 20 to 30 30+		
Zone	Vegetation Type:	Hertraceo	us (Golden )	2001) Shrub (Mixed)		
		Gir	ass			
	Vegetation Densit	ty (HML):				
Canopy	Type: Tree,	Shruts	Quality a	ind % shade: Excellent 85 %		
Land	Agricult	ure.				
Use	J					
Other	(groundwater, so	oils, pools, vegetati	on, etc.)			
Notes						
CHANNE	L MORPHOLOGY					
Channel \	Nidth (range (m)):	.25.1m (Avg	0.25m)	Gradient (H/M/L):		
Bank Heig	ght (range (m)): 4	m high wat	er @ 2,50			
Bank Slop	be (degrees from s	urface of/water):		Bank Stability: Grocol		
Bank Veg	etation Type: Her	baceous, shut	Sigrass	Bank Veg. Density (H/W/L).		
CHANNE	L SUBSTRATE %		V			
Clay: 2	0%	Gravel:	Boulder	Muck: $207$ ,		
Silt: 20	10	Pebble:	Bedrock	: Detritus: 2 の ½		
Sand: 2	0%	Cobble:	Marl:	Other:		
INSTREA	M HABITAT AND	COVER				
Pools: V	/ /	Undercut	Banks:	Boulder/Rock:		
Riffles:	/ /	Woody D	ebris:	Cobble:		
Backwate	r: /	Vegetatio	n: V Phragmin	es Other:		
INSTREA	M VEGETATION		. 0			
Type (su	bmerg./emerg./flo	ating) Family/G	enus/species	Description/Abundance		
		Phys	amites	Spare - located (2) the		
	a (barana) (b) (1) (b) (c) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	anan mar da est sidas	J'''''''''''''''''''''''''''''''''''''	north side aluget		
		1	needer and the second	only		
140-60-600A	······································		a state and an and and and			
CODES		SWI Surface Water	Input SCS Str	eam Cross Section		
AHP Anus	tic Habitat Point	GWI Groundwater I	Input DOX Dis	solved Oxygen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossin	ig VSS Vis	ual Survey Stn		
TMP Tem	p Monitor Stn	WEL Well	WQS W	ater Quality Stn		
	Monitor Stn	CUI Culvert				

# FLOW CONDITIONS Page 2 of 2 Cross-Section Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 0,22 2,57,4,1 1 Run (south side) 2 3 4 5 WATER QUALITY Water Temp. (°C): 5'( Visible Characteristics/Other Parameters: D.O. (ppm): pH: Slow flow SCUL Air Temp. (°C): 6°C D.O. (%): TDS (ppm): Time Taken: 9:45 very little water Conductivity (µs/cm): Location Taken: In Stream SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc. - vels (dense) yorden N Phragmites Simolal Ral

# Photo # Description Photo # Description

# GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

st not much water, channel on north side hard to see the cause of tall phragmites.

C

NATURAL RESOURCE SOLUTIONS INC.

Aquatic, Terrestrial and Wetland Biologists

HABITAT CHARACTERIZATION

C

			-		Page 1 of 2	
PROJEC	T (Number & Name):	1184 South	- Kent			
Field Sta	ff: S. Murray					
Station: AR 43			Site Location:	2		
Waterboo	V: Unknown			GPS Datum: NAD {	33 Easting: 425070	
Drainage System:			Zone: 17 T Northing: 4687724			
Location i	n System:	an Mundar water and America Science and America		Municipality: Chath		
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	ate: Nov.18.10		Weather Conditions:			
Time Star	ted: 10°.00	in a anim any star ar	Wind: 2	Cloud Cov	er (%): 5 %	
Time Fini	shed:10:20		Precipitation: 🔿			
ADJACE	NT LANDS					
Valley	Slope: (G	entle (< 5°) 🔵	Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural Veg	etation (m)	0-10 10 to 20	) 20 to 30	30+	
	Vegetation Type:	Tope (flix)	ed) Shruts	(Kixed)		
		Herbacoals	CGolden Ro	0		
		- And -				
Riparian	Flood Plain - extent o	f frequent flood (m	): 0-10	10 to 20 20	to 30 30+	
Zone	Vegetation Type:	Tree CHU	real) Herts	accous (Gool	den Rod)	
		Grass				
2.00.000000	Vegetation Density (H	(M)L):	0			
Canopy	Type: Type, S	nrut	Quality a	nd % shade: Zxce	elent 55%	
Land Use	Agricultur	e / Keside	thau.			
Other	(groundwater, soils,	pools, vegetation	n, etc.)			
Notes						
CHANNE	L MORPHOLOGY					
Channel \	Width (range (m)): しろ	-2.5 (¥	tug 1.5)	Gradient (I	H/M/(L))	
Bank Heig	ght (range (m)): 5m	high u	water @ ?	3m Meander)S	Straight:	
Bank Slop	pe (degrees from surfa	ce of water): 135	5	Bank Stab	ility: 🗇ळ॰¹	
Bank Veg	etation Type: Shr	to, Tree, -	Hertsacears	Bank Veg.	Density (H/M/L):	
CHANNE	L SUBSTRATE %	in				
Clay: 20	)% G	ravel: 5%	Boulder:		Muck:	
Silt: 20	% P	ebble: 5%	Bedrock:		Detritus: 20 %	
Sand: 20	).%o C	obble: 10%.	Marl:		Other:	
INSTREA	M HABITAT AND CO	VER				

 Pools:
 Undercut Banks:
 Boulder/Rock:

 Riffles:
 Woody Debris:
 Cobble:

 Backwater:
 Vegetation:
 Other:

Type (submerg./emerg./fl	oating) Family/Genus/spe	cies Description/Abundance
None	$(-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)^{-1} = (-1)$	
	an mar in the market second and a second sec	
CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn	CUL Culvert	

### **FLOW CONDITIONS** Page 2 of 2 **Cross-Section** Wetted Width (m) 5 Depths, equally spaced (cm) Discharge/Pool/Riffle/Run/Notes 1 1,86 7,10,17,12,4 Kun 2 3 4 5 WATER QUALITY Water Temp. (°C): 5°C Visible Characteristics/Other Parameters: D.O. (ppm): pH: Southern TDS (ppm): Air Temp. (°C): ( [°]C D.O. (%): flow. Time Taken: 10:05 Conductivity (us/cm): Location Taken: In Stream SITE DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx, reach length, channel modifications, adjacent landuse roads & road names, bridges, culverts, north arrow, etc... Smal W000 (C Cedar Hedgeow Cement outrevit Gidden Roo 1/73/1 Singlair plaller Suns Somidson coment. and NO

# PHOTOS TAKEN

Photo #	Description	Photo #	Description
	7) - north luis	5)	
	#2- south 1 dis	5	
		2 2	
	the second		and a state of the second s
	Commentation and a second seco		
L			

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc. * Due jay, chickadee heard.

<b>C</b>	
-	
<u> </u>	

HABITAT CHARACTERIZATION

5

PROJEC	T (Number & Nan	ne): 1184 Sau	the Kent	44) 141 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		
Field Sta	ff: S. Hurra	Ч				
Station:	ARHH			Site Location:		
Waterboo	y: unknown			GPS Datum: NAD &	3 Easting: 424074	
Drainage	System:			Zone: ] T T	Northing: 4686812	
Location i	in System:			Municipality: chat	haim / Kent	
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	ate: Nov. 18'11	$\supset$	Weather Conditions	1		
Time Star	rted: 10:20		Wind: 2	Cloud Cover	(%): 85%	
Time Fini	shed: 10:40		Precipitation: 🔿			
		$\langle \rangle$				
<b>Walley</b> Slope Gentle ( $\leq 5^{\circ}$ ) Moderate (5 - 15°) Steep (> 15°)						
Valley	Extent of Natural	Vegetation (m)	0-10 10 to 20	25 20 to 30	30+	
	Vegetation Type	Trees ( H) ref	1) Shut 1	Ulivert		
	vegetation rype	llout nor	s (Galder )	Dad )		
		Arcse	us coorach .			
Pinarian	Elood Plain - ext	ent of frequent flood (	(m): 0-10	10 to 20 20 to	30 30+	
Zone	Vegetation Type		ad) Hertaca	N.S. (Problen	Parl	
Lono	vegetation Type	SAUD CHUX	COL TRO MULLE	and Connar	1500)	
	Vegetation Dens	ity (HMI )	_,			
Canopy		Shrich	Quality a	and % shade: Exa	llent 85%	
Land	hacardete	re .				
llse	The curre	· · · · · · · · · · · · · · · · · · ·				
Other	(groundwater, s	oils, pools, vegetat	ion. etc.)			
Notes	(groundhator) e	, poolo, rogette				
		v				
Channel	Width (range (m)):	5-2m (	Avg.	Gradient (H	/M/L):>	
Bank Hei	aht (range (m)):	5m nich	intor a 2	Sm Meander/St	raight:	
Bank Slo	pe (degrees from	surface of water)	25	Bank Stabili	ty: Aroac (	
Bank Veo	etation Type:	nut grass	tertaceais	Bank Veg. [	Density (H/M/L):	
OLIANINE		and a start of the				
CHANNE	L SUBSIRATE 7	Cravel: 2011	Boulder		Muck	
	21		Bedrock		Detritus: 10%	
Silt: 70	10	Cobble: 30%	Mark	10000000000000000000000000000000000000	Other:	
Sand: /(	MULADITAT AND				Other.	
INSTREA				D (1) /D		
Pools: V	1 - a fair a sure of	Undercut	Banks:	Boulder/Roo	CK:	
Riffles: Woody Debris:			Cobble:	Cobble:		
Backwate	er: 🖌	Vegetatio	on:	Other:		
INSTREAM VEGETATION						
Type (su	bmerg./emerg./fl	oating) Family/G	Senus/species	Description	1/Abundance	
	1					
	Nono			WY1+(+),		
	L. VIT LAC	1				
	CONNECT MALE AND A STREET AND A					
CODES:		SWI Surface Wate	r Input SCS Str	eam Cross Section		
AHP Aquatic Habitat Point GWI Groundwater Input DOX			Input DOX Dis	vissolved Oxygen Stn		
AHY Aquatic Habitat Area CKC Creek Crossing			ng VSS Vis	VSS Visual Survey Stn		
TMP Tem	p Monitor Stn	WEL Well	WQS W	ater Quality Stn		
FLW Flow	/ Monitor Stn	CUL Culvert				
FLOW CONDITIC	NS			Page 2 of 2		
----------------------	-----------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------	-----------------------------------------		
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally space	i (cm)	Discharge/Pool/Riffle/Run/Notes		
1 2	1.19	3,5,7,4,2		Kun		
3		and a constant of the constant of the	h	udrolic head of 0.5 cm		
5	n na sana ana ang ang ang ang ang ang ang ang	e - de la composition		· · · · · · · · · · · · · · · · · · ·		
WATER QUALITY	1					
Water Temp. (°C)	5.6	D.O. (ppm): pH:	Vis	ible Characteristics/Other Parameters:		
Air Temp. (°C): 5	5°C	D.O. (%): TDS (p	om):	Blow flow south.		
Time Taken: 10:	28	Conductivity (µs/cm):				
Location Taken:	n stream.					
SITE DRAWING						
Include: watercou	rse and name, flow g	lirection, riffle/pool/run habitat, s	ide tributaries	station location, approx. reach length,		
channel modification	ons, adjacent landus	e, roads & road names, bridges	culverts, north	arrow, etc. 25		
V.	to a frances	Signer Signer	Set Set	FEDDIN		
	Si	nclair R	21.			
Keder Holdrien	PE GOLOGEN (50	And the and th		> servist point		
H"DT -	10	1 V 2330	6/			

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
	#1-north (US)			
	#2-Sauth (dis)			1111
			Contraction of the Original Contraction of the	
			and the second	
	and a state of the second s		1977 The State of Sta	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* water flawing South * 10to of cover (trees, shrubs, therbaceous)



HABITAT **CHARACTERIZATION** 

	O Hannel			Page 1 of 2
PROJEC	T (Number & Name):   '	64 South K	ent	
Field Sta	ff: S. Murray			
Station:	AR46		Site	Location:
Waterboo	Jy: unknuwn		GPS	Datum: NAD 83 Easting: 423171
Drainage	System:		Zone	e: 77 Northing: 4685976
Location	in System:		Mun	icipality: Chatham Kent
Appr. Rea	ach Length (m):		Lot &	& Concession:
Survey D	Date: Nov. 18'10	Weathe	er Conditions:	
Time Sta	rted: 10:45	Wind: (	2	Cloud Cover (%): 55%
Time Fini	shed: 11:05	Precipit	ation: 🔿	
ADJACE	NT LANDS			
Valley	Slope: Gent	le (< 5°) Modera	te (5 - 15°) Stee	ep (> 15°)
	Extent of Natural Vegeta	tion (m) 0-10	0 (10 to 20)	20 to 30 30+
	Vegetation Type:	ree prized	) Shout	> (Mixed)
		GIRASS	Herbace	ous (Golden Rod)
Riparian	Flood Plain - extent of fro	equent flood (m):	0-10 10 to	o 20 20 to 30 30+
Zone	Vegetation Type: He	rtaceaus (C	nolden Rod	)
		Trass		
	Vegetation Density ((HMI	_):		6 11. + 800.
Canopy	Type: Tree, Shr	ut	Quality and %	shade: Collant OS 7.
Land	fignalla	R		
Use	U			
Other	(groundwater, soils, po	ols, vegetation, etc.)		
Notes				
CHANNE		1	E- )	Gradient (H/M/L)
Bank Hoi	abt (range (m)): 200	high i lot		Meander/Straight
Bank Slo	$c_{\text{range}}(\text{range}(\text{rm}))$ . $c_{\text{rm}}(\text{range}(\text{rm}))$	of water)	er cer ar	Bank Stability:
Bank Ver	retation Type:	or watery.		Bank Veg. Density (H/M/L):
CHANNE				
CHANNE	L SUBSIRAIE %		Boulder	Muck:
	290 Glav	e. $10.7_{0}$	Bedrock:	Detritus: O curr
Sill.		ne. /0 / .	Marl [.]	Other:
		DE.		
			/	Poulder/Pools
Pools: V		Undercut Banks:	Acres and an and a second second	Boulder/Rock.
Riffles: v		Woody Debris:		Copple:
Backwate		vegetation:		Other.
INSTREA		Eamily/Canualan		Description/Abundance
i ype (su	pmerg./emerg./fioating)	ramily/Genus/spe	50153	Description/Abundance
	None			and the second

the stand of the state of the state of the state of the				
CODES:	SWI Surface Water Input	SCS Stream Cross Section		
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn		
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn		
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn		
FLW Flow Monitor Stn	CUL Culvert			

#### **FLOW CONDITIONS**

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.82	56,10,7,4	Run
2			
3		and a second sec	and the second of the second
4	Office of experiment of the provided of the	of a large large large state and made and state and	

#### WATER QUALITY

Water Temp. (°C): Šි	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 8′C	D.O. (%):	TDS (ppm):	Slow Frow South
Time Taken: 10155	Conductivity (us/c	m):	
Location Taken: In Stream			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
State A State A Wood lot N Grass + Golden Rod.
Sindair Rd
Storden Erden Providen Providente

# PHOTOS TAKENPhoto #Description $H_1 = nOr + n (\mu_1 S)$ $H_2 = sauth(clis)$

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* heard some the jays

Page 2 of 2

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े <b>र</b>	$\mathbf{S}$

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists HABITAT CHARACTERIZATION

PROJECT	(Number & Name	):1184 Sou	th Ken	t		
Field Staf	F: S. Murra	1				
Station:	ARUS	]	a contrate statute of the	Site L	Site Location:	
Waterbod	Naterbody: UnKnow A				GPS Datum: NAD 83 Easting: 428108	
Drainage	System:			Zone:	17 Northing: 4689752	
Location in	n Svstem:		11 ++++ 014	Munic	ipality: Chatham 1 Kent	
Appr Rea	ch Length (m):			Lot &	Concession:	
Survey D	ate: Nov. 18'1	)	Weather Con	ditions:		
Time Star	ted: 11:45		Wind: 7		Cloud Cover (%): 40 %	
Time Finis	shed: 17:10		Precipitation:	$\bigcirc$		
				<u></u>		
	Slope:	Contin (< 5°)	Moderate (5 -	15°) Steep	(> 15°)	
valley	Sibpe.	Gentle (< )	0 10 1	0 to 20	20  to  30  30+	
	Extent of Natural			ST 1	(H) and	
	vegetation Type.	Ivee (M	Uxed)	Shrub	(rused)	
		they ball	ous (Ob	when koc	A )	
Distri	Elevel Distant	Girass		10 10 10	20 20 to 30 30+	
Riparian	Flood Plain - exter	nt of frequent flood (n	I).		20 2010 00 00.	
Zone	Vegetation Type:	Herbaceous	CONDUC	in Roa	)	
	Martine Danet	(mras)				
Conomi	Vegetation Densit		0	Juality and % s	hade Grand (55.1	
Canopy	Type: wee	Shinds	al an l'a	uality and 70 3		
Land Use	Agricult	ur / kesi	alentia	λ		
Other	(groundwater, so	oils, pools, vegetatio	on, etc.)			
Notes						
CHANNE	L MORPHOLOGY				2	
Channel V	Vidth (range (m)):	125-15 (A	a m)		Gradient (H/M/L):	
Bank Heid	ht (range (m)): 각	m high i	ster C.	2211	Meander/Straight:	
Bank Slop	e (degrees from si	urface of water):	35		Bank Stability: Good	
Bank Veg	etation Type: He	tacodis Sh	not gra	\$5	Bank Veg. Density (H/M/L):	
CHANNE	I SUBSTRATE %		°O'			
		Gravel: 2012	E	Boulder:	Muck: 5%	
Ciay. 20	<u> 10</u>		eneral and the first	Bedrock:	Detritus: Sela	
Sond: 50	10	Cobble:	N	Marl:	Other:	
		COVER				
		Undersut	Danka:		Boulder/Rock:	
Pools:	1-1	Undercut I	Sariks.	(a) [1] = - (14)(4 - (1-104)) 4.	Cobble:	
Riffles:		vvoody De	ioris.		Othor:	
Backwate		Vegetation	1.			
INSTREA	WIVEGETATION	oting) Eomily/C	nuelenaciae		Description/Abundance	
i ype (sui	unerg/emerg./10	aung) ranny/Ge	musispecies	0		
C118-19	1 ¹	filin	entous	algae	Sperse:	
		numero la okumul	(4)-(			
				n	and the second	
CODES:		SWI Surface Water	Input S	SCS Stream Cro	oss Section	
AHP Aquatic Habitat Point GWI Groundwater Input DOX Dissolved Oxygen Stn			Oxygen Stn			
AHY Aquatic Habitat Area CKC Creek Crossing VSS Visual Survey Stn			ality Sta			
TMP Temp	o Monitor Stn	WEL Well		wus water Qu	anty our	
I⊢LW Flow	Monitor Stn	CUL Culvert				

#### **FLOW CONDITIONS**

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.14	10, 7, 6, 4, 1	Run
2		en mili a this the second second final first and a marked	
	detter and a second sec	the second secon	
		and the second	

#### WATER QUALITY

Water Temp. (°C): 5°	D.O. (ppm):	pH;	Visible Characteristics/Other Parameters:
Air Temp. (°C): つ・こ	D.O. (%):	TDS (ppm):	Slow flow South
Time Taken: 11:5%	Conductivity (µs/c	:m):	in the star
Location Taken: In Stream			allost (tairly turbial)

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx, reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... W Golden Road Road Road Names, bridges, culverts, north arrow, etc... W Golden Road Road Road Road Road Structure St

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
	#1-north (U/S)		
in the second	#2-south (dis)		
	and the second		· · · · · · · · · · · · · · · · · · ·

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

* channel runs right through a mill * water was tairly turbid

Page 2 of 2

C
5-5

TMP Temp Monitor Stn

FLW Flow Monitor Stn

WEL Well

CUL Culvert

NATURAL RESOURCE SOLUTIONS INC.

HABITAT **CHARACTERIZATION** 

Page 1 of 2

Aquatic, Terrestrial and Wetland Biologists

PROJEC	T (Number & Name): 1180	t South Kent	E		
Field Stat	1: S. Murray		Site L a	neation.	
Station:	779<44		Sile LO	atum: NAD SO Easting: 14.91-(-7	
vvaterbod	y: un known		GF3 D	Northing: W.G(SUG	
Drainage	System:		Zone. Municir	Municipality Charthoung (Icen +	
Location in System:				Concession:	
Appr. Rea		Mostbor Con	litions.		
Survey D	Hade 10 . 7	Wind: 2			
Time Star	1eu. 12.23		· · · · · · · · · · · · · · · · · · ·		
		r recipitation.	<u> </u>		
	Slope: Gentle	(< 5°) Moderate (5 - '	15°) Steep (	(> 1 <u>5°)</u>	
,	Extent of Natural Vegetation	on (m) 0-10 10	) to 20 (	20 to 30 30+	
	Vegetation Type: Type	(Hixed) St	with (Mi	xed )	
	He	rbacoous (Glor	ten Rod		
	C.	arass			
Riparian	Flood Plain - extent of free	uent flood (m): 0-	10) 10 to 2	0 20 to 30 30+	
Zone	Vegetation Type: Shru	it (Niced) F	reo (Mixe	ed)	
	He	traceous (Gould	den Roo	1) Grass	
	Vegetation Density (HML):				
Canopy	Type: Trep, Shr	Ut> Q	uality and % sh	ade: Excellent 951.	
Land	Agriculture	1 Residential			
Jse	0				
Other	(groundwater, soils, poo	ls, vegetation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel \	Width (range (m)): , 5 ~	4m		Gradient (H/M/L):	
Bank Heig	ght (range (m)): 5m V	ligh water a	23m	Meander/Straight:	
Bank Slop	be (degrees from surface of	water): 135		Bank Stability:	
Bank Veg	etation Type:			Bank Veg. Density (H/M/L):	
CHANNE	L SUBSTRATE %				
Clay:70	)% Grave	B	oulder:	Muck: 20%	
Silt:	O % Pebble	e: Bi	edrock:	Detritus: 20 %	
Sand:	Cobble	e: M	larl:	Other:	
NSTREA	M HABITAT AND COVER				
Pools:	/	Undercut Banks:	-	Boulder/Rock:	
Riffles:	/ /	Woody Debris:		Cobble:	
Backwate		Vegetation:		Other:	
NSTREA	M VEGETATION			9	
Type (su	bmerg./emerg./floating)	Family/Genus/species		Description/Abundance	
	A)an e				
	ryor	A second s			
		1		The second s	
			mme mm annibat jage		
CODES		urface Water Input	CS Stream Cros	as Section	
AHP Anus	atic Habitat Point GWL G	anace water input Stroundwater Input D	OX Dissolved O	xygen Stn	
ALIX A	AHY Aquatic Habitat Area CKC Creek Crossing		VSS Visual Survey Stn		

WQS Water Quality Stn

 $\leq$ 

FLOW CONDITIO	INS					Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, e	qually spaced (cm)	Discha	arge/Pool/Ri	ffle/Run/Notes
1	1.12	5,11,12	.15.4	F	Run	
2		,				······
3						* all and an annual constants
4						
5				1		and an
WATER QUALITY	1					
Water Temp. (°C):	:6°C	D.O. (ppm):	pH:	Visible Char	acteristics/Of	ther Parameters:
Air Temp. (°C): 🦿	SC	D.O. (%):	TDS (ppm):	Slow	flow	west

water very turbid

Conductivity (us/em):

### Location Taken:

Time Taken: 12:42

SITE DRAWING
Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc
201 and a rives of the solution of the solutio
Base Road
Careadis
pro-th pro-th pro-th

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
	#1-east (us)			the last state in the last of the control of
	#2-west (dis)	and a second		
			1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010	and the second of stranding size of second
12	n = 0 some - i			

#### GENERAL COMMENTS

* black capped chicadee's observed

* great fish hasitat, none observed scould be because of such turbid water

-	
- K.	$\supset$

NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

	9		Page 1 of
PROJECT (Nun	nber & Name): 184 S	outh Kent	
Field Staff: 🔒	. Murcay		
Station: AR	54	Sit	e Location:
Waterbody: 🕠	aknown	GF	PS Datum: NAD 83 Easting: 408721
Drainage Syster	n:	Zo	ne: 17 T Northing: 4690328
Location in Syste	em:	Mı	inicipality: Chatham / Kent
Appr. Reach Ler	ngth (m):	Lo	t & Concession:
Survey Date: N	101,1810	Weather Conditions:	
Time Started: /	4:35	Wind: 2	Cloud Cover (%): 70%
Time Finished:	15:00	Precipitation: ()	
ADJACENT LA	NDS	2	
Valley Slope	e: Gentle (< 5°)	Moderate (5 - 15°) Sto	eep (> 15°)
Exter	it of Natural Vegetation (m)	0-10 10 to 20	20 to 30 30+
Vege	tation Type: Tree (6	ycamore)	
	Herbau	eous Golden	KOO )
	(gras	0.10 (10	20 to 30 30+
Riparian Flood	Plain - extent of frequent floc		
Zone vege	tation Type: Ther back	eous (Gorden)	<u>KOCI</u> )
Vego	tation Donsity (HMR):	(۲۰۰۰)	
Canony Type	ation Density (Thing).	Quality and	% shade: Prove Sta
Land	i tree, Her Saler	us	
Use	frictustic		
Other (arou	indwater, soils, pools, vege	tation, etc.)	
Notes			
CHANNEL MOF	RPHOLOGY		
Channel Width (	(range (m)): 0,5 - 2.5		Gradient (H/M/L)
Bank Height (ran	nge (m)): 4,5 high	water (a) 3_	Meander/Straight:
Bank Slope (dec	grees from surface of water):		Bank Stability: Glood
Bank Vegetation	1 Type: Herbaceaus (6	grolden Kool) Girass	Bank Veg. Density (H/M/L):
CHANNEL SUB	STRATE %		
Clay: 10.1/2	Gravel: 20%	Boulder:	Muck:
Silt: 10%	Pebble: 20%	/ a Bedrock:	Detritus: 10%
Sand: 10%	Cobble: 20	Marl:	Other:
INSTREAM HAI	BITAT AND COVER		
Pools:	Under	cut Banks:	Boulder/Rock:
Riffles:	Wood	y Debris:	Cobble: V
Backwater: 🛩	Veget	ation:	Other:
INSTREAM VEG	GETATION		D. A. C. Material and
Type (submerg	./emerg./floating) Family	y/Genus/species	Description/Abundance
· · · · · · · · · · · · · · · · · · ·	<u></u>		
Nov	sector and the sector		
Nov		CONTRACT FOR CONTRACT FOR SUMMARY OF TAXABLE PARTY	and a second particular and the second s
Nov		anna a sea anna an anna an anna an anna an	and a second process of the second seco
Nav			
Nov CODES:	SWI Surface W	ater Input SCS Stream	n Cross Section
CODES: AHP Aquatic Hat	SWI Surface W vitat Point GWI Groundwa	ater Input SCS Stream ter Input DOX Dissolv	n Cross Section ved Oxygen Stn
CODES: AHP Aquatic Hat AHY Aquatic Hat	SWI Surface W bitat Point GWI Groundwa bitat Area CKC Creek Cro or Stn WEI Well	fater Input SCS Stream ter Input DOX Dissolv ssing VSS Visual WQS Water	n Cross Section ved Oxygen Stn Survey Stn • Quality Stn

#### **FLOW CONDITIONS**

stulden Rool

Guras S

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.64	12.17.21,13,5	Run
2			(west side)
3			
		-10(1)-1 (b	111-111-111-11-11-11-11-11-11-11-11-11-
<u> </u>			

#### WATER QUALITY

Water Temp. (°C): S°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	
Time Taken: 14:45	Conductivity (µs/cm):	ertinden 2100 General The Grand State of Baseline and	
Location Taken:		2010 (1110 A - 30000 (110) (20)	9% -

#### SITE DRAWING





#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
8	Hi last (UIS)		
	#2- W2S+(0/15)	an - an an	
rine in the oper	······································	•	
1	A set of the set of th		A Description of the second seco

#### **GENERAL COMMENTS**

* very nice fish habitat, although none seen. * Refer to 'E' also (done in Sep : apprincids were observed then)

	L RESOURCE SOLUTION	NS INC. HABITAT CHARACTERIZATION
Aqualic, lene	strial and wettand biologists	Page 1 of 2
PROJECT (Number & Name): 184	a South Kent	
Field Staff: G. MacVeigh		
Station: AHY002	11. (11. (11. (11. (11. (11. (11. (11.	Site Location:
Waterbody: Burgess Drain We	st Branch	GPS Datum: NAD83 Easting: 03 82986
Location in System: @ CCossing	of Hornick Line	Municipality: Chathan kent/Tilbury.
Appr. Reach Length (m):		Lot & Concession:
Survey Date: 4 Oct 11	Weather Conditions:	· · · · ·
Time Started: 1050	Wind: $a$	Cloud Cover (%):
Time Finished: 1105	Precipitation: 💋 🚽	rained last a 4 hrs
ADJACENT LANDS		
Valley Slope: Gentle (	< 5°)) Moderate (5 - 15°)	Steep (> 15°)
Extent of Natural Vegetation	(m) (0-10) (10 to 20)	20 to 30 30+
Vegetation Type:		
one redar source	west eq	257
pine, ceciar, spice	o de	
Riparian Flood Plain - extent of freque	ent flood (m): (0-10)	10 to 20 20 to 30 30+
Zone Vegetation Type: Ooden	od asters shrubs gras	sec herbs
Vegetation Density (HML):	Н	
Canopy Type: Grasses	Quality ar	nd % shade: Poor - 30 %
Land agricultural - how	DSES I	
Use		
Use Other (groundwater, soils, pools	, vegetation, etc.)	
Use Other (groundwater, soils, pools Notes tile drains flows	, vegetation, etc.) mg/road ditch culve	erts amplying water-
Use Other (groundwater, soils, pools Notes tile draws flows	, vegetation, etc.) ng/road ditch culve	erts omptying water-
Use Other (groundwater, soils, pools Notes tile draws flow) CHANNEL MORPHOLOGY	, vegetation, etc.) ng/road ditch culve	erts omphying water.
Use Other (groundwater, soils, pools Notes Tile draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3	ng Iroad ditch culve	erts amptying water- Gradient (H/M/D)
Use Other (groundwater, soils, pools Notes File draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3.5	ng /road ditch culve	Gradient (H/M/L) Meander/Straight few shight meander
Use Other (groundwater, soils, pools Notes file draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w	segetation, etc.) mg/road ditch culve seg: 3.5m sm ater): 45.80°	Gradient (H/M/L) Meander/Straight few slight meander Bank Stability: good
Use Other (groundwater, soils, pools Notes Tile draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type: 2000 her	vegetation, etc.) ng/road ditch culve See: 3.5m Sm ater): 45.80 ^{Sr}	Gradient (H/M/L) Meander/Straight few slight meander Bank Stability: 30000 Bank Veg. Density (H/M/L): H.
Use Other (groundwater, soils, pools Notes Tile draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type: grass her CHANNEL SUBSTRATE %	vegetation, etc.) ng/road ditch culve sea: 3.5m sm ater): 45-80°	Gradient (H/M/L)) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H
Use Other (groundwater, soils, pools Notes file draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.75.3.5 Bank Height (range (m)): 2.75.3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75. bec CHANNEL SUBSTRATE % Clay: Gravel	vegetation, etc.) ng Iroad ditch culve Sm ater): 45-80° Boulder:	Gradient (H/M/L) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.75-3.5 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.55 her CHANNEL SUBSTRATE % Clay: Gravel: Silb 2010 Pebble:	s vegetation, etc.) ng Iroad ditch culve s 3.5m s m. ater): 45.80 ° Boulder: Bedrock:	Gradient (H/M/L) Meander/Straight few slight meander Bank Stability: 3000 Bank Veg. Density (H/M/L): H.
Use Other (groundwater, soils, pools Notes file draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-2 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75 her CHANNEL SUBSTRATE % Clay: Gravel: Silt 2.10 Pebble: Sand: 2.0 Cobble:	s vegetation, etc.) mg/road ditch culve mater): 45.80° Boulder: Bedrock: Marl:	Gradient (H/M/D) Meander/Straight few slight meander Bank Stability: 3000 Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other:
Use Other (groundwater, soils, pools Notes file draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75 3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75 4.5 CHANNEL SUBSTRATE % Clay: Grave: Silt 2.10 Pebble: Sand: 20 Cobble: INSTREAM HABITAT AND COVER	vegetation, etc.) ng /road ditch culve Sm ater): 45.80 ^{Dr} bs, Boulder: Bedrock: Marl:	Gradient (H/M/L) Meander/Straight few shight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other:
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.5-4 Bank Vegetation Type: 2.5-4 Channel SUBSTRATE % Clay: Gravel: Silt 2.5-6 Channel SUBSTRATE % Clay: Gravel: Silt 2.5-7 Channel Substrate % Clay: Cobble: Sand: 2.5-7 Cobble: INSTREAM HABITAT AND COVER	s vegetation, etc.) ng Iroad ditch culve mater): 45.80 Boulder: Bedrock: Marl:	Gradient (H/ML) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H. Muck: 60 Detritus: Other:
Use Other (groundwater, soils, pools Notes Tie draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-2 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75 - 3.5 Bank Vegetation Type: 2.75 - 6 CHANNEL SUBSTRATE % Clay: Gravel: Silt 2.10 Pebble: Sand: 2.0 Cobble: INSTREAM HABITAT AND COVER Pools: ✓ Piffles:	s vegetation, etc.) ng /road ditch culve mater): 45.80 ° Boulder: Bedrock: Marl: Undercut Banks: Moody Debric:	Gradient (H/M/D) Meander/Straight few slight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: ~
Use Other (groundwater, soils, pools Notes file draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.75.3.5 Bank Height (range (m)): 2.75.3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75.4.5 Channel Substrate % Clay: Grave! Silt 2.10 Pebble: Sand: 20 Cobble: INSTREAM HABITAT AND COVER Pools: Riffles: Backwater:	s vegetation, etc.) mg/road ditch culve mater): 45.80° Boulder: Bedrock: Marl: Undercut Banks: Woody Debris: Vegetation:	Gradient (H/M/L) Meander/Straight few shight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: Cobble: Other:
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.75 - 3.5 Bank Height (range (m)): 2.75 - 3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 100 her CHANNEL SUBSTRATE % Clay: Gravel Silt 2010 Pebble: Sand: 2010 Cobble: INSTREAM HABITAT AND COVER Pools: Riffles: Backwater: INSTREAM VEGETATION	s vegetation, etc.) ng /road ditch culve mater): 45.80 ° Boulder: Bedrock: Marl: Undercut Banks: Vegetation:	Gradient (H/M/L) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H. Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: Other:
Use Other (groundwater, soils, pools Notes file draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-2 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Vegetation Type: 2.75-4 Channel SUBSTRATE % Clay: Gravel: Silt 2.75-2 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: 2.75-3.5 Bank Slope (degrees from surface of w Bank Slope (	s vegetation, etc.) mg /road ditch culve mater): 45-80 ° Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Family/Genus/species	Gradient (H/MID) Meander/Straight few slight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: C Cobble: Other: Description/Abundance
Use Other (groundwater, soils, pools Notes Tile draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type: A Start CHANNEL SUBSTRATE % Clay: Gravel: Silt A Start Silt A Start Silt A Start Silt A Start Pebble: Sand: Cobble: INSTREAM HABITAT AND COVER Pools: Riffles: Backwater: INSTREAM VEGETATION Type (submerg./emerg./floating)	vegetation, etc.) ng /road ditch culve mater): 45.80 ° Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Family/Genus/species	Gradient (H/M/L) Meander/Straight few shight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: Cobble: Other: Description/Abundance
Use Other (groundwater, soils, pools Notes Tile draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type:	vegetation, etc.) ng /road ditch culve mater): 45.80 Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Family/Genus/species terrestrial grasses	Gradient (H/M(L)) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H. Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: Other: Description/Abundance abundant.
Use Other (groundwater, soils, pools Notes file draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-2 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type:	vegetation, etc.) ng /road ditch culve mater): 45.80 Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Family/Genus/species terrestrial grasses Burget flag	Gradient (H/M/D) Meander/Straight few slight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: Cobble: Other: Description/Abundance abundant. abundant.
Use Other (groundwater, soils, pools Notes Tile draws flow) CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type: A Start CHANNEL SUBSTRATE % Clay: Gravel: Site 10 Pebble: Sand: 0 Cobble: INSTREAM HABITAT AND COVER Pools: Riffles: Backwater: INSTREAM VEGETATION Type (submerg./emerg./floating)	vegetation, etc.) mg/road ditch culve mater): 45.80° Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Family/Genus/species terrestrial grasses Succetflagy cattail.	Gradient (H/M(E)) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: - Other: Description/Abundance abundant. abundant.
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type:	vegetation, etc.) ng/road ditch culve mater): 45.80 Boulder: Bedrock: Marl: Undercut Banks: Vegetation: Vegetation: Vegetation: Family/Genus/species terrestrial grasses Succetflacy cattail.	Gradient (H/M/L)) Meander/Straight few slight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: Cobble: Other: Description/Abundance abundant. abundant.
Use Other (groundwater, soils, pools Notes file draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3 Bank Slope (degrees from surface of w Bank Vegetation Type:	vegetation, etc.)         mg/road ditch culve         Smarter):         ys.80         Smarter):         ys.80         Smarter):         ys.80         Smarter):         ys.80         Smarter):         ys.80         Smarter):         ys.80         Smarter):         Boulder:         Bedrock:         Marl:         Undercut Banks:         Woody Debris:         Vegetation:         Vegetation:         Vegetation:         Vegetation:         Vegetation:         Vegetation:         Vegetation:         Scs Streat         Scs Streat         Scs Streat         Scs Streat	erts amptying water- Gradient (H/M(L)) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: Other: Description/Abundance abundant. abundant. abundant.
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.75-3.5 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type: A Stream of the second se	vegetation, etc.)         m         fm         ater):       45.80°         S         Boulder:         Bedrock:         Marl:         Undercut Banks:         Woody Debris:         Vegetation:         Vegetation:         Family/Genus/species         Herrestrial grasses         Particul         Scs Stread         Subset Flacy         Cattoul         Box Diss         Acce Water Input         Scs Stread         Undwater Input         Scs Stread         Scs Stread         Undwater Input         Scs Stread         Undwater Input         Scs Stread         Scs Stread         Scs Stread         Scs Stread         Scs Stread         Undwater Input         Scs Stread	erts amptying water- Gradient (H/M(E)) Meander/Straight few slight meander Bank Stability: good Bank Veg. Density (H/M/L): H Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: Other: Description/Abundance abundant. abundant. abundant. abundant. abundant. abundant. abundant.
Use Other (groundwater, soils, pools Notes The draws flows CHANNEL MORPHOLOGY Channel Width (range (m)): 2.5-3 Bank Height (range (m)): 2.75-3.5 Bank Slope (degrees from surface of w Bank Vegetation Type:	vegetation, etc.)         mg/road ditch culve         Image: 3.5 mg         imater):       45.80°         S       Boulder:         Bedrock:       Marl:         Undercut Banks:       Warl:         Voody Debris:       Vegetation:         Vegetation:       Vegetation:         Family/Genus/species       Herrestrial grasses         Herrestrial grasses       Scs Stread         Variation:       Vegetation:         Vegetation:       Vegetation:	Gradient (H/ML) Meander/Straight few slight meander Bank Stability: Good Bank Veg. Density (H/M/L): H Muck: 60 Detritus: Other: Boulder/Rock: ~ Cobble: Other: Description/Abundance abundant. abundant. abundant abundant abundant abundant abundant abundant abundant abundant

FLOW CONDITIO	ONS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
-5			

Water Temp. (°C): 14°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): (O ^o	D.O. (%):	TDS (ppm):	, Jac
Time Taken: (109	Conductivity (µs/c	cm):	murky water
Location Taken: US of k	ondap.		
Location Taken: US of t	ondge.		5

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

-4 m concrete box culvert under Hornick Line - flow constant, defined channel - bankfull aprox ~ 5m wide-- channel uls lined i grasses. -water murky from recent rain - permont / intermittent watercourse. - soya fields

#### **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
100-005	- d/s view (north)		
100-006	- U/S VIEW (south)	Indune to which which a strain the	
· · · · · · · · · · · · · · · · · · ·			
co			

#### **GENERAL COMMENTS**

no fish frogs observed



HABITAT CHARACTERIZATION

<u> </u>		Page 1 of 2
PROJECT (Number & Nar	me): 11842 South Ken	nt wf
Field Staff: G. Mac Ve	ian	
Station: AHY003		Site Location:
Waterbody: Burgess	Drain East Branch	GPS Datum: NAD83 Easting: 0383214
Drainage System: 🎽		Zone: 17T Northing: 4675217
Location in System: 🔘	Coatsworth ild	Municipality: Chotom Kent
Appr. Reach Length (m):		Lot & Concession:
Survey Date: 4 Oct a	O() Weather	Conditions:
Time Started: 1124	Wind: ح	Cloud Cover (%): Ø
Time Finished: 1146	Precipitat	tion: 🔗
ADJACENT LANDS		
Valley Slope:	Gentle (< 5°) Moderate	(5 - 15°) Steep (> 15°)
Extent or Natura	I Vegetation (m)	20  to  30 - 30 + 20  to  30 + 20  t
vegetation Type	grass, herbs, fei	n shrubs.
Riparian Flood Plain - ext	tent of frequent flood (m):	0-10 10 to 20 20 to 30 30+
Zone Vegetation Type	ta listen zeno:	romites
•	giuss, conort, p	(agini es
Vegetation Dens	sity (HML): H	£3
Canopy Type: Qra	55	Quality and % shade: poor - 30%
Land agricultur	e-felds	
Use U		
Other (groundwater, s	soils, pools, vegetation, etc.)	
Notes age mur	ty - slow flow	
CHANNEL MORPHOLOG	Y	Cradient /U/M/D
Bank Height (range (m))	$25 \cdot 5m$	Meander/Straight
Bank Slope (degrees from	x S	Bank Stability
Rank Venetation Type:	surface of water, 45 - 60	Bank Veg. Density (H/M/L):
CUANNEL SUBSTRATE	ass, neuse, goinening	bank vog. bonoky (inninz).
Clav C	Gravel	Boulder: Muck / a
SILD IO	Pebble:	Bedrock: Detritus
Sand 20	Cobble:	Marl: Other:
INSTREAM HABITAT AND	) COVER	
Pools	Undercut Banks:	Boulder/Rock:
Riffles:	Woody Debris:	- Cobble:
Backwater:	Vegetation:	Other:
INSTREAM VEGETATION		
Type (submerg./emerg./fl	oating) Family/Genus/speci	ies Description/Abundance
	terrestrial ata	ASCRS
	Cathil	
	29fim Dorn	
	F. rodines	
CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Quality Stn

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1		land and the lange of the anti-term of the second statements	anun Suun (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (19
2			and the second se
3			
4			
5			

Water Temp. (°C): \\	D.O. (ppm):	pH:		Visible Characteristics/Other Parameters:
Air Temp. (°C): 10	D.O. (%):	TDS	(ppm):	- murky
Time Taken: 1130	Conductivity (µs/cm)			2
Location Taken: @ Culver	4			

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

- 4.5m wide box culvert under road. - slow flow due to rain -defined channel. · depth ~.25 - .5m - tile drains light flow - pool us side of culvert ~ 6.5m accross +.5m long - very heavily vegetated ~ 30m u/s. of road

PHOTOS TAKEN						
Photo #	Description	Photo #	Description			
100-00	7 - U/S Mew					
100.010	- dis view					
				·····		

#### **GENERAL COMMENTS**

No fish/frags seen



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Nan	ne): 11842 Sat	h kent		
Field Sta	aff: G. Mac Vero	ah			
Station:	AHY009	). r		Site Location:	
Waterboo	dy: McLeod C	rain		GPS Datum: N9083 Easting: 0386437	
Drainage	Drainage System:			Zone: 17T Northing: 4679056	
Location in System: @			Municipality:		
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	Date: 04 Oct	I.	Weather Conditions	:	
Time Sta	rted: 1930		Wind: )	Cloud Cover (%): Ø	
Time Fini	ished: 1255		Precipitation: Ø		
ADJACE	NT LANDS				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natural	Vegetation (m)	(0-10) 10 to 20	20 to 30 30+	
	Vegetation Type:	dogwood elm	hauthorn, golder	nrod	
	- 10	nde malar	Haven Jone		
		when I when			
Riparian	Flood Plain - exte	ent of frequent flood (r	n): (0-10)	10 to 20 20 to 30 30+	
Zone	Vegetation Type:	shrubs g.rod	aster willow s	n arass herbs	
		······································	and, when a	P; J ===;	
	Vegetation Dens	ity (HML): ң			
Canopy	Type: decide	2005	Quality a	ind % shade: 1000 - 30%	
Land Use	agricultura	l			
Other	(groundwater, s	oils, pools, vegetati	on, etc.)		
Notes	fast flow	- flow comina	g-from surround	ling drains	
	mixeky		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
CHANNE	L MORPHOLOG	1			
Channel	Width (range (m)):	6-8		Gradient (H/M(L))	
Bank Hei	ght (range (m)): 1	- 6m		Meander/Straight:	
Bank Sio	pe (degrees from s	surface of water): 45	- 70	Bank Stability: 1011	
Bank veg	getation Type: Ora	155, shrubs her	bs	Bank Veg. Density (H/M/L): M	
CHANNE	L SUBSTRATE %				
Clay:		Gravets 15	Boulder:	(Muck:) 30	
Silt) 2	10	(Pebble:) 15	Bedrock	: Detritus:	
Sand.) 2	0	Cobble:	Marl:	Other:	
INSTREA	M HABITAT AND	COVER			
Pools:		Undercut	Banks:	Boulder/Rock:	
Riffles:)		Woody De	bris:	Cobbie: petides/gravel.	
Backwate	er:	Vegetation	D-glong bank	Other:	
INSTREA	M VEGETATION		3		
Type (su	bmerg./emerg./flo	oating) Family/Ge	enus/species	Description/Abundance	
		terrosh	nal araboar		
		<ul> <li>And A. S. Start, A. S. Santa, S. S Santa, Santa, San</li></ul>	1.0		
CODES:		SWI Surface Water	Input SCS Stre	eam Cross Section	
AHP Aqua	atic Habitat Point	GWI Groundwater Ir	DOX Dis	solved Oxygen Stn	
AHY Aqua	atic Habitat Area	CKC Creek Crossing	g VSS Visi	ual Survey Stn	
TMP Tem	p Monitor Stn	WEL Well	WQS W	ater Quality Stn	
FLW Flow	/ Monitor Stn	CUL Culvert			

FLOW CONDITIC	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
5			

Water Temp, (°C): 14	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	No. 10/010
Time Taken: 1240	Conductivity (µs/c	m):	MORKOL.
Location Taken: @ culve	wt		5

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

- over Im in depth in some locations - double boy culvert each bon wide - high flow in spring-debris present up shrubs. -bankful ~ 12.15m. wide - may be boulders present difficult to see due to murky waller -d/s side more shade n5070. - fish habitat presunt Now from drain ups of culvert east side. (Graham Drain)

#### PHOTOS TAKEN

Photo #	Description		Photo #	Description	
100-025	-u/s view	McLeod		p	minima
026	d/s new	Neleog			0.000
760	d/sview of	Graham when	e it meets M°C	eoo/	
860	US New o'	f Grisham			101000 (V) (V) (V)

#### **GENERAL COMMENTS**

no fish/froots observed.



HABITAT CHARACTERIZATION

PROJECT (Number & Name): 11842	
Field Staff: G. MacVaah	
Station: AHVON3	Site Location:
Waterbody: Ross Norry Droin +	In Known GPS Datum: NAD83 Easting: 0387867
Drainage System: Pos	Zone: 17- Northing: 4680988
Location in System:	Municipality:
Appr. Reach Length (m): N	Lot & Concession:
Survey Date: 4 Oct 11	Weather Conditions:
Time Started: 1325	Wind: I Cloud Cover (%):
Time Finished: 1398	Precipitation: Ø
ADJACENT LANDS	
Valley Slope: Gentle (< 5°)	Moderate (5 - 15°) Steep (> 15°)
Extent of Natural Vegetation (m)	0-10 10 to 20 20 to 30 30+
Vegetation Type: shrubs areas	C
Riparian Flood Plain - extent of frequent flood (m	): (0-10) 10 to 20 20 to 30 30+
Zone Vegetation Type: grass shrubs	grad asten herbs
J. 2333 S. (10.23)	
Vegetation Density (HML): H	
Canopy Type: grass (herbs	Quality and % shade: good 65 7 .
Land agriculture	,
Use	*
Other (groundwater, soils, pools, vegetation	n, etc.)
Notes flow, water murky.	
veg heavy in channel	
CHANNEL MORPHOLOGY	
Channel Width (range (m)): 1,5 - 2 m	Gradient (H/M/L):
Bank Height (range (m)): 2-2,5m	Meander/Straight
Bank Slope (degrees from surface of water): 40	- 80 ° Bank Stability: good
Bank Vegetation Type: grass [herbs	Bank Veg. Density (H/M/L):
CHANNEL SUBSTRATE %	
Clay 10 Gravel:	Boulder: Muck: 40
Silt: 15 Pebble:	Bedrock: Detritus: 20
Sand 15 Cobble:	Mari: Other:
INSTREAM HABITAT AND COVER	
Pools: Undercut B	anks: Boulder/Rock:
Riffles: Woody Deb	ris:
Backwater: Vegetation:	Other: cuplert
INSTREAM VEGETATION	
Type (submerg./emerg./floating) Family/Ger	us/species Description/Abundance
toward	21 1125800
IErrestr	al drowers
	in a second s I
CODES: SIMI Surface Motor In	nut SCS Stream Cross Section
AHP Aquatic Habitat Point GWI Groundwater In	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area CKC Creek Crossing	VSS Visual Survey Stn
TMP Temp Monitor Stn WEL Well	WQS Water Quality Stn
FLW Flow Monitor Stn CUL Culvert	

FLOW CONDITIO	ONS	Page 2 of 2	
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			1
2			
3			
4			

		Visible Characteristics/Other Parameters:
Water Temp. (°C): 19	D.O. (ppm). pn.	
Air Temp. (°C): ))	D.O. (%): TDS (ppm):	murky water
Time Taken: @ 1330	Conductivity (µs/cm):	J .
Location Taken: @ culvert		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Ross Norry Drain -flowing - heavy veg present in channel - depth - 25m - no fish observed -bankful v 3.5m. Unknown Drain running potrallel to-Gleeson Line -flowing -olrainage/road ditch, grassed, corridor 10m. - bank is am.

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-36-	U/S VIEW ROSS Morry		
100-37 -	d/s view Ross Norry		
100-38-	us view from R.N. Dra	in (east new)	
100 . 39	-d/s view "	(west)	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

no fish/frogs seen

Daga 2 of 2



HABITAT **CHARACTERIZATION** 

			Page 1 of 2
PROJEC	T (Number & Name): 112	Ha South Kent	
Field Sta	ff: G. Mac Vergen		
Station:	AHYOH		Site Location:
Waterboo	ly: Jessop Drain	+ unbnown(P114-D2)	GPS Datum:NAD 83 Easting: 0388337
Drainage	System:		Zone: 17T Northing: 4681390
Location i	in System:		Municipality:
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: 4 Oct 11	Weather Condition	S:
Time Star	rted: 1340	Wind: 1	Cloud Cover (%): Ø
Time Fini	shed: 405	Precipitation: Ø	
ADJACE	NT LANDS		
Valley	Slope: Gentle	(< 5°) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetation	on (m) (0-10) 10 to 20	0 20 to 30 30+
	Vegetation Type: d/S -	g. rod, aster, dogwood	
	0/5-	dec. trees, shrubs	
			40.12.00 00.12.00 00.1
Riparian	Flood Plain - extent of freq	uent flood (m):	10 to 20 20 to 30 30+
Zone	vegetation Type: 9. roo	l, ader, herbs, grasses:	
	Vagetation Density (HML):	()	
Canopy	Type: dispersional fr	17 Vers ult Quality	and % shade: 10 100 m Good
Land	nacio Otura		
Use	agricuation		
Other	(groundwater, soils, poo	ls, vegetation, etc.)	
Notes	Dousino		
	Jeaury		
CHANNE	L MORPHOLOGY		
Channel \	Width (range (m)): 75- 1-5	m	Gradient (H/M/L):
Bank Heig	ght (range (m)): 1-2.0m		Meander/Straight
Bank Slop	be (degrees from surface of	water): 30 - 60	Bank Stability: 900 0
Bank Veg	etation Type: anass, her	bs	Bank Veg. Density (H/M/L): M
CHANNE	L SUBSTRATE %		
Clay:	Gravel	5 Boulde	r: (Muck:) 5355
Silt:	O Pebble	S S Bedroc	k: Detritus) 15-
Sand	Cobble	: Marl:	Other:
INSTREA	M HABITAT AND COVER		
Pools: ~	/	Undercut Banks:	Boulder/Rock:
Riffles: 🗸		Woody Debris:	Cobble:
Backwate	r:	Vegetation:	Other: culvert
INSTREA	M VEGETATION		
Type (su	bmerg./emerg./floating)	Family/Genus/species	Description/Abundance
		terrestrial anast	
		cottail	
The Parall Land to			
		[2] The second secon	
CODES:	SWI S	urface Water Input SCS St	ream Cross Section
AHP Aqua	atic Habitat Point GWI G	roundwater Input DOX D	issolved Oxygen Stn
AHY Aqua	tic Habitat Area CKC C	reek Crossing VSS Vi	sual Survey Stn
TMP Tem	p Monitor Stn WEL V	Vell WQS V	Vater Quality Stn
ILVV FIOW		uiveil	

FLOW CONDITIONS Page				
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes	
1				
2	adolarenterrenter larenterrenterrenterrenter			
3				
4				
5				

Water Temp. (°C): IS	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):	TDS (ppm):	murcu
Time Taken: 1343	Conductivity (µs/cr	n):	moreg
Location Taken: Co culvert			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Glasson Rd unknown Jessop Drain -flowing, murky -good fish habitat Unknown - lots of cathoils within channel - wet from recent rain. - cultory box - 4m wide under rd · parrollel to Gleeson -bankfull u 3m

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100040-	u/s Jessop Drain		
100-1041 -	d/s Jessop Drain	00.52000 0070000000 00.000000000000000000000	
100-048-	ofs (east view) unknown	from Jessop D.	
100-043.	d/s (west new) "		

#### **GENERAL COMMENTS**



Resource Solutions Inc. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

quatic,	Terrestrial	and	Wetland	Biologiste
---------	-------------	-----	---------	------------

Dee		4	- 5	2
Pad	e		OL.	2

PROJEC	T (Number & Name): (12	42 South Kent	
Field Stat	ff: G. Mac Verith	Contraction of the second s	
Station:	AHYOIR		Site Location:
Waterbod	V: Gov. #7 Drain		GPS Datum: NAD 83 Easting: 0392035
Drainage	System:		Zone: Northing: 4684570
Location i	n System:		Municipality:
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: 4 at 11	Weather Cond	litions:
Time Star	ted: 1416	Wind: Q	Cloud Cover (%): Ø
Time Finis	shed: 1435	Precipitation:	Ø
		(24)	
Valley	Slope: Gentle	(< 5°) Moderate (5 -	15°) Steep (> 15°)
runoy	Extent of Natural Vegetatio	n (m) (0-10) 10	$10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{-7}$ $10^{$
	Vegetation Type:		
	regenerien Type. gratss		
Riparian	Flood Plain - extent of frequ	uent flood (m):	10 10 to 20 20 to 30 30+
Zone	Vegetation Type:	la multor onlidour +	Amounter
	Jugars, Anals	nerros, gowanted, as	rer , prilogunie 1
	Vegetation Density (HML):	Н	
Canopy	Type: Grass	Q	uality and % shade: poor 107
Land	agricultural, roa	ds	
Use	agriconora pra	-0	and an over the set of participant channels where the set of a
Other	(groundwater, soils, pool	s, vegetation, etc.)	7
Notes	MUCKY FLOUDING		
	1.1.1.7 3 1.10001119		
CHANNE	L MORPHOLOGY		
Channel V	Width (range (m)): 8-10		Gradient (H/M/L): /
Bank Heic	ht (range (m)): (a) IO		Meander(Straight.)
Bank Slop	be (degrees from surface of	water)	Bank Stability: fair - some prostab
Bank Veg	etation Type: 45-60	arass herbs	Bank Veg. Density (H/M/L):
CHANNE		J	
CIAR I	S Gravet	NID B	Muck 20 200
Cildy.	C Pebble		adrock Detrifus
Sand A	S to cobble		arl: Other:
INSTREA		W	
A	IN TABITAT AND COVER		
Pools.	······································	Undercut Banks:	Boulder/Rock:
Riffles: -		Woody Debris:	(Cobble:
Backwate	r: (	Vegetation:	Other:
INSTREA	M VEGETATION		
Type (sub	omerg./emerg./floating)	Family/Genus/species	Description/Abundance
		terrestrial arasse	
		0	2
ā-			
1-1.1-1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1			
CODES:	SWI Su	rface Water Input SC	CS Stream Cross Section
AHP Aqua	tic Habitat Point GWI Gr	oundwater Input DO	DX Dissolved Oxygen Stn
AHY Aqua	tic Habitat Area CKC Cr	eek Crossing VS	SS Visual Survey Stn
TMP Temp	Monitor Stn WEL W	'ell W	QS Water Quality Stn
FLW Flow	Monitor Stn CUL Cu	lvert	

FLOW CONDITIONS Page 2 (					
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes		
1					
2					
3	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
4			( ) 3		
5					

Water Temp. (°C): ๅฯ	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 17	D.O. (%):	TDS (ppm):	MURTIN
Time Taken: 비구〇	Conductivity (µs/c	:m):	moreag
Location Taken: @ alecs	on line		

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

-large, murray flawing permanent watercourse. - depth n/m or greater - fish present - unsure what kind - bankful width n/s m wide - steep banks.

#### PHOTOS TAKEN

THOTOG MALE					
Photo #	Description	2	Photo #	Description	
100-05		d/s view			
100-09	253- 1	1/5 VIEW			
		1			

#### **GENERAL COMMENTS**



HABITAT **CHARACTERIZATION** 

PROJECT (Number & Name): 11842 Suth Sect				
Field Staff: G. Macyleigh				
Station: AHY 019	Site Location:			
Waterbody: Goy Drain# 1 + one unknowns +	GPS Datum: NAD83 Easting: 0392663			
Drainage System: Mancel	Dr. Zone: INT Northing: 468384)			
Location in System: parallel to Mechin Rd.	Municipality:			
Appr. Reach Length (m):	Lot & Concession:			
Survey Date: 4 Oct (1 Weather Cond	itions:			
Time Started: 1니니도 Wind: ~ ~	Cloud Cover (%): Ø			
Time Finished: 1500 Precipitation: 5	Þ			
ADJACENT LANDS				
Valley Slope: Gentle (< 5°) Moderate (5 - 1	5°) Steep (> 15°)			
Extent of Natural Vegetation (m) 0-10 10	to 20 20 to 30 30+			
Vegetation Type: grass - fields				
	<u>x</u>			
Riparian Flood Plain - extent of frequent flood (m):	0 10 to 20 20 to 30 30+			
Zone Vegetation Type: grass, herbs, phragmites, c	goldenrod, aster, hurdock			
Vegetation Density (HML): 14				
Canopy Type: Coss hacks Qu	ality and % shade: Proc 10, 20%			
Land agricultural.				
Use (groundwater poils pools warstation at )				
Other (groundwater, soils, pools, vegetation, etc.)	XXXXX () () () () () () () () () () () () ()			
Notes see diagram for more descriptions				
CHANNEL MORPHOLOGY - for Gran Drain				
Channel Width (range (m)): S = 1000	Gradient (H/M/L):			
Bank Height (range (m)): 8-10m	Meander/Straight:			
Bank Slope (degrees from surface of water): $40 - 60^{\circ}$	Bank Stability: 0000			
Bank Vegetation Type: grass, heres	Bank Veg. Density (H/M/L): 14			
CHANNEL SUBSTRATE %				
Clave 15 Gravel 10 Bo	ulder) < (Muck) ac			
Silt 15 Pebble < Be	drock Detritus			
Sand' 20 Cobble' C Ma	orl Other:			
INSTREAM HABITAT AND COVER				
	Boulder/Book			
Piffles: Woody Dobris:	Cobble			
Backwater Venetation	Other			
	ouler.			
Type (submerg./emerg./floating) Family/Genus/species	Description/Abundance			
a second sum second distribution in second as with a string of provider strings of the second s	and and a provide the state of			
CODES: SWI Surface Water Input SC	S Stream Cross Section			
AHP Aguatic Habitat Point GWI Groundwater Input DO	X Dissolved Oxygen Stn			
AHY Aquatic Habitat Area CKC Creek Crossing VS	S Visual Survey Stn			
TMP Temp Monitor Stn WEL Well WC	QS Water Quality Stn			
FLW Flow Monitor Stn CUL Culvert	V Flow Monitor Stn CUL Culvert			

FLOW CONDITIC	ONS		Fage 2 01 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			1 1
5	1		

Water Temp. (°C): 14	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 13	D.O. (%):	TDS (ppm):	Murky
Time Taken: @ 1430	Conductivity (µs/c	:m):	5
Location Taken:			

#### SITE DRAWING

hannel modifications, adjacent landuse, roads & roa	ad names, bridges, culverts, north arrow, etc	iengin, ∕^∙
Gorain		P
Mancel Drain 1 2 -7	Gov Drain ->	chee St.
MERLIN RD		
Mancel Drain dry - grass lined phragmites goldenrod. • 6m corridor, banks 4m high • channel .S75m. • straight	unknown B. • dry • grass lined - phragmittes, herbs • 7m corridor, banks 2.3m high • occogorigionates in field - tile • straight	olvains

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
100-54	- dls view of gov draine	#1		
100-55	· u/s view " "	(meanders through t	field	www.
100-56	- auts new of unkno	wn B-perpto Me	xlin Rol.	i-1123
100-57	- Uls view of Mancel	Drain-parallel to	Merlin Rol.	
		¢		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

Page 2 of 2



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

PROJECT (N	lumber & Name): 1184	a South Ker	t		
Field Staff: (	S. Mac Veriah	0			
Station: A	HYORI 8		Site	Location:	
Waterbody:	GON DEDIN #7		GPS Datum: NAD83 Easting:		
Drainage System: Location in System: ( road			Zone	e: 17T Northing: 4681738	
		Mun	icipality:		
Appr. Reach I	Length (m):		Lot 8	& Concession:	
Survey Date:	400t11	Weather	Conditions:		
Time Started:	1510	Wind: -	2	Cloud Cover (%):	
Time Finished	1: 1530	Precipitat	ion: $\emptyset$	1	
ADJACENT L	ANDS	-			
Valley Slo	ope: Gentle	< 5°) Moderate	(5 - 15°) Stee	ep (> 15°)	
Ext	tent of Natural Vegetation	n (m) 0-10	> 10 to 20	20 to 30 30+	
Veg	getation Type: man	willow SID. 910	276		
	ple				
Riparian Flo	ood Plain - extent of frequ	ent flood (m):	(0-10) 10 to	o 20 20 to 30 30+	
Zone Veg	getation Type: dog wo	od vines a mol	willow SD	herbs	
	J		,		
Ve	getation Density (HML):	Н		D	
Canopy Ty	pe: shrubs		Quality and %	shade: fair 5390	
Land au	gricaltural				
Other (gr	oundwater, soils, pool	s, vegetation, etc.)			
Notes 4	lowing, morky				
CHANNEL M				· · · · · · · · · · · · · · · · · · ·	
Channel Widt	h (range (m)): 5-0,	A		Gradient (H/M/L):	
Bank Height (	range (m)): U - 3~			Meander/Straight:	
Bank Slope (d	legrees from surface of v	vater): an - 100°	Bunnen Junnen ander an	Bank Stability: Good	
Bank Vegetati	ion Type: Shrips he	wh-		Bank Veg. Density (H/M/L): H	
	IPSTPATE %	A125			
CINE S	Gravel	210	Boulder	Mucko // p	
Silt	Pehble:	510	Bedrock	Detritus 10	
Sand: U	Cobble:	210	Mart	Other:	
INSTREAM H	ABITAT AND COVER		Man.		
	ADITAL AND COVER			Devideer	
Pools:		Undercut Banks:		Bouider/Rock:	
Rimies:	III) - un unue - communication acc	Woody Debris:			
				Other:	
INSTREAM V		Family/Canualanaai		Departmen/Abundanaa	
Type (subme	rg./emerg./noating)	Family/Genus/speci	es	Description/Abundance	
		willow sp.			
· · · · · · · · · · · · · · · · · · ·		5 	6-x		
				In the part of the summer of the second second	
CODES:	SWI Su	face Water Input	SCS Stream C	ross Section	
AHP Aquatic H	labitat Point GWI Gr	oundwater Input	DOX Dissolved	I Oxygen Stn	
AHY Aquatic H	labitat Area CKC Cro	eek Crossing	VSS Visual Su	Visual Survey Stn	
FLW Flow Mon	nitor Stn CUL Cu	vert	vvQG vvalerQ		

FLOW CONDITION	ONS		Page 2 of
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2	and a second sec		
3			
4			
5	and a second		

Water Temp. (°C): 14°C	D.O. (ppm):	PH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 15	D.O. (%):	TDS (ppm):	misticy
Time Taken: 1503	Conductivity (µs/cm	ר):	
Location Taken: @ bridge	lauvert		

#### SITE DRAWING

Include: watercourse and name, flow, direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... - bankful in ISm wide - heavy flows - damage shrubs - fish. present - grassed ditches - parallel fo rd.

#### PHOTOS TAKEN

Photo #	Description		Photo #	Description
199/00/	1 1/ Jelp Age	abler		
186 USIV	Vals Weils	-Out	3	
100-60	- view of road	grasse ditche	<u>[</u>	
- 63-	- 11	V 11		

#### **GENERAL COMMENTS**



HABITAT **CHARACTERIZATION** 

0			Page 1 of 2
PROJECT (Number & Nam	e): 11842 South K	ent	
Field Staff: G. Macle	inh		
Station: AHY D22	ign	Site	Location:
Waterbody: Leuns Dr	· · · · · · · · · · · · · · · · · · ·	GPS	Datum: NODB2 Easting: 0393320
Drainage System:		Zone	Northing: 46 Pa 14 7
Location in System.	and	Muni	icipality:
Appr. Reach Length (m):		Lot 8	Concession
Survey Date: 4 Oct 1	Weathe	r Conditions:	
Time Started:	Wind		Cloud Cover (%): <x< td=""></x<>
Time Finished	Precipit	ation: a	$\phi$
	11001011		
Valley Sione	Contlo (50) Moderal	to $(5 - 15^{\circ})$ Stee	$p (> 15^{\circ})$
Fitant of Natural	Vegetation (m)	10 + 20	p(-10)
Extent of Natural		5 101020	2010 30 - 30+
vegetation Type:	grass, shrub	· · ·	
······································			
<b>Binarian</b> Flood Diain Lovia	nt of froguent flood (m):	(0.10 10 to	20 20 to 30 20 t
<b>Zono</b> Vegetation Type:			20 2010 30 - 30+
zone vegetation type.	goldenroa, herbs.	aster, Shri	ps grass
Vegetation Densit			
	<u>y (HML). 44</u>	Quality and %	shade: a mal 159
Land	A	Guanty and 70	silade. yand -6576
les agriculter	nal		the region of the proof of the second s
Other (groundwater or	alle people vegetation atc.)		
Notes	his, pools, vegetation, etc.)		
Notes murky,	culvert under ron.	4m wide	1 1 1 1 1 1 1 1
CHANNEL MORPHOLOGY			Cradient (LI/M/L):
Channel Width (range (m)).	075-1.5m	()	Gladient (H/M/L). Moondor/Stroight:
Bank Height (lange (m)). 3		11 - 141 144 - 1 - 1 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141 - 141	Book Stability:
Bank Slope (degrees from sl	unace of water): 40%		Bank Vag Depaits (11/M/L):
Bank Vegetation Type: Or	ass, herdos		Bank Veg. Density (H/W/L):
CHANNEL SUBSTRATE %			
Clay: 10	Gravel: ) 10	Boulder:	Muck: ) 60
Silt: 10	Pebble:	Bedrock:	Detritus:
Sand:	Cobble:	Marl:	Other:
INSTREAM HABITAT AND	COVER		
Pools	Undercut Banks:		Boulder/Rock:
Riffles:	Woody Debris:		Cobble:
Backwater:	Negetation.		Other:
INSTREAM VEGETATION			
Type (submerg./emerg./flo	ating) Family/Genus/spec	cies	Description/Abundance
	-Lange at 1	Dr. all COC	
	reas sind (	Linner	
	4) 4 - 1 (2) 4 + (2) (1 + 1 + 1) - (1 + 1 + 1) - (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1) + (1 + 1)		
00050	014/1 0 6	000 01 0	Castien
CODES:	SVVI Surface Water Input	SCS Stream Cr	Oss Section
	CKC Creek Crossing	VSS Vieual Sur	vev Stn
TMP Temp Monitor Stn	WEL Well	WQS Water Q	Jality Stn
FLW Flow Monitor Stn	CUL Culvert		

FLOW CONDITIC	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			2
-5			

Water Temp. (°C): 140	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:	
Air Temp. (°C): 160	D.O. (%):	TDS (ppm):		
Time Taken: 1515	Conductivity (µs/cm)	:	MUTKY	
Location Taken: @ culvert				

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent/landuse, roads & road names, bridges, culverts, north arrow, etc...

- bankful width -4-5m - lots of water due to rain - colvert box. 4mw. olp. FINN LINE veras  $\uparrow$ 

PHOTOS TA	KEN			
Photo #	Description	Photo #	Description	+
100-62	- uls view			
100-63	- dis view		C.+C.+H.	

#### **GENERAL COMMENTS**

- most likely dry in summer except asfler heavy rain.



HABITAT CHARACTERIZATION

PROJECT (Number & Name): 11842 South Kernt	
Field Staff: G. MacVeigh	
Station: AHYD24 0	Site Location:
Waterbody: unknown A/Griffin Drain/ Shacter D.	GPS Datum: NADBZ Easting: 0394703
Drainage System:	Zone: 177 Northing: 4682438
Location in System: @ 746 Line	Municipality:
Appr. Reach Length (m):	Lot & Concession:
Survey Date: Oct 4, 2001 Weather Conditions	
Time Started: 1550 1555 Wind: (	Cloud Cover (%): Ø
Time Finished: 1615 Precipitation: Ø	
ADJACENT LANDS	
Valley Slope: Gentle (< 5°) Moderate (5 - 15°)	Steep (> 15°)
Extent of Natural Vegetation (m) (0-10) 10 to 20	20 to 30 30+
Vegetation Type: 9rass-shrub	
<b>Riparian</b> Flood Plain - extent of frequent flood (m): 0-10	
Lone vegetation type: grass, goldenrod, herbs, o	uster, Shrubs
Vegetation Density (HML):	
Canopy Type: Quality a	ind % shade: 0000 10-1570
Land agricultural	
Other (groundwater, soils, pools, vegetation, etc.)	i
Notes slight flow usually staghant - smelly.	
Channel Width (range (m)): 2 - 4m	Gradient (H/M/L):
Bank Height (range (m)): 2-3	MeanderStraight
Bank Slope (degrees from surface of water): 40.60°	Bank Stability: 9000
Bank Vegetation Type: grass herbs	Bank Veg. Density (H/M/L): //
CHANNEL SUBSTRATE	
Clay: Gravel: Boulder:	Muck: 40
Silt: Pebble: Bedrock	Detritus: 40
Sand: 20 Cobble: Marl:	Other:
INSTREAM HABITAT AND COVER	
Pools: Undercut Banks:	Boulder/Rock:
Riffles: Woodv Debris:	Cobble:
Backwater: Vegetation:	Other:
INSTREAM VEGETATION	
Type (submerg./emerg./floating) Family/Genus/species	Description/Abundance
durkuped	
alare.	
nailfori	
ve a Ot I	
CODES: SWI Surface Water Input SCS Stre	eam Cross Section
AHP Aquatic Habitat Point GWI Groundwater Input DOX Dis	solved Oxygen Stn
AHY Aquatic Habitat Area CKC Creek Crossing VSS Visi	ual Survey Stn
TMP Temp Monitor Stn WEL Well WQS W	ater Quality Stn

FLOW CONDITIC	ONS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			·
3			
4			
<5			

Water Temp. (°C): 16	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): \6	D.O. (%):	TDS (ppm).	mitte
Time Taken: ノらせら	Conductivity (ps/c	:m):	Smell.
Location Taken:			Unizitio

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-067	- U/S VIEW of POGBODG	nknown	
100-000	· u/s new of Griffin		
100-069	-dls view " "		
100-070	- uls view shadd		
100-071	-dis new Shadof		

#### GENERAL COMMENTS



FLW Flow Monitor Stn

CUL Culvert

NATURAL RESOURCE SOLUTIONS INC.

HABITAT **CHARACTERIZATION** 

5	Aquatic,	Terrestrial	and	Wetland	Biologists	

PROJECT (Number & Nar	ne): 11842 South	cont
Field Staff: G MacVer	orh	
Station: AHYD25	9.0	Site Location:
Waterbody: Unknown	FIND + Cooper	GPS Datum: MAD 82 Easting: 0397208
Drainage System:		Zone: )7t Northing: 4682 310
Location in System:		Municipality:
Appr. Reach Length (m):	41111111111111111111111111111111111111	Lot & Concession:
Survey Date: 4 Oct	U. Weat	ther Conditions:
Time Started: 1625	Wind	: A Cloud Cover (%):
Time Finished: 1648	Preci	pitation: Ø
Valley Slope	Gentle (< 5°) Mode	$r_{2} = (5 - 15^{\circ})$ Steen (> 15^{\circ})
Extent of Natural		10 to 20 20 to 30 20+
Extent of Natural		-10 10 10 20 20 10 30 30+
vegetation type	aleaduous tree	es lateur, grass, grod
Pinarian Flood Blain ovt	ont of froquent flood (m):	0 10 to 20 20 to 20 20 t
Zone Vogetation Type		
Zone vegetation type.	grass, gorden r	ad, burdock, vines, help), shrubs
Vegetation Dens	ity (HML):	
		Quality and % shade: $\mathcal{D}_{\mathcal{O}} = 10 = 15^{42}$
Land Gow W		
Land agnowtw	al	
Other (groundwater s	oils pools variation at	
Notes flouridwater, s	la	
Notes (1800, mor	Ray	
CHANNEL MORPHOLOG	- tor main alval	Credient (U/M/UV-)
	4-5m	
Bank Height (range (m)).	5-8m.	Meander/Straight been chancelized
Bank Slope (degrees from s	surface of water): 30 - 45	Bank Stability: 9000
Bank Vegetation Type: 5	o grass, herbs,	VINES Bank Veg. Density (H/M/L): Fr
CHANNEL SUBSTRATE %	0	
Clay:	Gravel: 10	Boulder:> 10 Muck: 30
SIT: 20	Pebble: 10	Bedrock: Detritus:
Sand: 20	Cobble:	Marl: Other:
INSTREAM HABITAT AND	COVER	
Pools:	Undercut Banks:	Boulder/Rock:
Riffles.	Woody Debris	
Backwater:	Vegetation:	Other Cullerd
INSTREAM VEGETATION	vogotation. v	
Type (submerg./emerg./flo	oating) Family/Genus/s	pecies Description/Abundance
Type (oublineig. enterg. in	Jaming, Pulling, Contacto	
I Development and a strength of the second	Terrestria	grasses
	na manini ( 11 - e	
1 14 14 14 14 14 14 14 14 14 14 14 14 14	10111111111111111111111111111111111111	
CODES:	SWI Surface Water Input	SCS Stream Cross Section
AHP Aquatic Habitat Point	GWI Groundwater Input	DOX Dissolved Oxygen Stn
AHY Aquatic Habitat Area	CKC Creek Crossing	VSS Visual Survey Stn
INP Temp Monitor Stn	VVEL VVell	VVQS VVATER QUAITY STN

<b>LOW</b>	ONDITI	ONS
------------	--------	-----

LOW CONDING		1 age 2 01 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
3			promision and because on the second
4			

Water Temp. (°C): 1년	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 16	D.O. (%):	TDS (ppm):-	murku
Time Taken: 1624	Conductivity (µs/c	m):	maring
Location Taken: @ culver-	/		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### **PHOTOS TAKEN**

Photo #	Description	Photo #	Description	
100-072	-uls view of unknow	n drain 100-0	77 - ditch 'D'	
100-073 -	dls new of "	11		
100-074	- ditch 'A' view			
100-075	- ditch 'B' view			
100-076	- ditch 'C' view			

#### GENERAL COMMENTS

Page 2 of 2



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Nan	ne): 11842 South	Kent			
Field Sta	ff: G. Macl/en	gh			1	
Station:	AHYORA	7	1445 (110000 1100 and a 00000 000 010 and	Site Location		
Waterboo	y: Waddich	c Drain		GPS Datum: M	JAD83 Eastin	9:0401920
Drainage	System:			Zone: 17	T Northin	9: 4687754
Location i	in System:			Municipality:	a mume mahanam	
Appr. Rea	ach Length (m):			Lot & Conces	sion:	
Survey D	Date: 5 Oct	I) Wea	ather Conditions			
Time Star	rted: 915	Win	d: \	Clou	d Cover (%): 5	
Time Fini	shed: 935	Pre	cipitation: 😤 ⊄	ò		
ADJACE	NT LANDS					
Valley	Slope:	Gentle (< 5°) Mod	lerate (5 - 15°)	Steep (> 15°)		
	Extent of Natural	Vegetation (m)	0-10) 10 to 20	20 to	o 30	
	Vegetation Type:	grass deciduo	s treos			
		J. 6660, 0 - 101 - 10			¥	
Riparian	Flood Plain - exte	ent of frequent flood (m):	0-10	10 to 20	20 to 30	30+
Zone	Vegetation Type:	goldenrod, shru	bs, aster, c	grasses, he	erbs	
Cononu	Vegetation Dens		Quality	and % shade:	4157	Store the state of the state
Canopy	Type: grass	X	Quality a	and 70 shade.		
Lano	agriculture	, houses				
Other	(groundwater, s	oils, pools, vegetation, e	tc.)			
Notes	unton trail	a ol				
	unerion					
CHANNE		1				
Channel	Width (range (m)):	1- 10m (ma)		Gra	dient (H/M/L):	
Bank Hei	aht (range (m)):	6- Quan	1140-11404-0140-080-070114-0141	Mea	inder/Straight: -	heen influenced
Bank Slo	pe (degrees from s	surface of water): 15 - 30	<u>َ</u>	Ban	k Stability: 000	d
Bank Veo	etation Type:	ass herbs.		Ban	k Veg. Density (H.	/M/L): H
CHANNE	I SUBSTRATE %	<del>,,</del>				
Clav:	L OODOMATE /	Gravel 2	Boulder		Mucko	5
Silt 1	$\circ$	Pebble 10	Bedrock		Detritus	$\tilde{\boldsymbol{\mathcal{C}}}$
Sand L	10	Cobble 10	Mari:		Other:	<u> </u>
INSTREA		COVER				
(Dala)		Lindereut Bank		Bou	Ider/Rock	
Diffice		Weedy Debris:	5.	Coh	he /	
Deelewate	and an other contraction of the second	Vegetation:		Oth		anna airte Braithe San
INCTOR		vegetation.	<i>~</i>	Our	an convert	
Type (eu	hmerg /emerg /fl	oating) Family/Genus	snecies	Des	cription/Abunda	nce
Type (Su	billerg./eillerg./in	Jaling) Fanny/Genus	opecies			
		terreshi	al grasse	5		
	1113-111111		U			
		and an		سسط مستخد التعريب		and the second
CODES:		SWI Surface Water Input	SCS Str	eam Cross Secti	on	
AHP Aqua	atic Habitat Point	GWI Groundwater Input	DOX Dis	solved Oxygen S	รเท	
AHY Aqua	atic Habitat Area			ater Quality Str		
FLW Flow	v Monitor Stn	CUL Culvert	VVQC VV	ator addity off		

FLOW CONDITIO	NS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			cii - i - i - i - i
5	1		

Water Temp. (°C): 14°C	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 16°C	D.O. (%):	TDS (ppm):	murky
Time Taken: @ Q30	Conductivity (µs/cm):		
Location Taken: @ bridge			
0175 00 414/10			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-083	- uls view (south)		
100-084	- dls view (north.)		
	-		
	·		
2			

#### GENERAL COMMENTS

-fast flow, drainage culverts flowing. -wonter turbid - bartfull width no 18-19-19-

-ditches parallel to road manicured - culverts under roads/driveway



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Nam	e): 11842 Sa	th kent			
Field Sta	Iff: G. H& Verah					
Station: AHYO30			Site Location:			
Waterboo	dy: unknown	drain		GPS Datum: NAD83 Easting: 0398722		
Drainage	System:			Zone: 17T Northing: 4681173		
Location	in System: (@, (()	oth Line		Municipality: Chatham-kent-Eser		
Appr. Rea	ach Length (m):			Lot & Concession:		
Survey D	Date: 5 Oct	()	Weather Conditions	5		
Time Sta	rted: 1010		Wind: (	Cloud Cover (%): 5		
Time Fini	ished: 1030		Precipitation: Ø			
ADJACE	NT LANDS					
Valley	Slope: C	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)		
,	Extent of Natural	Vegetation (m)	(0-10) 10 to 20	20 to 30 30+		
	Vegetation Type:	aces de	durais trops (for	D.		
	regetation ()per	glass, der				
Riparian	Flood Plain - exte	nt of frequent flood (	m): 0-10	10 to 20 20 to 30 30+		
Zone	Vegetation Type:	addoncad	adar vinor ard	ass herbs shalps		
	<u> </u>	gates next	March Incar, Ju			
	Vegetation Densit	ty (HML): +				
Canopy	Type: orasa	shrubs trees	Quality a	and % shade: 0000 - 60 - 70 %		
Land	agacultural	hase.				
Use	sequeonores	, worth				
Other	(groundwater, se	oils, pools, vegetat	ion, etc.)			
Notes	myclu and	1 fair				
	in with the					
			Nonio			
Channel	Width (range (m)):	a- 7m.		Gradient (H/M/L):		
Bank Hei	ght (range (m)):	65-11m		Meander/Straight:		
Bank Slo	pe (dearees from s	urface of water):	0-60°	Bank Stability: 0000		
Bank Veo	petation Type: av	ass horbs		Bank Veg. Density (H/M/L): /-)		
	UDETDATE-	0.55, (1412)				
CHANNE	L SUBSIRATE %	Craval 10	Boulder	E Muck 22		
Clayo C	>	Babble: 10	Bodrock	Detrifue 20		
SIL		Cabble:	Mod	Other:		
(Sand:) c			Ividit.	ouldi.		
INSTREA	AWINABITATAND	COVER				
Pools: ~	a na sedan an 25 a managanan a	Undercut	Banks:			
Riffles: V		Woody D	ebris: —			
Backwate	er:	Vegetatio	n:	Other: Culvort		
INSTREA	M VEGETATION			Description (Abundance		
Type (su	bmerg./emerg./flo	ating) Family/G	ienus/species	Description/Abundance		
		terrez	strial grasses			
			0			
	· ····					
· ····· ····						
CODES		SWI Surface Wate	r Input SCS Str	eam Cross Section		
AHP Aque	atic Habitat Point	GWI Groundwater	Input DOX Dis	ssolved Oxygen Stn		
AHY Aquatic Habitat Area CKC Creek Crossing		ng VSS Vis	VSS Visual Survey Stn			
TMP Temp Monitor Stn WEL Well		WQS Water Quality Stn				
FLW Flow	/ Monitor Stn	CUL Culvert				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, e	qually spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1				
2				
3		1	1	
4		· · · · · · · · · · · · · · · · · · ·	1.11.11.11.11.11.11.11.11.11.11.11.11.1	1.5. (1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
- 5				
NATER QUALITY	(			
Nater Temp. (°C)	: 14	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters
Air Temp. (°C): ۱	6	D.O. (%): TDS (ppm):		murky, fast flowing
Time Taken: 1017		Conductivity (µs/cm):		
ocation Taken:	@ culvertion do	ae		
SITE DRAWING				
nclude: watercou hannel modificati paujap tou jajum ou iso 'ssent m pau	Irse and name flow ons, adjacent landus	direction, riffle/poo e, roads & road na S e	I/run habitat, side tribut, ames, bridges, culverts All Squay bay 6 August bay bay 6 August bay bay ou J, 47/10 passage	aries, station location, approx. reach length, , north arrow, etc
	0.100 02		1-22/06	and a second



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
100-093 -	Is view of main draw	100-095	- uls view dit.	ch 'D' from drivella
100-094 -d	Is view of main drain	100-098	- dis view "	
100-095-	uls view of ditch 'A' from	drain		an and and any commentation of the second
100-096 -	uls view of ditch 'B' "	and the second s		
100rogn	when man and her we	n		

#### GENERAL COMMENTS

-racion prints Nofish/frogs observed.



## NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

			Page 1 of 2
PROJEC	T (Number & Name): 11P	42 South Ker	74
Field Sta	ff: G. MacVerah		
Station:	AHY 033 0	retex	Site Location:
Waterboo	ly: Ander Denin L	Johnan Drain	1 GPS Datum: NAD83 Easting: 040006
Drainage	System:	1.1. (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. ). (4.1. )	Zone: 17T Northing: 4682369
Location i	in System: @ 10th L.W	л́е	Municipality: Chatham Kent Essex:
Appr. Rea	ach Length (m):	4 440-1111111111111111111111111111111111	Lot & Concession:
Survey D	ate: 5 oct 11	Weather	Conditions:
Time Star	rted: 1050	Wind:	Cloud Cover (%): 10
Time Finis	shed: 1105	Precipitat	tion: Ø
ADJACE	NT LANDS		
Valley	Slope: Gentle	(< 5°)> Moderate	e (5 - 15°) Steep (> 15°)
	Extent of Natural Vegetation	on (m) (0-10	10 to 20 20 to 30 30+
	Vegetation Type: Qras	55, mainles Por	Dar
	0	ji	
		4	
Riparian	Flood Plain - extent of freq	uent flood (m):	0-10 10 to 20 20 to 30 30+
Zone	Vegetation Type: go de	need, lines, as	ter, herbs, garlic mustard
	0		
-	Vegetation Density (HML):	M	O all hand of abode the and the end
Canopy	Type: -Jvees		Quality and % snade: 0000 0076
Land	agricultural		
Use		la variation ata)	
Other	(groundwater, soils, poo	is, vegetation, etc.)	Citly Cond Colde
Notes - cleared further doubstream in tield Soya tields			
	- um round cu	unknown	
CHANNE	LIMORPHOLOGY ON	Carler Drain	Gradient (H/M/L):
Bank Hoir	which (range $(m)$ ): $J = 3 m$	<u>N:</u>	Meander/Straight
Bank Slor	on (degrees from surface of	water) is lice	Bank Stability:
Bank Veg	etation Type:	Watch: 13 - 43	Bank Veg. Density (H/M/L): M
		NO DE	
CHANNE	L SUBSIRATE %	. 10	Boulder:
Clay.	Pobble		Bedrock: Detritus:
Sill.			Marl Other:
INSTREA	M HABITAT AND COVER		iner
		Lindersuit Banka:	Boulder/Rock:
	the latter of the second of the second of the	Woody Dobris:	Cobble
Riffles: Woody Debris:		Voody Debris.	Other: a hourd
INICTORA			Carlos CORPA
Type (eut	hmera /emera /floating)	Family/Genus/spec	cies Description/Abundance
rype (su	billerg.cillerg.nouting,	1 unity, controloped	
	- 10.00 August 10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000 (10.000)))))))))))))))	o lentzamet	V. 9. Sto 5
- 2 - 2 - 1 - M.B	a - a sa sana - a sana san - a sana sa		
	an a		a plane of the second loss of the level of the second state of the second state of
		1	200 Otream Cross Section
CODES:	SWI St	urtace Water Input	DOX Dissolved Oxygen Sto
AHP Aqua	AHP Aquatic Habitat Point GWI Groundwater Input DOX Di		VSS Visual Survey Stn
TMP Temp Monitor Stn WEI Well WQ		Vell	WQS Water Quality Stn
FLW Flow	LW Flow Monitor Stn CUL Culvert		
FLOW CONDITIC	DNS	Page 2 of 2	
----------------------	------------------	-------------------------------	---------------------------------
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2		را مستنسبین	
3			4
4			
5		21.11 M 2	1 1 12

Water Temp. (°C): 1나	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 18	D.O. (%): TDS (ppm):	murky
Time Taken: 1105	Conductivity (µs/cm):	
Location Taken: ( where a		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
photo 100-	105 - US Carter Drain	100-110.	- uls drainblitch 'B'	
100-10	6 - dls Contel Drain	1 1-00-1 det-0 1-00-1-00000	nomenouslation = the set of the	·····
100-107	- uls ditch A	and the second s		
100-108	- uls ditch B			
100-109	- uls ditch C			

#### **GENERAL COMMENTS**

Depth - 25- 5m, Bankful=6-7m, good flow. No fish observed. very straight.



HABITAT **CHARACTERIZATION** 

PROJECT	T (Number & Name): \\2	sya South Kent	
<b>Field Stat</b>	ff: G.MacVeldy		
Station:	A+11/034 U		Site Location:
Naterbod	y Corter Drain	Symon Drain	GPS Datum: 14083 Easting: 040548
Drainage	System:	- 0	Zone: 17t Northing: 4683724
ocation i	n System: @ 10th L	ine	Municipality:
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: Oct 5, 11	Weather Condition	ins:
Time Star	ted: 11 20	Wind: {	Cloud Cover (%):
Time Finis	shed: 1146	Precipitation:	
	NT LANDS		
/alley	Slope: Gentle	e (< 5°) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetati	ion (m) 0-10 10 to :	20 20 to 30 30+
	Vegetation Type: codo	r. surve, and on rod	
		,,	
Disseign	Flored Dising as to start of free	and (m)	10 to 20 20 to 30 30+
Zono	Flood Plain - extent of free		
Zone	vegetation type. Vine	, r.o diguoca, golaenro	or write sp, aster, ner es, grass
	Vegetation Density (HML)	<u>xH</u>	
Canopy	Type: grass	Qualit	y and % shade. poor is is
.and Jse	agricultural		
Other	(groundwater, soils, poo	ols, vegetation, etc.)	
Notes	Con 100 - CINLIPI	il under rd	
CHANNEI Channel V	L MORPHOLOGY Vidth (range (m)): 2-6	m	Gradient (H/M/L):
Bank Heid	ht (range (m)): 2 - 5~		Meander/Straight:
Bank Slop	e (degrees from surface o	f water): 15-45°	Bank Stability: 0000
Bank Veg	etation Type: 010255		Bank Veg. Density (H/M/L): H
	SUBSTRATE %		
Clay:	Grave	Bould CBould	er.) 10 Muck. 40
Silt 1	Pebbl	e 16 Bedro	Detritus:
Sand:	Cobbl	e: Marl:	Other:
NSTREA	M HABITAT AND COVER		
Pools.	/	Undercut Banks:	Boulder/Rock:
Riffles -	(	Woody Debris:	Cobble:
Rackwater		Vegetation: 1	Other: www.
NSTREA			A
ype (sub	omerg./emerg./floating)	Family/Genus/species	Description/Abundance
		toppettical anal	100 A
		ie ulso new g	\$\$X./]
in an and the	En l'anne anno chairte ann an anna an an an an an an an an an	and the second s	
	and a second second of the second second	a state - and - the base of the state of the	$0 = -\Delta - a - 0$ $0 = -a - \frac{1}{2} + a + \frac{1}{2} + a + \frac{1}{2} + a + \frac{1}{2} + \frac{1}{2$
ODES:	SWI S	Surface Water Input SCS	Stream Cross Section
HP Aquat	tic Habitat Point GWI	Groundwater Input DOX	Dissolved Oxygen Stn
HY Aquat	tic Habitat Area CKC (	Creek Crossing VSS	Visual Survey Sin
MP Temp	Monitor Stn WEL	vveii vvQS	water quality out
VV FIOW	wonioran UUL U	JUIVELL	

FLOW CONDITION	DNS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3	A A A A A A A A A A A A A A A A A A A		
4		and the second se	
5	Sector Street St		I server and the serv

Water Temp. (°C): )4	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 18	D.O. (%):	TDS (ppm):	MURKEY
Time Taken: 1130	Conductivity (µs/c	:m):	5
Location Taken: @ culvert			

#### SITE DRAWING

#### PHOTOS TAKEN

Description	Sympo.	Photo #	Description	
1/5 view o	f earter drain			The second
dis view	of "			
Etacing she	2ł	and the second state of th	anna anaistean i a an an	
w tacing	Shot.	e men ik anderen konskriter der		ANTION CONTRACTOR AND DESCRIPTION OF AN ADDRESS OF A DECK
	JS view c dls view Efacing she w facing	Jescription sympo- Jes view of earther drain dis view of """" Efacing shot w facing shot.	Description sympon. Photo # Is view of earther drain dis view of """ E facing shat w facing shat.	Description <u>sympop</u> . Photo # Description Is view of earter drain dis view of """ E facing shat w facing shat.

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

### Depth anetage-. Som, bant-full ~ 6-7m, slow flow when flowing on u/s side of road



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name):	1842 5	buth kent		
Field Stat	ff: G. MacVeic	h			
Station:	AHN 036	0			Site Location:
Waterbod	ly: Doyle Drain				GPS Datum: NAD83 Easting: 0403259
Drainage	System: U				Zone: 17T Northing: 4685248
Location i	n System: @ 10th	Line			Municipality:
Appr. Rea	ach Length (m):				Lot & Concession:
Survey D	ate: 5 Out	11	Weather Co	onditions	
Time Star	ted: 1======= 1150		Wind:		Cloud Cover (%): 1
Time Finis	shed: 1205		Precipitation	: Ø	
ADJACE			- 11	<i>k</i>	
Valley	Slope: Ger	tle $(\leq 5^{\circ})$	Moderate (5	i - 15°)	Steep (> 15°)
,	Extent of Natural Veget	ation (m)	0-10	10 to 20	20 to 30 30+
	Vegetation Type:	205	Deld		
	Gi Gi	0>7	they are		
Riparian	Flood Plain - extent of f	requent floor	d (m): (	0-10)	10 to 20 20 to 30 30+
Zone	Vegetation Type: 0.0	then 22	annod ohr	agouit	shrubu aser.
	3	33, 9000	and prin	gratte	<u>, , , , , , , , , , , , , , , , , , , </u>
	Vegetation Density (HN	IL): +1		20011	
Canopy	Type: Grass/	perbs		Quality a	nd % shade: 90001 60 - 70%
Land Use	appicultural	)			
Other	(groundwater, soils, p	ools, veget	ation, etc.)		
Notes	pool below	culvert	(box 5m	wide	)
CHANNE					
Channel	Width (range (m))	- 3m	(m)		Gradient (H/M/L);
Bank Heir	tht (range (m)):				Meander/Straight: - Influenced by human
Bank Slor	be (degrees from surface	of water):	IC - 30°	****(=)/,=+(_700)+++0	Bank Stability: 0000
Bank Veg	etation Type: a cass	hardos	1.2.1 - <u>2.1</u> - 4.1 - 41		Bank Veg. Density (H/M/L):
CHANNE		NEAR23			
CHANNE	L SUBSTRATE %	mal: 10		Boulder	Muck: 40
Clay.	Bok	web 10		Bodrock	(Detritus) 20-
SIL IC		ble:	6	Mod	Other:
INSTREA		R			Guioi.
INSTREA			ut Decline	17	Boulder/Rock:
Pools:	an and the state of the second second second second	Underd	ut Banks:	104 - 14 (Del Deller	Cobble:
Riffles:		Woody			Other out out
Backwate	r:	Vegeta	tion: V		Other. CANRIA
INSTREA		i Tana ila			Description/Abundance
Type (sub	omerg./emerg./floating	Family	/Genus/species	• 	
		tere	estra 9	penso	
					and the second entropy of the second s
Transfer To Table	annaise) — Theatain in the line of			-	ter an and an a set of an article and the set of a set of a set of the set of
CODES:	SW	Surface Wa	ter Input	SCS Stre	eam Cross Section
AHP Aqua	tic Habitat Point GW	Groundwate	er Input	DOX Dis	solved Oxygen Stn
AHY Aqua	tic Habitat Area CKC	Creek Cros	sing	VSS VISI	uai Survey Suri
LINE LONG	Monitor Stn VVEI			WUS W	ator weating our
LAN LIOM					

FLOW CONDITIONS Page 2 of 2						
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes			
2		$= \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} \int_{\mathbb{T}^{n}} dx = \int_{\mathbb{T}^{n}} \int_{$	= 1- ·			
3						
4		annear an ann an airt a reann an a' ria ann a'	n e annound o constante a substante anno ann an an annananan anna			

Water Temp. (°C): J< •	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 19 P	D.O. (%):	TDS (ppm):	mithcylturbid
Time Taken: 1148	Conductivity (µs/cm)	:	110 37 10 0 1
Location Taken: @ culverf			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

graspitch .	grassed ditch
Joth Line	
t to the design of the design	
Aconomic Con create	

#### PHOTOS TAKEN

Photo #	Description	douve.		Photo #	Description	
100-117 100-118	- U/S view	il and a	drain			100 (101 - 105 - 10 - 10 - 1
100 110	vie us.			and it into a minimum.	• · · · · · · · · · · · · · · · · · · ·	and a second of the second second second second second
	P20-1	<pre>Accord (control + a.e.) as 1</pre>		$(a_{1}, a_{2}) = (a_{1}, a_{2}) = (a_{1}, a_{2}) = (a_{2}, a_{2}) = (a_{$	111 - 1111 - 11 - 11 - 11 - 11 - 11 -	
to and a set of the second					ine name na min	

#### GENERAL COMMENTS

-pod depth oi5m, grass growing in channel/imagnites -slow flow -no fish observed!



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name)	1184 South	rkent			
Field Sta	ff: G. MacVelort	\				
Station:	AHNO3B 0			Site Loca	ation:	
Waterboo	ly: Ferouson/La	urie Drain		GPS Date	um: MAD83 Easting: 040683	Σ
Drainage	System:	27		Zone: 1	77 Northing: 468978	3
Location i	in System: @ 9#	Line		Municipa	lity:	
Appr. Rea	ach Length (m):			Lot & Cor	ncession:	
Survey D	ate: 5 At 1	1	Weather Con	ditions:		
Time Star	rted: Dab		Wind: 1		Cloud Cover (%): 10	
Time Fini	shed: 1245		Precipitation:	Ø		
ADJACE	NT LANDS					
Valley	Slope: <	Gentle (< 5°)	Moderate (5 -	15°) Steep (>	15°)	
	Extent of Natural V	egetation (m)	(0-10) 1	0 to 20	20 to 30 30+	
	Vegetation Type:	arass - th	en fields.	comisous	L	
		Juss	6			
Riparian	Flood Plain - extent	of frequent flood	(m): (0	-10) 10 to 20	20 to 30 30+	
Zone	Vegetation Type:	addening a	ster anits	s grass her	br	
		gottestrocy	/ OI (10.0	-, J,	- 3.	
	Vegetation Density	(HML): H				
Canopy	Type: Grass		0	Quality and % shad	le: 10%	
Lan <b>e</b> Use	acquicultus	al				
Other	(groundwater, soi	ls, pools, vegeta	tion, etc.)			
Netes	slow flow					
	I MORPHOLOGY					
Channel	Nidth (range (m)):	-3.0			Gradient (H/M/L):	
Bank Heir	nht (range (m)): 2-	Un			Meander/Straight)	are provident
Bank Slor	ne (dearees from sur	face of water):	$n = 4n^{\circ}$	end an operation of the second second	Bank Stability: 0000	
Bank Veg	etation Type:	and heale	0-10	energianes per constitution of a see	Bank Veg. Density (H/M/L): H	
CHANNE		angener	v			
CHANNE	L SUBSIRATE %	Craval		Boulder:	MURD 50	
City:	Louis according to C	Babble:		Bedrock:	Detritus	
SIL		Cabble:		Marl:	Other:	
Sand DEA						A
INSTREA			A Deelver		Boulder/Pock:	
Pools:		Undercu	Debrie	· · · · · · · · · · · · · · · · · · ·	Cobble:	
Riffles:		VVoody		ALLESSON - BALLER - BUILDING - AND - 1000	Other:	
Backwate		vegetat	ion:		Other.	
INSTREA	MVEGETATION		Conveloperios		Description/Abundance	
Type (sul	bmerg./emerg./fioat	(ing) Family/	Genus/species		DescriptionAbdituance	
		terre	stria gro	USED		
	A set server all here and the	inetti stari site i ta	0		and a second sec	(14))
			-	a la har en y-		
CODES:		SWI Surface Wat	er Input	SCS Stream Cross	Section	
AHP Aqua	atic Habitat Point	GWI Groundwate	r Input I	DOX Dissolved Oxy	/gen Stn	
AHY Aqua	atic Habitat Area	CKC Creek Cross	sing	/SS Visual Survey	Stn	
TMP Temp	p Monitor Stn	WEL Well		WQS Water Quality	/ ວເກ	
FLW Flow	Monitor Stn	CUL Culvert				

FLOW CONDITIC	S IN S		Page 2 01 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4		and a marked barren - barren and the set of the - of the set of the - of th	
-5			

OW CONDITIONS

Water Temp. (°C): 150	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 21°	D.O. (%):	TDS (ppm):	
Time Taken: /230	Conductivity (µs/cm)	:	
Location Taken: @ whert			

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

-very straight -murkiness starting to clean - gross within channel -drain between fields -tile drains present - bankful width 2-4 m - depth average - .15 - .25 m - ditches parallel to road - grass lined

#### PHOTOS TAKEN

Photo #	Description		Photo #	Descript	tion
100-122-0	uls Ferguson Drain	x x	1-1-1-1-1-10-10-10-10-10-10-10-10-10-10-	2011 - 2001 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 1	
100-123- 100-124 -	south side of road	facing	cast- mest		ale a damanan ahay k baayahaana

#### **GENERAL COMMENTS**

no fish/frags seen.



HABITAT **CHARACTERIZATION** 

	T (Normalian O Marris )	1 CILDI	
PROJEC		ya youth Lent	a and a second secon
Field Sta	T: G. Mac Veigh		Cite Leastion:
Station:	AHYOYS FM	LUCAS	Site Location.
Waterbod	ly: whichew buchs	Dcain	GPS Datum: 104083 Easting. 0411924
Drainage	System:		
Location i	n System:		Municipality:
Appr. Rea	ach Length (m):		Lot & Concession:
Survey D	ate: 5 Oct 11	Weather Conditio	ns:
Time Star	ted: 1335	Wind: )	Cloud Cover (%): 20
Time Finis	shed: 1350	Precipitation: Ø	
ADJACE			
Valley	Slope: Gentle	(< 5°) Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural Vegetatio	n (m) (0-10) (10 to :	20 - 0/5 = 20  to  30 = 30 + 100  to  30 + 100
	Vegetation Type: Company	al adar ashid/sed	drawpod
1	papian	(elm, ceach, goneriver,	city from the second
Riparian	Flood Plain - extent of frequ	uent flood (m):	10 to 20 20 to 30 30+
Zone	Vegetation Type:	ler coldenad Dector	e downs grass herbs
		, governa, mesoare	13110-0) { 000/100
	Vegetation Density (HML):	Н	
Canopy	Type: dec. trees	/shrups Qualit	y and % shade: 0,000 60 %
Land	app and need		· · · ·
Use	ugacitta ac		
Other	(groundwater, soils, pool	s. vegetation, etc.)	
Notes	dans finner a	could be coold for	JE side)
	diants riowing to	hallet to cha con	(13.3100)
Channel			Gradient (H/M/L); (
	whet (range (m)): $1 - 2$	and a second	Meander/Straight
	$d_{11}$ (large (iii)). $1 - 3m$	water): 70.000	Bank Stability
Darik Sion	station Type:		Bank Veg. Density (H/M/L): M
Bank veg	etation type. GFASS		
CHANNE	L SUBSTRATE %		Mal
Clay:	\Gravel:	> 15 Bould	er 10 (Nuck) 15
SIL	O CPebble	>-15 Beard	
Sand:	a Cobble	: Mari:	Other: garbacie
INSTREA	M HABITAT AND COVER		A: (6
Pools: L	/	Undercut Banks:	a little Boulder/Rock:
Riffles: 🔪		Woody Debris:	side Cobble:
Backwate	[	Vegetation:	Other: where
INSTREA	M VEGETATION		
Type (sul	bmerg./emerg./floating)	Family/Genus/species	Description/Abundance
		toppenting ver	
		Levensau vy	- Construction of the second
I which is not tree	A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
2.2+0+1+0			
			Otrace Creen Section
CODES:	SWI SU	Inface Water Input SCS	Stream Closs Section
AHP Aqua	tic Habitat Point GWI G	oundwater input DOX	
TMP Tom	Monitor Sto		Water Quality Stn
FIW Flow	Monitor Stn CUL C	livert	

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
·····		$1 \le 1 \le$	
3			
4			
5		the state of the s	-

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 17	D.O. (%):	TDS (ppm):	murky
Time Taken: 1345	Conductivity (µs/c	:m):	
Location Taken: be low alvert			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

Fieldi	field
CONDLE LINE	
da plica	Drain parallel to rood nat corridor 10m wide - some dec trees grass catails, phragmites, goblenrood - channel ~ Im or less - grass within - bank height 5.6m. channel

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-14	3 - u/s new of luces Dr t - dis new "	aun	an generative states and the second reaction of the second states and
100-146	5 south Side views of draw	mage ditch	

#### GENERAL COMMENTS

-pool depth - . 50m niffle . 10m -fast flowing -build up of debris dls of road -qood-fish habit



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name): 118	Ha South Ker	7		
<b>Field Sta</b>	ff: G. MacVeigh				
Station:	AHNOY7 J		Site Lo	ocation:	
Waterboo	y: Kneehorne Draw	<u>N</u>	GPS D	atum: NAD83 Eastin	g: 0414063
Drainage	System:		Zone:	Northin	g: 4692660
Location	in System: @ Burkel	une	Munici	pality:	
Appr. Rea	ach Length (m):		Lot & C	Concession:	
Survey D	Date: 5 0.4 11	Weather	Conditions:		
Time Star	rted: 1410	Wind: \		Cloud Cover (%): 2	<u>)</u>
Time Fini	shed: 1425	Precipitat	tion: Ø		
ADJACE	NT LANDS				
Valley	Slope: Gentle	(< 5°) Moderate	e (5 - 15°) Steep	(> 15°)	
	Extent of Natural Vegetation	on (m) (0-10)	) 10 to 20	20 to 30 30+	
	Vegetation Type: aras	5 dec. trees	u/s side		
	June	~ ,~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	,		
Riparian	Flood Plain - extent of freq	uent flood (m):	(0-10) 10 to 2	20 to 30	30+
Zone	Vegetation Type: oras	5 hours shrubs	willow So .9.	rod, aster cas	tail
	<u>_</u>	si neros i s	F'U		
	Vegetation Density (HML):	Н			A
Canopy	Type: Grass		Quality and % sh	nade: good 6070	
Land	agricuttural				
Use	3				
Other	(groundwater, soils, poo	Is, vegetation, etc.)			
Notes					
CHANNE	L MORPHOLOGY				
Channel \	Width (range (m)): . 25 -	.75		Gradient (H/M/L):	
Bank Heig	ght (range (m)): 1, S - み.,	Om		Meander(Straight:	
Bank Slop	be (degrees from surface of	water): 20-60°		Bank Stability: 000	X
Bank Veg	etation Type: grass, hr	erbs		Bank Veg. Density (F	/M/L): /-/
CHANNE	L SUBSTRATE %				
Clay:	Gravel		Boulder:	(Muck?	60
Silt> IN	O Pebble		Bedrock:	Detritus	10
Sand> 2	Cobble		Marl:	Other:	
INSTREA	M HABITAT AND COVER				
		Undercut Banks:		Boulder/Rock:	
IPools -		ten an an anna ann an an an an an an an an	A 10100 AT 101 101 101 101 101 101 101 101 101 10	Oshbler	
Pools: -	. Allerna da sila in dan Addisiana e	Woody Debris:			
Pools: -  Riffles: ~	<ul> <li>Construction for an interaction of the second s</li></ul>	Woody Debris:		Other: Culvert	erentsiisten vuonitaaniin esti vaavsoo
Pools:		Woody Debris:	and a second	Other: culvert	a santan araa araan iyo ahara aharaa ah
Pools:	M VEGETATION	Woody Debris: Vegetation:	ies	Other: Culvert	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	m VEGETATION bmerg./emerg./floating)	Woody Debris: Vegetation: Vegetation: Vegetation:	ies	Other: Culvert	o validitario validitaria (di sedera o
Pools: — Riffles: ~ Backwate INSTREA Type (sul	m: MVEGETATION bmerg./emerg./floating)	Woody Debris: Vegetation: Vegetation: Vegetatio: Vegetation: Vegetation: Vegetation: Veget	:ies	Description/Abunda	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	m VEGETATION bmerg./emerg./floating)	Woody Debris: Vegetation: Vegetation: Vegetatio: Vegetation: Vegetation: Vegetation: Vegetation: Veget	:ies	Description/Abunda	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	m VEGETATION bmerg./emerg./floating)	Woody Debris: Vegetation: Vegetation: Vegetatio: Vegetation: Vegetation: Vegetation: Vegetation: Veget	2.ies	Other: Culvert	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	mr: MVEGETATION bmerg./emerg./floating)	Woody Debris: Vegetation: Vegetation: Vegetatio: Vegetation: Vegetation: Vegetation: Vegetation: Veget	:ies	Description/Abunda	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	SWI SU	Woody Debris: Vegetation: Family/Genus/spec CoddU	SCS Stream Cro	Description/Abunda	
Pools: — Riffles: ~ Backwate INSTREA Type (sul	sr: M VEGETATION bmerg./emerg./floating) SWI Su stic Habitat Point GWI G tic Habitat Point GWI G	Woody Debris: Vegetation: Family/Genus/spec COHALL COHALL	SCS Stream Cro DOX Dissolved C	Description/Abunda	
Pools: — Riffles: ~ Backwate INSTREA Type (sul CODES: AHP Aqua AHY Aqua	M VEGETATION bmerg./emerg./floating) bmerg./emerg./floating) switc Habitat Point GWI G thic Habitat Area CKC C b Monitor Stra	Woody Debris: Vegetation: Family/Genus/spec CoddUL CoddUL urface Water Input roundwater Input reek Crossing Vell	SCS Stream Cro DOX Dissolved C VSS Visual Surve WQS Water Qua	Description/Abunda	

#### **FLOW CONDITIONS**

Page 2 of 2

Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	(1)		
2			
4		Analysis and Analysis and Analysis and Analysis and Analysis and Analysis	$\label{eq:static} = \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^$
5			

#### WATER QUALITY

Water Temp. (°C): # 50	D.O. (ppm): pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C):	D.O. (%):TDS (	ppm): Murky
Time Taken: 1415	Conductivity (µs/cm):	J
Location Taken: @ culver+		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

cattail lines grassed JUVICE ·JUD passorb passono V

#### PHOTOS TAKEN

Photo #	Description		Photo #	Description	
100-149	- uls view Kneeborn	ne Dram			and a set of a second second
100-150	- d/s new "	24 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14			
and server the se		w-w			an an anna an an an an Albertan an Anna an
	and the state of t	(2001)(2001) - X. (2001)(2001)		(1991)	

#### **GENERAL COMMENTS**

pockets of water no flaw - culvent round in dia. lined with cathails - no fish observed -bankfull approx - 4-5m - dry or moist in summer



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

					Page 1 of 2
PROJEC	T (Number & Name): 1184	2 South Kent			
Field Sta	ff: G. HacVerdh				
Station:	AHINON9 J		Site I	_ocation:	
Waterboo	ly: Tectford Drain		GPS	Datum: NAD83	Easting: 0415262
Drainage	System:		Zone	17T	Northing: 4693812.
Location i	in System: @ Burke L	we	Muni	cipality:	
Appr. Rea	ach Length (m):		Lot &	Concession:	
Survey D	ate: 5 Oct 11	Weather	Conditions:		
Time Star	rted: 1435	Wind:		Cloud Cover (	%): 25
Time Finis	shed: 1455	Precipitat	ion: Ø		
ADJACE	NT LANDS	9.			
Valley	Slope: Gentle	(< 5°)> Moderate	(5 - 15°) Steer	o (> 15°)	
	Extent of Natural Vegetation	n (m) 0-10*	) 10 to 20	20 to 30	30+
	Vegetation Type: grass	, cedar, oak, g	rod		<u>.</u>
				00 00 1	20.
Riparian	Flood Plain - extent of freq	uent flood (m):	0-10' 10 to	20 20 to	30 30+
Zone	Vegetation Type: shrubs	goldenrod, oak	, r.o. dogwood,	a ster, vine	j
-	Vegetation Density (HML):	41	Quality and W	abada: a d	
Canopy	Type: Grass		Quality and %	snade. good	
Land Use	ognew Hural				
Other	(groundwater, soils, pool	s, vegetation, etc.)			
Notes	tile draws flow	no drain flawin	ng, Sm bon	culver!	
		97	7.		
CHANNE	L MORPHOLOGY				
Channel V	Width (range (m)): 🦂 -	.Sm (a.Sm	p001)	Gradient (H/N	N/L): L
Bank Heig	ght (range (m)): a - 4m	an ang a sana ana ana		Meander/Stra	lights
Bank Slop	be (degrees from surface of	water): 30 60°		Bank Stability	
Bank Veg	etation Type: Grass	nerbs		Bank veg. De	ensity (H/W/L): M
CHANNE	L SUBSTRATE %		<u> </u>		
Clay:	Gravel	2.5	(Boulder:)		Muck: 40
Silf.2 1	Pebble	25	Bedrock:		Detritus:)
Sand: ) 3	6 Cobble		Mari:		Other:
INSTREA	M HABITAT AND COVER			611	~
Pools: ~	Contraction Collection of Hercitel Restoration of	Undercut Banks:	· · · · · · · · · · · · · · · · · · ·	(Boulder/Rock	D
Riffles: V		Woody Debris:	an and an an an and a second second	Copple:	
Backwate		Vegetation:		Other. Cul	Vert
INSI REA	WIVEGETATION	Eamily/Gonue/speci	ies	Description/	Abundance
Type (sur	omerg./emerg./noating/	r anny Genusispec		Beeenpateria	
	متنابية متمار فسيفت متصارف فمقادي	rush			
	a ( a 11 ) mail - mail ( ) - 1 - + ( ) ) in	cattail.	1		ara ana any amin'ny sorana amin'ny fianana amin'ny fiana amin'ny fiana amin'ny fiana amin'ny fiana amin'ny fian
CODES:	SWI SU	Inface Water Input	SCS Stream Cr	oss Section	
AHP Aqua	tic Habitat Point GWI G	oundwater Input	DOX Dissolved	Oxygen Stn	
TMP Tom	Monitor Sto	eek Grossing	WQS Water Or	vey Stri	
FLW Flow	Monitor Stn CUL Cu	ilvert			

#### **FLOW CONDITIONS**

P	ad	e	2	of	2
	~	-	-	<b>U</b> 1	_

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3	A TRANSPORT OF TRANSPORT	The second	
4	An order Savet 1 (1) and provide the same state	Which is a second to be a	
- 5	and the second		

#### WATER QUALITY

Water Temp. (°C): 13	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 18°	D.O. (%):	TDS (ppm):	murku
Time Taken: 기니니O	Conductivity (µs/c	m):	
Location Taken: @ Culver4.			

#### SITE DRAWING

Include: watercourse and name, flow direction/ riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
100-153	- us view of Ted	ord Dr		the state of the s
100-154-	disview of Tedfor	d Dr.		0. (1) 1. (1) - (1) - (1)
100-155	- south side of rd (pour	allel) facing E	and a substant of the state of the second	
	i < +			

#### **GENERAL COMMENTS**

- bankfull 6m - no fish observed



HABITAT **CHARACTERIZATION** 

1.51

					Page 1 of 2
PROJEC	T (Number & Name): 115	342 South 1	Kent		
<b>Field Sta</b>	ff: G. MacVeigh	10000			
Station:	AHYOSZ			Site Location:	
Waterboo	y Tedford Drain	)		GPS Datum: MAD83	Easting: 0417220
Drainage	System:			Zone: 19T	Northing: 4691853
Location	in System: @ Wel	ch Line		Municipality:	
Appr. Rea	ach Length (m):			Lot & Concession:	
Survey D	Date: 5 Oct 11	Weath	er Conditions:		
Time Star	rted: 1510	Wind:		Cloud Cover	(%): 20
Time Fini	shed: (530	Precip	itation: Ø		
ADJACE	NT LANDS				
Valley	Slope: Gentl	e (< 5°) Moder	ate (5 - 15°)	Steep (> 15°)	
	Extent of Natural Vegetat	ion (m) 0-1	10 10 to 20	20 to 30	30+
	Vegetation Type: Qra	S. poplar, ma	ple		
	3	11 142	feur		
			1200	401.00.00.1-	20. 20.
Riparian	Flood Plain - extent of fre	quent flood (m):	0-10	10 to 20 20 to	30 30+
∠one	Vegetation Type: v.o	dogwood, gold	enrod, cot	tails, sumac , ash	er, herbs, grass
	Versteller Dessity (UM)	. 0			
Canany	Vegetation Density (HIVIL	): +(	Quality a	hand % shade % ha	109.
Land	Type: Orall ( atto	(1)	Quality a	id 78 shade. Opoci	6076
Lanu	agricuttiva				
Other	(aroundwater soils no	ols vegetation etc.	)		
Notes	L'in dans fin	in lundited	flore 10	Tedford	
10100	THE CHOIDS FILL	, in rea	Fice IV		
CHANNE	I MORPHOLOGY				
Channel \	Width (range (m)): 1-3	im		Gradient (H/	M/L):
Bank Heid	ght (range (m)): $(1 - 1)$	KAA Araban sense menter terretering		Meander/Str	aight:
Bank Slop	be (degrees from surface o	of water): 15-450		Bank Stabilit	y: 0000
Bank Veg	etation Type: CIVASS//	nexbs	Contraction of the second s	Bank Veg. D	ensity (H/M/L): H
CHANNE	L SUBSTRATE %				
Clay:	Grave		Boulder:		Mucko 50
Silt:	- Pebb	e:	Bedrock:	(	Detritus
Sand)	Cobb	e:	Marl:		Other:
INSTREA	M HABITAT AND COVER				
Pools	/	Undercut Banks.~		Boulder/Roc	k:
Riffles -	2- 10 years and a manual of a 11 year	Woody Debris:	المعتقدة الملاحد المتحدين الملكومية والمعتقد المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد ا المعتقد المعتقد	Cobble:	
Backwate	n den gestellerinnin, sonit kan sikan meneler. 17. – 20	Vegetation:	The second s	Other: CU	vert
INSTREA	M VEGETATION				
Type (sul	bmerg./emerg./floating)	Family/Genus/sp	ecies	Description	/Abundance
()		(a Hail			
i inimanini		Sural		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
(1999) - 1990 (1990) (1991) (1993)	a o anna a sao na sa sa sa sa				ann ana a' Tagainna a ann anns anns anns a' Anns anns anns anns anns anns anns anns
		A DESCRIPTION OF A DESC		07 100- TH TH V - V 100	2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
CODES	Q\A/I (	Surface Water Input	SCS Stre	am Cross Section	
AHP Aqua	tic Habitat Point GWI	Groundwater Input	DOX Dis	solved Oxygen Stn	
AHY Aqua	tic Habitat Area CKC	Creek Crossing	VSS Visu	al Survey Stn	
TMP Temp	o Monitor Stn WEL	Well	WQS Wa	ater Quality Stn	
FLW Flow	Monitor Stn CUL (	Culvert			

#### FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			· · · · · · · · · · · · · · · · · · ·
2			
3			
4			
_5			

#### WATER QUALITY

Water Temp. (°C): 12°	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 180	D.O. (%):	TDS (ppm):	MURKY
Time Taken: 1520	Conductivity (µs/cm	ı):	1010-1
Location Taken: @ culvert			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...

/ laneway , le drain round culvert pool thr -.65m WELCH LINE

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
100-158	- u/s view Tedford	Dr.		5 HALL = =1 HE THINKING
100.15	] d/s view i' '	//		
Recordence and the			······································	
				· · · · · · · · · · · · · · · · · · ·

(Je do)

#### **GENERAL COMMENTS**

lots of cattails/bul tush bankfult ~ 4-sm



HABITAT **CHARACTERIZATION** 

PROJECT	(Number & Nam	e): 1184	a South	Kenl			ىيىمى بىرىيىسى مىش		
<b>Field Staf</b>	f: G. MOCVER	ah							
Station:	AHYOS8	0				Site Loc	ation:	i	and a second
Waterbod	y: white Dra	'n				GPS Da	tum: NAD83	B Easting:	0417225
Drainage	Drainage System:					Zone: 1	7-	Northing:	4690749
Location in	n System: 🔎 Ha	ruch	Rd			Municipa	ality:		
Appr. Rea	ch Length (m):	A CONTRACTOR OF CONTRACTOR				Lot & Co	oncession:		
Survey Da	ate: 6 Oct 1	11	v	Veather C	onditions	:			
Time Star	red: 850		۷	Vind: 1			Cloud Cove	er (%):0	
Time Finis	hed: 910		P	recipitatio	on: Ø				
Valley	Slope:	Gentle (	< 5°	Ioderate (	5 - 15°)	Steep (>	15°)		
valley	Extent of Natural V	Vegetation	2 (m)	0-10	10 to 20		20 to 30	30+	
	Vegetation Type:	vegetation			10 10 20				
	vegetation type.	gras	5, 9, 100						
		4							
Pinarian	Elood Plain - exter	nt of frequ	ent flood (m):		(0-10)	10 to 20	20	to 30	30+
Zone	Vegetation Type	n or nequ		d and	hill	lovan	iter or	they had	
LOUG	vegetation Type.	grass	graenne	u, cat	taris, p	angen	ico, a	ner, ner	bۇ'
	Vegetation Densit	V (HMI)	igwoon,	A GELVEN	ry				
Canopy	Type: Acoss	<u>y (i iivi⊏).</u>			Quality a	nd % sha	de: ArooC	- 60-71	72
Land	Type. gras	<u>, , , , , (</u>			Guanty a		0000		2 40
	agricult	wax							
Other	(aroundwater so	als nools	vegetation	etc.)					
Notos	(groundwater, se	na, poor		,,					
Notes	pockets c	t ac	Mei .						
CHANNEL	MORPHOLOGY		2~				Gradient ()	-//M/L):	
Channel V	viotn (range (m)):	-25-1	.25	(Y) ( ++ (Y) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )		0.11	Meander/S	traight	Secondary - Andrew Second
Bank Heig	nt (range (m)).	1 - 3 m	water: IC-I	100		an a	Bank Stah	lity:	nan mang-arawan si Pana
Bank Slop	e (degrees from st	unace of v	water). 15	40	(), (***********************************		Bank Veg	Density HA	κ
Bank Vege	etation Type: ov ?	ass, s	hrups				Dank veg.	Density	vi/ L).
CHANNEL	SUBSTRATE %								
Clay) 20	2	Gravel:	1111-1112-1-2012-1-100-2-11		Boulder:			Muck:> (	<del>7</del> 0
Silt:		Pebble:		وريا ومورد المورد	Bedrock			Detritus	,10
Sand:) K	) [*]	Cobble:			Marl:			Other:	
INSTREA	M HABITAT AND	COVER							
	AA 1/		Undercut Ba	nks:			Boulder/Ro	ock:	and antipersonality framework from a fit
Riffles: -	a di ante di setta da ante	********************	Woody Debr	is:	-		Cobble:		
Backwater	and an an an and an an and an and a second se		Vegetation:	$\checkmark$			Other: a	ilvent.	
INSTREA	<b>VEGETATION</b>								
Type (sub	merg./emerg./floa	ating)	Family/Gen	us/specie	)S		Descriptio	on/Abundan	се
			- 401	6			abun	to.at	
			Curre	. Yes and				mandha idinadan a	
0.41-/1.41	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			2 18 1 8 G				ananana anas	
	ny sisan in mala in a	* =		an or discard			million and an an an	10.00	
		0147 0	E 144		000.04	am Crass	Section		
CODES:	ta Liablast Datat	SWI Su	rtace Water Inp	put .+	DOX Dia	solved Ov	voen Stn		
AHP Aquat	ic Habitat Point		ounowater inpl	л	VSS Vie	ual Survey	/ Stn		
TMP Temp	Monitor Stn	WEI WA	ell		WQS W	ater Qualit	ty Stn		
FLW Flow	Monitor Stn	CUL Cu	lvert			**			

FLOW CONDITIONS Page 2						
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes			
2						
3	1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	- II and a second state in the second state of the second state of the second state of the second state of the	the second s			
4			1 1			
5						

Water Temp. (°C): 12. °	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 6°	D.O. (%):	TDS (ppm):	murkay.
Time Taken: 903	Conductivity (µs/c	m):	
Location Taken: aload c			

### SITE DRAWING

SITE DRAWING	
Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributarie	es, station location, approx. reach length,
channel modifications, adjacent landuse, roads & road names, bridges, culverts, no	orth arrow, etc
the lock	I fined with Or
lined to carrains/	"audues
phrapmites.	
pricedurate 3	
7	
	(P-7)
Harwich	
	161

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description	
100-173 -	ds view of white Drain (	perplord)-uestad	C	
100-174 -	view parallel to Harmoh (	est side)	Z1	
100-175		of dra	N (U(S view)	
100-176 -	us view of whites draw	Ner e discerne alerte ar ann		*******

#### GENERAL COMMENTS

depth - . 10-.25m no flow, peckets of water bankfull - 4-5m



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

PROJECT	Г (Number & Name): 1180	ta South Kent		
Field Stat	ff: G. Hacvergh			
Station:	AH106020		Site Lo	ocation:
Waterbod	Y MCArthur E. Draw	Δ	GPS D	Datum: NADB3 Easting: 0419441
Drainage	System:		ر Zone:	IT Northing: 468315
Location i	n System: @ Horwich	(pero to road	) Munici	pality.
Appr. Rea	ich Length (m):	and a second	Lot & C	Concession:
Survey D	ate: 6 Oct 11	Weather (	Conditions:	
Time Star	ted: 930	Wind:	1	Cloud Cover (%):
Time Finis	shed: 950	Precipitatio	on: $\phi$	
Valley	Slope: Gentle	(< 5°) Moderate	(5 - 15°) Steep	(> 15°)
	Extent of Natural Vegetatio	n (m) (0-10	10 to 20	20 to 30 30+
	Vegetation Type:	- acidenced	La dis m	IDTP
	issenting grand,	goldenico	c millour max	Ale Sumal
		- J'aus, popila	-70.100 -110	personal
Riparian	Flood Plain - extent of frequ	uent flood (m):	(0-10) 10 to 2	20 20 to 30 30+
Zone	Vegetation Type:	augo a Palanza	I astar heich	01 95355
	Julian Standard St	styles, apreciation	y, asici, act	
	Vegetation Density (HML):	H		
Canopy	Type: Orass		Quality and % sh	hade: 9000 60-70%
Land	and author			5
Use	- equilitation of			
Other	(groundwater, soils, pool	s, vegetation, etc.)		
Notes	tile drams. N side	of Road - to	culvert into a	train flow
CHANNEL	MORPHOLOGY			
Channel V	Vidth (range (m)): • 75 - 🤤			Gradient (H/M/L):
Bank Heig	ht (range (m)): 3m		and the second second second	Meandet/Straight:>
Bank Slop	e (degrees from surface of	water): 15-300		Bank Stability: 0000
Bank Vege	etation Type: grass/h	erbs		Bank Veg. Densitý (H/M/L): H
CHANNEL	SUBSTRATE %			
Clay: 10	Gravel:	7 10.	Boulder:	Muck 50
Silt	Pebble		Bedrock:	Detritus:
Sand:	Cobble		Marl:	Other:
INSTREAM	M HABITAT AND COVER			
Pools		Undercut Banks		Boulder/Rock:
Riffles		Woody Debris'		Cobble:
Backwater	And the second state of the second state of the second state of the	Vegetation: ) /	anianananan muu oo sanah	Other: culvert
INSTREAL		Vogotation.		
Type (sub	mera./emera./floatina)	Family/Genus/speci	es	Description/Abundance
	,	untarcros		
		unarciess	NAMES AND ADDRESS OF ADDRESS	
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	and a second and a second s	WITTOW SP.	ene entre un sourceme	(a) a first residue to a more set on a state approximation of number of non- transfer of the set
	anninne in glassi e-liniteirear-a	Terreserial g	rass	<ul> <li>and a state way to be used some state to state the state state.</li> </ul>
			000 04 0	and Section
CODES:	SWI Su	rtace Water Input	SUS Stream Cro	Dividen Stn
AHP Aquat	tic Habitat Point GVVI Gr	oundwater input	VSS Visual Survey	ev Stn
TMP Temp	Monitor Stn WEL W	ell	WQS Water Qua	ality Stn
FLW Flow	Monitor Stn CUL Cu	livert		

$\frac{1}{2}$ $\frac{3}{4}$ $\frac{4}{5}$ WATER QUALITY Water Temp. (°C): 1,3° D.O. (ppm): pH: Visible Characteris Air Temp. (°C): 1,7° D.O. (%): TDS (ppm): Clear - fo Clear - fo Conductivity (µs/cm): Location Taken: @ a 1 vert SITE-DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc $M$	ool/Riffle/Run/Notes
$\frac{2}{3}$ $\frac{4}{5}$ Water Temp. (°C): 1.3° D.O. (ppm): pH: Visible Characteria is Temp. (°C): 1.3° D.O. (%): TDS (ppm): Clear - fo ime Taken: 9.35 Conductivity (us/cm): Clear - fo cocation Taken: © colvert <b>STE-DRAWING</b> nelude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc $\frac{1}{10}$ $\frac{1}{10}$	
$\frac{3}{4}$ $\frac{4}{5}$ VATER QUALITY Vater Temp, (°C): 1,3° D.O. (ppm): pH: Visible Characteria in Taken: @ D.O. (%): TDS (ppm): clear - fo coation Taken: @ a lvewt Conductivity (µs/cm): clear - fo inter Taken: @ a lvewt inter Conductivity (µs/cm): clear - fo inter TepRAWING roclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc $N$ $T$ $R$	
$\frac{4}{5}$ VATER QUALITY Vater Temp. (*C): 1,3° D.O. (ppm): pH: Visible Characteria in Temp. (*C): 1,7° D.O. (%): TDS (ppm): Clear - 60 coation Taken: @ 35 Conductivity (µs/cm): clear - 60 inter Taken: @ a Ivent ITE-DRAWING nclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc I foo 180 wice the culvert the culvert the dr ains	( I
5         VATER QUALITY         Vater Temp. (°C): 1,3°       D.O. (ppm): pH: Visible Characteria         in Temp. (°C): 1,3°       D.O. (%): TDS (ppm): Clear - fo         ime Taken: 935       Conductivity (µs/cm): Clear - fo         ocation Taken: © a lvert       Conductivity (µs/cm): Clear - fo         ITE-DRAWING       Conductivity (µs/cm): Clear - fo         totude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc         ITE-DRAWING         totude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc         ITE-DRAWING         totude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc         ITE-DRAWING         totude: watercourse         Ite dr outert         Ite dr outert         Ite dr outert	
VATER QUALITY         Vater Temp. (°C): 13°       D.O. (ppm): pH:       Visible Characteria         irr Temp. (°C): 17°       D.O. (%): TDS (ppm):       clear - fo         irre Taken: 935       Conductivity (us/cm):       clear - fo         ocation Taken: © clivert       Conductivity (us/cm):       clear - fo         intercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc       N         If	
Vater Temp. (°C): 13° D.O. (ppm): pH: Visible Characteria dir Temp. (°C): 17° D.O. (%): TDS (ppm): Clear - fo clear - fo coation Taken: @ a lvert <b>Conductivity (us/cm):</b> <b>Conductivity (us/cm)</b>	
Ar Temp. (°C): 17° Time Taken: 935 Conductivity (µs/cm): Conductivity (µs/cm): Conducti	stics/Other Parameters:
The Taken: 935 Conductivity (µs/cm): Conductivity (µs/cm): Conduc	amy
acation Taken: @ a lvert STE-DRAWING Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc A A A A A A A A A A A A A	1
TE-DRAWING nelude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	
nclude: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location hannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc	
nannel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc A A A A A A A A A A A A A	, approx. reach length,
10 10 10 10 10 10 10 10 10 10	-77
10 10 10 10 10 10 10 10 10 10	2.1
10 10 10 10 10 10 10 10 10 10	
10 10 10 10 10 10 10 10 10 10	
10 10 10 10 10 10 10 10 10 10	
10 10 10 10 10 10 10 10 10 10	
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Photo #	Description	Photo #	Description	
100-129-	uts view	- 5 X M. Sec. 10 (1996)		
10-10-0	NE VIEDO	the state of the s	na minina manana na si si sa	No. 340
(a)a) - KAANA - AA - AA	and the second sec	ala		To be a provide the second sec
· · · · · · · · · · · · · · · · · · ·	arta da antigo esta como como como como como como como com			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.: No fish seen - Bankful - 4-5m. N. Harrier observed



HABITAT CHARACTERIZATION

PROJECT	۲ (Number & Name): ۱۱۵	42 South Kent			
Field Staf	T: G. Macverah	T			
Station:	AH1061 U		Site Location:		
Waterbody	V: unknownation		GPS Datum: NAD 83 Easting: 0423-16-1		
Drainage S	System:		Zone: 177 Northing: 9683684		
Location ir	n System:		Municipality:		
Appr. Rea	ich Length (m):		Lot & Concession:		
Survey Da	ate: 6 Oct 1	Weather Condition	s:		
Time Star	ted: 1004	Wind: t	Cloud Cover (%): Ø		
Time Finis	shed: 1025	Precipitation:			
ADJACEN					
Valley	Slope: Gentle (	< 5°) Moderate (5 - 15°)	Steep (> 15°)		
	Extent of Natural Vegetation	(m) 0-10 10 to 2	0 20 to 30 30+		
	Vegetation Type:	arass, Queen Annes	stare.		
	3 71				
Riparian	Flood Plain - extent of freque	ent flood (m): 0-10	10 to 20 20 to 30 30+		
Zone	Vegetation Type: 00.44	wil head te arass	phragmetes goldelighted sedge mut		
		STOP VING			
	Vegetation Density (HML):	+1 -) - ( - ( - (			
Canopy	Type: Ora SS / ment	S Quality	and % shade: 1000 6076		
Land	residential/agri	culture.			
Use	<i>u</i> .	the second se			
Other	(groundwater, solis, pools	, vegetation, etc.)			
Notes	no flow Standma	WOTER			
	1	1			
CHANNE	L MORPHOLOGY		Cradient (U/M/L): 1		
Channel V	Nidth (range (m)):	. <u>M</u>			
Bank Heig	ht (range (m)): 1 - 2.5 m	<b>N</b>			
Bank Slop	be (degrees from surface of w	vater):	Bank Stability, 9600		
Bank Veg	etation Type: 45 - 70	0	Bank Veg. Density (H/W/L).		
CHANNE	L SUBSTRATE %				
Clay:	Gravel:	) /O Boulde	r: <u>Muck:</u> 50		
Silt:	Pebble:	10 Bedroo	ck: Detritus: ) 0		
Sand> 2	Cobble:	Marl:	Other:		
INSTREA	M HABITAT AND COVER				
Pools	/	Undercut Banks	Boulder/Rock:		
Pifflos:		Woody Debris:	Cobble:		
Rackwate	P ¹	Vegetation:	Other: CONERTA		
INCTORA	MVEGETATION	Vegetation			
Type (sub	bmerg./emerg./floating)	Family/Genus/species	Description/Abundance		
		L aluala i ano	1 alone		
		lesper ourciciller	(		
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	seages	N - 1		
1111E20011111106C043		prop Pare of arro	UNE20		
		rush			
CODES:	SWI Sur	face Water Input SCS S	tream Cross Section		
AHP Aqua	tic Habitat Point GWI Gro	oundwater Input DOX I	Dissolved Oxygen Stn		
AHY Aqua	tic Habitat Area CKC Cre	eek Crossing VSS V	Isual Survey Stn		
ITMP Tom	o Monitor Stn WEL We	ell vvQS	water Quality Still		

#### **FLOW CONDITIONS**

Pag	e	2	of	2

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
5			

#### WATER QUALITY

Water Temp. (°C): 15°	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 19°	D.O. (%):	TDS (ppm):	alopr
Time Taken: 1015	Conductivity (µs/c	:m):	CEON
Location Taken: @ culvert			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
100-183	Wew from N	- Scotland Line	
100.184	Jels view from N	scotland Line (Parallel +	to communication)
100-185-	\$1/5 VIEW into con	n field -	
i pilin a ana an		and a state of the second s	

#### **GENERAL COMMENTS**

and vegetation, etc.: _ pool @ culvert .75m dacp noflow - bank full ~ 8-9m



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name): 118	4 a South Ker	77				
Field Stat	ff: G. MacVeigh						
Station:	AHY 063 J		Site Loo	cation:			
Waterbod	ly: Company Statia	Unknown Dra	GPS Da	tum: NA083 Easting: 0424010			
Drainage	System:		Zone:	17T Northing: 4684444			
Location i	in System: @ NJ Scot	land line	Municipa	ality:			
Appr. Rea	ach Length (m):	trans the second of the second se	Lot & Co	oncession:			
Survey D	Survey Date: 10 Ort 11 Weather Conditions:						
Time Star	ted: 1035	Wind: )		Cloud Cover (%):			
Time Finis	shed: 1000	Precipitatio	on: O				
ADJACE			C 45% Change /2	150)			
Valley	Slope: Gentle	< 5°) Moderate (	5 - 15") Steep (2	(15) (00 to 20 00)			
	Extent of Natural Vegetation	n (m) ( <u>0-10</u> )	10 to 20	20 to 30 30+			
	Vegetation Type: phraq	mites willow sp					
		1					
				221 22 22			
Riparian	Flood Plain - extent of frequ	ent flood (m):	0-10 (10 to 20	20 to 30 30+			
Zone	Vegetation Type: phragn	piter cattail,	right side	lety side			
	ge	Identical willows	sp. sedges her	rbs, vmes, jewelweed			
-	Vegetation Density (HML):	H					
Canopy	Type: Grass		Quality and % sha	ide: tair 30 %			
Land	agricultural						
Othor	(groundwater soils pool	venetation etc.)					
Notes	(groundwater, sons, pool	oil Obsociations	uetbod				
NOLES	large wer cat	any puradmiter	weidin				
Channel	Nidth (range (m)):	An o Thele		Gradient (H/M/L):			
Ronk Hoic	abt (range (m)):	A 2- Im(pool	)	Meander/Straight			
Dank Clore	(degrees from surface of	nutor): 15 200		Bank Stability			
Dank Siop	etetion Tuno:	Water). 13 - 30		Bank Veg. Density (H/M/L):			
Bank veg	etation Type. grass, 1	bragniles		Bank veg. Benaky (ninine).			
CHANNE	L SUBSTRATE %						
Clay:	Gravel	) 10	Boulder:	Muck: ) 20			
Silt.	O Pebble	5	Bedrock:	Detritus:			
Sand:	50 Cobble		Marl:	Other:			
INSTREA	M HABITAT AND COVER						
Pools:		Undercut Banks:		Boulder/Rock:			
Riffles:		Woody Debris:	Contrast - Security -	Cobble:			
Backwate		Vegetation:	1	Other: culler +			
INSTREA		rogotation v		See March			
Type (sub	omera./emera./floating)	Family/Genus/specie	es	Description/Abundance			
	3, 3, 3,	Lak wood	- L - L - I	arch 1 day t			
		augicitieed-	unagent.	US 1 -abonotant			
		minon	······································	reger cress ( 1/the)			
		Catall		broad iterved arrow head			
		alage -abun	drint				
CODES:	SWI Su	rface Water Input	SCS Stream Cross	Section			
AHP Aqua	tic Habitat Point GWI Gr	oundwater Input	DOX Dissolved Ox	ygen Stn			
AHY Aqua	tic Habitat Area CKC Cr	eek Crossing	VSS Visual Survey	r Stn			
TMP Temp	Monitor Stn WEL W	ell	WQS Water Qualit	y Stn			
FLW Flow	Monitor Stn CUL Cu	Ivert					

Cross-Section	Wetted Width (m)	Discharge/Pool/Riffle/Run/Notes	
1		· Deptilo, equally opaced (cill)	Dissina gen som unen talmitette
2			n al an
3			
4			
-5			
NATER QUALITY	(		
Nater Temp. (°C)	: [1.	D.O. (ppm): pH:	Visible Characteristics/Other Parameters
Air Temp. (°C):	19	D.O. (%): TDS (ppm):	
Fime Taken:	040	Conductivity (µs/cm):	
ocation Taken:	Cloridge.		
		cat	Hail Morsh
		New Scotland Linia	
		( ( Jore ) )	

#### **PHOTOS TAKEN**

Photo #	Description		Photo #	Description	
100-189	- uls view of	Gunning Drain			
100-190	-dls view of	. <u>.</u> 7	1	innenienes	
100-19/	- cattail mors	h	1		
arrest an all and a			And and an arrest of the set		e i me i esplorato i atom - e contronce e i data con i facio e
			1		

1

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

depths range . 25 to 1.1m. -fish present -frogs observed no flow bankfull 14-16m

Saturbour Strotto



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name):	11842 Soi	uth kent		
Field Sta	ff: G. Mackeigh				
Station:	AHNO65			Site Lo	ocation:
Waterbod	ly: MR Duupa IID	rdin		GPS D	atum: NAD83 Easting: 0435062
Drainage	System:			Zone:	17T Northing: 4685805
Location i	in System: @ Net	u Scottar	nd line	Municip	pality:
Appr. Rea	ach Length (m):	W I I I		Lot & C	Concession:
Survey D	ate: Oct 6,20	211	Weather C	onditions:	
Time Star	rted: 1115		Wind: I	~ ~	Cloud Cover (%): 🧭
Time Finis	shed: 1130		Precipitatio	n: Ø	
ADJACE	NT LANDS				2010/20 <b>0</b> /20
Valley	Slope: Ge	entle (< 5°)	Moderate (	5 - 15°) Steep (	(> 15°)
	Extent of Natural Vege	etation (m)	0-10	10 to 20	
	Vegetation Type: gra	155, phrac	amilos	Pright	side dis otrodo
		cedar	Juntific ~	- popl	ar maple - lots of dec. trees.
Dinarian	Fleed Plain ovtent of	free uppt flood	/ \.	10 to 2	0 20 to 30 30+
Zone	Flood Plain - extent of	frequent noou	(m):		
ZUNG	Vegetation Type. ph	cagenes,	(colosier	acqueros, ne	ros, asia, Joss, mes
	Vegetation Density (H	MI) II Jer	ervera		
Canopy	Type: Cix asr	M-7. T.		Quality and % sh	ade: 1000r . 1570
Land	agricotture, fa	urm, burd	reserve	2	
Other	(groundwater, soils,	pools, vegeta	tion. etc.)		
Notes	by flow	Bm bo	s a werd		
CHANNE	L MORPHOLOGY				
Channel V	Nidth (range (m)): 5	- 8m			Gradient (H/M/L):
Bank Heig	ght (range (m)):	Sm.			Meander/Straight:
Bank Slop	be (degrees from surfac	ce of water): 6	0.800		Bank Stability: 9600
Bank Veg	etation Type: Qras	ssherbs			Bank Veg. Density (H/M/L): H
CHANNE	L SUBSTRATE %		···		
Clay:	Gr	ravel:)))	<	Boulder:	Muck 40
Silt:> 11	O Pe	ebble:) S		Bedrock:	Oetritus:
Sand:	)O Cc	obble:		Marl:	Other:
INSTREA	M HABITAT AND COV	/ER			
Pools: 1	/	Undercu	t Banks:	_	Boulder/Rock:
Riffles: -		Woody E	Debris:		Cobble:
Backwate	F	Vegetatio	on: 🗸		Other: culvert
INSTREA	M VEGETATION				
Type (sub	bmerg./emerg./floating	g) Family/C	Genus/specie	S	Description/Abundance
		duck	veed		celent 91855
		catte	xil		bullrus A
		milfo	s.[		
		b.L.	arrowher	hor	
CODES:	SV	VI Surface Wate	er Input	SCS Stream Cros	ss Section
AHP Aqua	itic Habitat Point GV	NI Groundwater	Input	DOX Dissolved O	xygen Stn
AHY Aqua	tic Habitat Area CK	C Creek Crossi	ing	VSS Visual Surve	ey Stn
TMP Temp	Monitor Stn Wi			WQS Water Qual	ity Stn
FLVV FIOW					

FLOW CONDITIC	DNS				Page 2 d
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equal	y spaced (cm)	Discharge/Pool/Riff	le/Run/Notes
1		······			
2				no processione and the second design	ا مراجع 1997 - مراجع میں معرف اور میں
3			1		
4				11 112	
5	-				
ATER QUALITY	r I To			Visible Characteristics/Oth	er Parameters:
ater Temp. (°C)	15°		TDC (and)		iei Falameteis.
r remp. (°C):	180	D.U. (%):	FDS (ppm):	morty	
ime raken: IJ	$\frac{\partial 0}{\partial x^{1}}$	Conductivity (µs/cm).		in lot log	
ocation Taken;	@ CUILLevet	1000	1		
ITE DRAWING	una and name flow	disaction wittle /peol/sup	hebitet eide tribut	arias station location approx	roach longth
iciude: watercou	ions, adjacent landus	arection, rime/pool/run	habitat, side tributa	north arrow etc.	
		se, roads o road names	() bridges, curverts		70
	fal	1	phose (	2	. 1
		(2 V -			N
		18	2.1		
		K.	100		
		- dwb	Pres )		
		1	(+)		
		2 1 20	-1		
	MALL Coulda	all and a com			
	New sconar	or the			
		14			
			1-1		
			1 +		
20					
- /	1 and		1 Core	ST	
1	10.	2	70.		
<					
HOTOS TAKEN					

## Photo # Description 100-196 - U/S NEW 100-197 - d/s VIEW

#### **GENERAL COMMENTS**

fish observed frog seen backflow effect

-lots of duerd -depth .5-.9m@culler -bankful ng-10m



HABITAT **CHARACTERIZATION** 

				Page 1 of
PROJEC	T (Number & Nan	ne): 1184 a Sou	th Kent	
Field Sta	ff: G. Mac Veic	xh		
Station:	Annot	AHNO64		Site Location:
Waterbod	ly: "Cummin	g Drain		GPS Datum: NADS3 Easting: 04 2 42.0 5
Drainage	System:	J		Zone: 17 - Northing: 9689730
Location i	in System: 💿 N	Jew Scolland	4vir	Municipality:
Appr. Rea	ach Length (m):			Lot & Concession:
Survey D	ate: 6 Oct	11	Weather Conditions	
Time Star	rted: 1050		Wind: /	Cloud Cover (%):
Time Finis	shed: 1105		Precipitation: 💋	
ADJACE	NT LANDS			u
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)
	Extent of Natural	Vegetation (m)	0-10 10 to 20	20 to 30 30+
	Vegetation Type:	grass, phra	gnites	
Dingrigh	Fleed Diein	at of from out flood (m)	0.10	10 to 20 20 to 30 30+
Zone	Vegetation Type	ent of frequent hood (m)		1 al
Zone	vegetation Type.	giass phragn	niger, cattail,	goldenrod, Skrubs, Meriss,
	Vegetation Densi	ity (HML): 귀역		
Canopy	Type: aras	>	Quality a	nd % shade: 10/0
_and	agriculture	2		
	(aroundwater o	oile noole veretation	a oto )	
Notes	cattail ma	rsh or South	side	
CHANNE		1		
Channel V	Nidth (range (m)):	2-7(pool)	·····	Gradient (H/M/L):
Bank Heig	ght (range (m)): ι	- 2m		Meander/Straight:
Bank Slop	be (degrees from s	surface of water):   5 -	30°	Bank Stability:
Bank Veg	etation Type:	ragmites, cat	ail	Bank Veg. Density (H/M/L):
CHANNE	L SUBSTRATE %	0	11 Mar 10 Mar 10	
Clay:		Gravel: 10	Boulder:	S (Mucks 50
Silt: 10		(Pebble:) 5	Bedrock	: Detritus:
Sand > 2	80	Cobble:	Marl:	Other:
NSTREA	M HABITAT AND	COVER		
Pools: L	/	Undercut Ba	anks:	Boulder/Rock:
Riffles:		Woody Deb	ris:	Cobble:
3ackwate	r:	Vegetation:		Other: culver-
NSTREA	M VEGETATION			
Type (sub	omerg./emerg./flo	oating) Family/Gen	ius/species	Description/Abundance
		b) anou	whead	cattai l
		aloap		
	1111-1-1-100-107	hilmah	manded a summer wardeness of the	
CODES:		SWI Surface Water In	put SCS Stre	eam Cross Section
HP Aqua	tic Habitat Point	GWI Groundwater Inp	ut DOX Dis	solved Oxygen Stn
HY Aqua	tic Habitat Area	CKC Creek Crossing	VSS Visi	ual Survey Stn
MP Temp	Monitor Stn	WEL Well	WQS Wa	ater Quality Stn
-LW Flow	Monitor Stn	CUL Culvert		

FLOW CONDITIC	ONS		Page 2 of 2
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
2			
3			i and a second
	1 3 *** *******************************		

Water Temp. (°C): 14°	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 19*	D.O. (%):	TDS (ppm):	Atom a dest
Time Taken: @ 1052	Conductivity (µs/c	m):	Circle Man-J
Location Taken: Docuver4			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... ratail/rut  $\sqrt{}$ covered is dickneed P001 2.m -Bn N. Scotland Line sople stol N PHOTOS TAKEN

### $\begin{array}{c|c} \hline Photo \# & \hline Description \\ \hline 100 - 192 - <math>\cup 5 \text{ Niew} \\ \hline 100 - 193 - d 5 \text{ View} \end{array}$ Photo # Description Photo #

#### **GENERAL COMMENTS**

- no flow - bankel - 15m - flow into cattail morsh / backelocel -fish presont



HABITAT **CHARACTERIZATION** 

PROJECT	Г (Number & Nan	ne): 1184a Sou	th Kent		
Field Staf	F. G. Hacveig	h			
Station:	AHYOL S	AHNOOS		Site Location:	)
Waterbod	y: Unknown	<u>Dyrain</u>		GPS Datum: NAD&3 Easting: 0424556	
Drainage	System:			Zone: 177 Northing: 46.8525	2
Location in	n System: 💿 🐧	ew scotland	linie	Municipality:	
Appr. Rea	ch Length (m):			Lot & Concession:	
Survey Da	ate: $6 \circ ct$	11	Weather Condition	ons:	
Time Star	ted: 1105		Wind: \	Cloud Cover (%):	
Time Finis	shed: 120		Precipitation: Ø		
ADJACEN	NT LANDS				
Valley	Slope:	Gentle (< 5°)	Moderate (5 - 15°)	Steep (> 15°)	
	Extent of Natural	Vegetation (m)	0-10) 10 to	20 20 to 30 30+	
	Vegetation Type:	arass.			
	<b>9</b> <i>1</i>	giass			
Riparian	Flood Plain - exte	ent of frequent flood (	m): 0-10	10 to 20 20 to 30 30+	
Zone	Vegetation Type:	phragmites ca	Hail golden	tod, herbs, grasss	
		1 2	renetweed	estar, milkweed	
	Vegetation Dens	ity (HML): 나	J		
Canopy	Type: aras	5	Quali	ty and % shade: Poor (0?	
Land	agricultura	1			
Use		11			
Other	(groundwater, s	olis, pools, vegetati	on, etc.)		
Notes	- Not road	drain-tile	² d		
	1				
CHANNEL	MORPHOLOG	1			_
Channel V	Vidth (range (m)):	1- 2.25m		Gradient (H/M/L):	
Bank Heig	ht (range (m)):	- 2 M		Meander/Straight:	
Bank Slop	e (degrees from s	surface of water): 1	- 30	Bank Stability:	nn nanna
Bank Vege	etation Type: qu	rass, herbs		Bank Veg. Density (H/M/L):	
CHANNEL	_ SUBSTRATE %				
Clay:		Gravel: 10	Bould	ler Muck: 40	
Silt:	10	(Pebble:) S	Bedro	Detritus:	
Sand:	20	Cobble:	Marl:	Other:	
INSTREAM	M HABITAT AND	COVER			
Pools' V	/	Undercut	Banks	Boulder/Rock:	
Riffles -	n - mnandadhr	Woody D	ebris:	Cobble: ———	
Rackwater		Vegetatio	n: v /	Other: cull/en	
INSTREAT		vegetatio		Contrart	
Type (sub	omera./emera./flo	pating) Family/G	enus/species	Description/Abundance	
		duala	ant	d	
0.0000000000000000000000000000000000000		CUCKL	rau -anor	Marine Contraction and Contrac	*******
		00000	sr)		
		ayye	5:: ::::::::::::::::::::::::::::::::::	and head of the second se	
		cattan			
CODES:		SWI Surface Water	Input SCS	Stream Cross Section	
AHP Aquat	tic Habitat Point	GVVI Groundwater I	nput DOX	Dissolved Oxygen an Visual Survey Str	
TMP Tomp	Monitor Str		W/09	Water Quality Stn	
The remp	Monitor Stn	CLIL Culvert			

FLOW CONDITIO	ONS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
5			

Water Temp. (°C):	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 18	D.O. (%):	TDS (ppm):	dear
Time Taken: 110	Conductivity (µs/c	:m):	
Location Taken: @ culuer			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length,
channel modifications, adjacent landuse, roadş & road names, bridgeş, culverts, north arrow, etc
field 1
David Salland
New scotland line
1 Lagrand 1
, OV

#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-194	- U/S View		
100-195	· d/s men	1	
	/	 1	
	a in mar man	1	

#### GENERAL COMMENTS

and vegetation, etc.: - fish observed bankfull - 4m - no flow



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Nan	ne): 1184 2 Sou	th Kent			
Field Stat	ff: GMOCVE	ph				
Station:	AHN068	9		Site Location:		
Waterbod	ly: Clenden	non Drain		GPS Datum: NAD83         Easting: 04         26152           Zone:         177         Northing: 4686810		
Drainage	System:	0				
Location i	n System: 🔊 🛝	Scotland Lin.	e	Municipality:		
Appr. Rea	ach Length (m):		0	Lot & Concession:		
Survey D	ate: 6 Oct	() V	Veather Conditions			
Time Star	ted: ) 식O	۷	Vind:	Cloud Cover (%):		
Time Finis	shed: 1155	F	Precipitation:			
ADJACEN	NT LANDS					
Valley	Slope:	Gentle (< 5°) N	Noderate (5 - 15°)	Steep (> 15°)		
18453 ( ) - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Extent of Natural	Vegetation (m)	(0-10) 10 to 20	20 to 30 30+		
	Vegetation Type:	grass herbs				
		- J1 65 5, 101 5	<b>9</b> /1			
Riparian	Flood Plain - exte	ent of frequent flood (m):	(0-10)	10 to 20 20 to 30 30+		
Zone	Vegetation Type:	phraomites as	ster real ose	or degwood, willow so		
	SUL	me: poolar.	3-0-110-00	j • ) = ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (		
	Vegetation Dens	ity (HML): +(				
Canopy	Type: 9105	2	Quality a	nd % shade: 0000 10%		
Land	agricultur	6				
Use	J					
Other	(groundwater, s	oils, pools, vegetation	, etc.)			
Notes	lots of d	ickneed, no-	low, murke	1 8m wide box culvert		
				J		
CHANNE	L MORPHOLOG	1				
Channel V	Width (range (m)):	4-9m(pool)		Gradient (H/M/L): 1		
Bank Heig	ght (range (m)):	75 - 2.25 m -		Meander/Straight		
Bank Slop	be (degrees from s	surface of water): 15	45,	Bank Stability: Opo M		
Bank Veg	etation Type: 01	ass shrubs b	erbs.	Bank Veg. Density (H/M/L): 4		
CHANNE	L SUBSTRATE %	)				
Clay:		Gravel? 10	Boulder:	Muck 50		
Silt 10	2	(Pebble) S	Bedrock	Detritus 10		
Sand:) / <	5	Cobble:	Marl:	Other:		
INSTREA	M HABITAT AND	COVER				
Pools: ~		Undercut Ba	nks:	Boulder/Rock:		
Riffles:		Woody Debr	is:	Cobble:		
Backwate	r:	Vegetation:		Other: colvert		
INSTREA	M VEGETATION					
Type (sub	omerg./emerg./flo	oating) Family/Gen	us/species	Description/Abundance		
		1 duotu p	od	ange		
		broad le	and driven the	-1 buinsh		
T MCC/11111 - 40.4		usillou	sp sp			
i testi tanti ere men		no life - l		where the second state is a second state and the second state and the second state and the second state and second states and se		
CODES		SWI Surface Water In	out SCS Str	eam Cross Section		
AHP Aque	tic Habitat Point	GWI Groundwater Inn	It DOX Dis	solved Oxygen Stn		
AHY Aqua	tic Habitat Area	CKC Creek Crossing	VSS Vis	ual Survey Stn		
TMP Temp	Monitor Stn	WEL Well	WQS W	ater Quality Stn		
FLW Flow	Monitor Stn	CUL Culvert				

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			
2			
3			
4			
5		and the second	
WATER QUALITY	1		

Page 2 of 2

**FLOW CONDITIONS** 

Water Temp. (°C): 15	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 19	D.O. (%):	TDS (ppm):	muther
Time Taken: 1145	Conductivity (µs/cm):		. tot Eg.
Location Taken: @ culvert			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc... Iste of bulvush clover RI 50ya New seathand Lune S non X 505 N

#### **PHOTOS TAKEN**

Photo #	Description	Photo #	Description
100-200	-uts view		
100-201	-d/s view	1	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		and the second se
		1	

12

#### **GENERAL COMMENTS**

- fish/for agus observed - lots of aquatic veg - bankfull ~15 m.

-dead Kitty "



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

N=======					Page 1 of 2	
PROJEC	T (Number & Nar	ne): 1184a 8	South Icer	1		
Field Sta	IFF: G. MacVe	eigh		2.55.55		
Station:	AHN070	3		Site Loc	ation:	
Waterboo	dy: Nesbiff [	Jrain		GPS Dat	um: 11083 Easting: 0427351	
Drainage	System:			Zone:	17T Northing: 4687926	
Location	in System: 🕢 N	lew Statian	d Line	Municipa	lity:	
Appr. Rea	ach Length (m):		and a second	Lot & Co	ncession:	
Survey D	Date: 6 Oct	. (1	Weather	Conditions:		
Time Sta	rted: 1157	and the second se	Wind: (		Cloud Cover (%):	
Time Fini	shed: 1215		Precipitat	ion: Ø		
ADJACE						
Valley	Slope:	Gentle (< 5°)	Moderate	(5 - 15°) Steep (>	15°)	
	Extent of Natura	Vegetation (m)	0-10	10 to 20	20 to 30 30+	
	Vegetation Type	: goass nh	antes	-further	vis forest-decidence	
	, souther states and s	Jus 2 hu	Bulleo	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	m. 05-01	
Riparian	Flood Plain - exte	ent of frequent flo	od (m):	(0-10) 10 to 20	20 to 30 30+	
Zone	Vegetation Type	adenod	aster the	comites r.o.	how and arass herbs	
		9000011109	15.5.00 100	0.000,000		
	Vegetation Dens	ity (HML):				
Canopy	Type: arass	7		Quality and % sha	de: 000r 1070	
Land	agriculti	inal				
Use	Jennen					
Other	(groundwater, s	soils, pools, vege	etation, etc.)			
Notes	Store flor					
	0					
CHANNE	L MORPHOLOG	Y				
Channel \	Width (range (m)):	.5- am/0	2017		Gradient (H/M/D)	
Bank Heid	ght (range (m)): )	- Um	C. C. T. A		Meander/Straight.	
Bank Slop	pe (degrees from s	surface of water):	15-450		Bank Stability:	
Bank Veg	etation Type: 9	ass. herbe			Bank Veg. Density (H/M/L): 🖓	
CHANNE	I SUBSTRATE %	a second a second				
Clay:		Gravel		Boulder:	(Muck:) CO	
SIF V	)	Pebble		Bedrock:	(Detritus:) 1	
Sand	$\leq$	Cobble:		Marl' Other:		
INSTREA	M HABITAT AND	COVER				
Deale: )	/	tindo	cut Banks:		Boulder/Rock	
		Wiene	W Dobrio:	n	Cobble:	
Rimes.		Vogol	ration:	Other:		
		vege	ation.		Other. Collivery	
Type (eut	hmora (emora /fl	pating) Eami	VGanuelenac	las	Description/Abundance	
Type (Su	binerg./emerg./iid	Jaung) Fann	y/Genus/spec			
		ter	restrial c	rosses - over	hangul29	
		C 09(01)-0011/14000		J		
n 20 <u>en la 1</u> 000	internet internetion-i in		and a little contract	• • • • • • • • • • • • • • • • • • •		
CODES:		SWI Surface W	ater Input	SCS Stream Cross	Section	
AHP Aqua	atic Habitat Point	GWI Groundwa	iter Input	DOX Dissolved Oxy	gen Stn	
TMD Tom	nic Habitat Area		ssing	VSS Visual Survey Stn		
FIW Flow	Monitor Stn			water adding		
		our ourore				

FLOW CONDITIC	DNS	Page 2 of 2	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1			ana sa ang ang ang ang ang ang ang ang ang an
2			(1))))))))))))))))))))))))))))))))))))
3 			Internet of the second structure of the second structure of the second structure of the second structure of the
5		and a second	

Water Temp. (°C): )나	D.O. (ppm):	pH:	Visible Characteristics/Other Parameters:
Air Temp. (°C): 9	D.O. (%):	TDS (ppm):	haude
Time Taken: 1200	Conductivity (µs/cm	)):	MORKY
Location Taken: @ culvert			-

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-204	LUS VIEW		
100-205	- dis view		
	111-11-4-11-11-10-001-0010-0010-0010-00		
n – m – m			
6			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

### -fish/frogsseen -good flow -bankfull n4m



4

101110

1100

Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

Page 1 of 2

PROJEC	T (Number & Name): 1184	B. South Kent.					
Field Sta	ff: Steve B. Christy H.						
Station:	AHY-082		Site L	ocation:			
Waterboo	ly: McKay Drain 1		GPS I	Datum: NAD83	Easting: 425522		
Drainage	System: Rondeau Boy - Lake	Enie	Zone:	177	Northing: 4689426		
Location i	in System:		Munic	cipality:			
Appr. Rea	ach Length (m): 50m		Lot &	Concession:			
Survey D	Date: 10 - Nov - 11	Weather	Conditions:				
Time Star	rted: //30	Wind:	4	Cloud Cove	r (%): 70%		
Time Fini	shed://50	Precipita	tion: None				
ADJACE	NT LANDS						
Valley	Slope: Gentle	< 5°) Moderate	e (5 - 15°) Steep	o (> 15°)			
	Extent of Natural Vegetation	1 (m) (0-10	) 10 to 20	20 to 30	30+		
	Vegetation Type: . Water course Physics (in Guidewood Aster Millhurged)						
	· Red Osier Downed. · Whilew So.						
	· Black La	nust	- Y .				
Riparian	Flood Plain - extent of frequ	ent flood (m):	0-10) 10 to	20 20 t	o 30		
Zone	Vegetation Type: See about		<u> </u>				
	Vegetation Density (HML):	м					
Canopy	Type: None		Quality and % s	shade: Poor -	Ø*1.		
Land	Agricultural Fields on	North & South a	sides of Talbot Ti	mail.			
Use							
Other	(groundwater, soils, pool	s, vegetation, etc.)					
Notes	· No indication of g	roundwater input.					
	· Fields tile drain out	let into McKay Drain	2				
CHANNE	L MORPHOLOGY	1					
Channel \	Width (range (m)): 0, 30 -	2.0		Gradient (H	/M/L): L		
Bank Heig	ght (range (m)): 1.0 - 3.0			Meander/St	raight: Straight		
Bank Slop	pe (degrees from surface of v	water): 95°-700°		Bank Stabil	ity: Poor		
Bank Veg	getation Type: Herbareous Pl	ants , Grosses		Bank Veg. I	Density (H/M/L): M		
CHANNE	L SUBSTRATE %						
Clay: 5	Gravel:	5	Boulder: -		Muck:		
Silt: 30	Pebble:	·	Bedrock: -		Detritus: –		
Sand: 15	Cobble:	10	Marl: -	54	Other: -		
INSTREA	M HABITAT AND COVER						
Pools: V	/	Undercut Banks:		Boulder/Ro	ck: —		
Riffles:		Woody Debris		Cobble:	an a		
Backwate	<b>r</b> . –	Vegetation: ✓		Other:			
INSTREA							
Type (su	bmerg./emerg./floating)	Family/Genus/spec	cies	Description	n/Abundance		
		Current			scale) Ale de l		
Em	isegant	Grasses, Varie	ty of sp.		Darly Algundant		
1.01/01/00000000		<u> </u>		n alt altra annan			
, and the second se	nia non ginne a con anno 1999 ann ann ann ann						
0.000	0147 0	-f	COC Charam Or	Postich			
AUD Am	stié Habitat Baint CW/ C	nace water input	DOX Dissolved	Oxvgen Str			
AHY Aqua	atic Habitat Area CKC Cr	eek Crossing	VSS Visual Surv	vey Stn			
TMP Tem	p Monitor Stn WEL W	/ell	WQS Water Qu	ality Stn			
FLW Flow	v Monitor Stn CUL Cu	ilvert	£				

.

#### FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.35	0,30cm	Hydraulic Heod - 15mm
2	2.00	Unable to measure (750cm max.)	/ H.H Dunn
3			
4			
5			field and the second second

#### WATER QUALITY

Water Temp. (°C): 9'C	D.O. (ppm): -	pH: ~	Visible Characteristics/Other Parameters:
Air Temp. (°C): 9℃	D.O. (%): ~	TDS (ppm): -	· Very cloudy
Time Taken: // 40	Conductivity (µs/cm):	-	
Location Taken: -			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



#### PHOTOS TAKEN

Photo #		Description		Description Photo #	Description
		Facing	South		
+	0368		North		
•	0369	e1.	.4*		

#### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

- No fish observed.

Tile Drain outletting into McKay Drain flowing well.

Page 2 of 2



NATURAL RESOURCE SOLUTIONS INC. Aquatic, Terrestrial and Wetland Biologists

HABITAT **CHARACTERIZATION** 

PROJECT	(Number & Nam	1e): 1184 B. South	Kent wit			20.000	10 C	
Field Staff:	Sterr B C	Wristy H.						
Station: AHY.080					Site Location:			
Waterbody:	East Lake Do	the second se	GPS Dat	GPS Datum: NAD 83 Easting: 42 5919				
Drainage S	vstem:	Frie - Baudeny Bau	And for the second second second	Zone:	177	Northing:	4689738	
Location in	System:	The powercan Day	C20 C C C C C C C C	Municipa	lity:			
Appr. Read	h Length (m): 5	Due the second of the	5 5 \$(4).	Lot & Co	ncession:	1 31 1000.0	10 ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1 ) ( 1	
Survey Dat	te: Internation		Weather Cond	litions:				
Time Starte	d 10 1000 11	addition of the second	Wind: ጓ	ALCONTRACTOR ACCURATE	Cloud Cove	r (%): 40%	22 Sterritorio accordinate	
Time Finish	ed: 1050	entro e esta esta esta esta esta esta esta es	Precipitation:	Jone	an farmelin and and	and the family defined	<ol> <li>Second Martine Martine and Construction (1997)</li> </ol>	
ADJACENI		Deaths ( = 5%)	Madarata (5	(5°) Stoop (>	15°)			
Valley	Slope:	Gentle (< 5')	Moderate (5 -	ID) Sleep (>	10 j	20+		
	Extent or Ivatural vegetation (m) 0-10 10 to to 20 20 to 30 301							
V	legetation Type:	Red Cedar, Grey	Dogwood, Will	low Sp.				
1	Herbaceo	us Plants						
							0.0.	
Riparian F	lood Plain - exte	ent of frequent flood (r	n):	10) 10 to 20	201	:0 30	30+	
Zone V	/egetation Type:	Grasses, Sedge						
18								
V	egetation Densi	ty (HML): ц/м		350 <i>-</i>				
Canopy	Type: Spruce		Q	uality and % sha	de: Low	10-15%		
Land	Agricultural P	asture (south)						
Use	Residential Lan	un (North West)						
Other (	groundwater, s	oils, pools, vegetati	on, etc.)					
Notes	Ne visible grown	dwater input						
	MORPHOLOGY	,						
Channel Wi	dth (range (m))	A11 - 15			Gradient (H	1/M/L): M		
Bank Height	t (range (m)):	07 1.5			Meander/S	traight: Mean	ndor	
Bank Slope	(degrees from s	urface of water): 9	- 150°	3 × -	Bank Stabi	lity: Pour		
Bank Veget	ation Type:		mine but he had M	(hused)	Bank Veg.	Density (H/M	1/L): //M	
	anon type. Gras	S, MERBALIALIS THATSI OF	UNYS COMMATEN, M	In Electron /				
CHANNEL	SUBSTRATE %	0 1 7 1			a construction of the local system	Muck		
Clay: 40%		Gravel: 5 %	B			Detritue	×	
Silt: 30%		Pebble:	B	earock.		Other:		
Sand: 25 1	1.	Cobble:	IVI	ari:		Other.		
INSTREAM	HABITAT AND	COVER						
Pools: ~		Undercut	Banks: 🖌		Boulder/Ro	ock:		
Riffles: -		Woody De	ebris:		Cobble:			
Backwater:		Vegetation	n: 🗸		Other:			
INSTREAM	VEGETATION							
Type (subm	nerg./emerg./flo	ating) Family/Ge	enus/species		Descriptio	n/Abundan	ce	
in the second second					- Law Ala			
Emergent		Deelog	11.11	s	LON MAR	ungance		
							-(br.)	
		6						
		1			0 II			
CODES:		SWI Surface Water	Input SC	CS Stream Cross	Section	100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 10) ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 10) ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 100 ( 10) ( 100 ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 100 ( 10) ( 10) ( 10) ( 10) ( 10) ( 10) ( 10) ( 10) ( 10) ( 10) (	1	
AHP Aquatic	Habitat Point	GWI Groundwater In	nput D	UK Dissolved Oxy	yen Stri Sto		(a) (a) (b) (b) (b)	
AHY Aquatic	Habitat Area	CKC Creek Crossing	g V:	05 Water Quality	/ Stn			
TIVIP Temp M	onitor Stn		VV	do water duality	<u> </u>			
		OUL GUIVEIL					and the second se	
## FLOW CONDITIONS

<b>Cross-Section</b>	Wetted Width	(m) 5 Depths, e	qually spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	0.60	195mm	+ -+ v	Hydraulic Head . 10mm
2	1.00	100		H.J. 25mm
3		<u>↓</u> =		11 0 11 Xaki 442
4	\$			
5	3			
ATER QUALIT	Y			
/ater Temp. (°C	): 7.5C	D.O. (ppm): -	pH: -	Visible Characteristics/Other Parameters:
r Temp. (°C):	3.6	D.O. (%): -	TDS (ppm):	Cloudy, low visibility
me Taken: /	030	Conductivity (µs/	cm):	
ocation Taken:	see map.			1
TE DRAWING				
clude: waterco	urse and name, t	low direction, riffle/poo	ol/run habitat, side tribu	taries, station location, approx. reach length,
lanner modilica	uons, adjacent la	nduse, roads & road n	ames, bridges, cuivers	s, north arrow, etc
		Fencelie Talk	potTrail	N
	P. JC			Residential
	1 aster 1			lat
			Gravel	Bar
21.222.222	c		ind	ulvert
<u>LALLER</u>	Bunk		. Water	r J.J. Bank
H H K K K K	Ex:	0.111		Fier
-34	EH.	Cobble Bank	colder -	
14	ALE	60880	- Good Ground	
P,	AN STA	20000	100580	MAX AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
lasture		La C Ally	- 890	
		Y (7)		
			l l	East Lake Drain
	į			
				A
				rigricultusat
				Field

## PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-357	Facing South from culvert	100-0362	Sedge Sp. on North Side of culvert
358		. 0363	Facing North from culvert
359	Sedar sp. of south side		
360	Facing North from culvert		a second a second s
361			

# **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.

 $(\mathbf{x})$ 

- No fish observed
- · Water cloudy Small amount of algal.

 $P_{ij}$ 



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name): //84 · Sout	h Kent W.F.					
Field Stat	ff: Skoe B Christy H						
Station:	AHY- 086		S	Site Location:			
Waterbod	ly: Neve Drain		G	PS Datum: NAD83	Easting: 423614		
Drainage	System: Rendeau Bay - Lake	Erie	Z	Zone: 17T Northing: 4688069			
Location i	n System:		N	Municipality:			
Appr. Rea	ach Length (m): 50		L	ot & Concession:			
Survey D	ate: 10-Nov-11	Weather	Conditions:				
Time Star	ted: 1430	Wind:	ч	Cloud Cover	(%): 80%		
Time Finis	shed: 1445	Precipita	tion: None				
AD.IACE							
Vallev	Slope: Gentle (< 5°)	Moderate	Moderate (5 - 15°) Steep (> 15°)				
	Extent of Natural Vegetation (m)	0-10	0-10 10 to 20 20 to 30 30+				
	Vegetation Type: Mixed	. / deciduous	Lleohorrous ala	ute medium-sized	show be		
	Contraction () por takes (owned)	a pecianous,	Herencepics pa	and have a second second			
Riparian	Flood Plain - extent of frequent flo	ood (m):	(0-10) 1	0 to 20 20 to	30 30+		
Zone	Vegetation Type: See about						
	Vegetation Density (HML):						
Canopy	Type: Coniferous / Deciduous		Quality and	1% shade: Moderate -	Good - 75%		
Land	Agricultural Land - NW ?	NE					
Use	Residential - South						
Other	(groundwater, soils, pools, veg	etation, etc.)					
Notes	No ground water indicators						
	0						
CHANNE	L MORPHOLOGY						
Channel \	Width (range (m)): 1.0 - 4.0			Gradient (H/	M/L): L/M		
Bank Hei	ght (range (m)): (), 4 - 1.0			Meander/Str	aight: Meander		
Bank Slor	be (degrees from surface of water)	1: 160"		Bank Stabili	iy: Fair		
Bank Veo	etation Type: see Jolley			Bank Veg. D	ensity (H/M/L): M		
Clay:	Gravel: 70		Boulder:	20	Muck: -		
Silt:	Pohlet		Bedrock:	-	Detritus: 5		
Sand: M	Cobble: 30		Marl [.]		Other: -		
			india.				
				Dauldar/Daa			
Pools:	Und	ercut Banks:		Boulder/Rod	.к.		
Riffles:		dy Debris:	1.	Cobble.	<u>, , , , , , , , , , , , , , , , , , , </u>		
Backwate	er: Vege	etation:	(Bank grasses)	Other.			
INSTREA		:h./O	-1	Departmention	Abundanca		
Type (su	bmerg./emerg./floating) Fam	illy/Genus/spec	cies	Description	Abundance		
6	).vb.	Algae		Lous			
		Q					
CODES:	SWI Surface	Water Input	SCS Stream	m Cross Section			
AHP Aqua	atic Habitat Point GWI Groundv	vater Input	DOX Disso	Ived Oxygen Stn			
AHY Aqua	atic Habitat Area CKC Creek C	rossing	VSS Visua	I Survey Stn			
IMP Tem	p Monitor Stn WEL Well		vvus vvate	er quality Str			

FLOW CONDITIC	ONS	Page 2 of	
<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	3.3 (widest)	33 cm	Hydroutic Head ISum
2	2.5	20 cm	И. Н. Н Б
. 3			
4	1		
5			

## WATER QUALITY

Water Temp. (°C): 85 C	D.O. (ppm):	-	pH:	-	Visible Characteristics/Other Parameters:
Air Temp. (°C): 8°C	D.O. (%):	-	TDS (	ppm): -	
Time Taken: 1930	Conductivity (	µs/cm):	-		
Location Taken: See map					

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



				1 110 10 11	
100-0378	Facing South	from Talbot	Trail		
0379	" - South				 
0380	· North	ar	N ²		

### GENERAL COMMENTS

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

. Evidence of fish in culvert (rises)



HABITAT **CHARACTERIZATION** 

PROJECT	[ (Number & Name): 1/84	- South Kent					
<b>Field Staf</b>	F: Steve B. Christy H	0					
Station:	AHY-087		Site	Site Location:			
Waterbod	y: Arachie Campbell Drain		GPS	Datum: NAD83 Easting: 423074			
Drainage	System: Rendeau Bay	- Lake Erie	Zone	Zone: TT Northing: 4687702			
Location in	n System:		Muni	Municipality:			
Appr. Rea	ch Length (m): 60 - 70m		Lot &	Concession:			
Survey Da	ate: ID-Ney-II	Weather	Conditions:				
Time Star	ted: /445	Wind: 서		Cloud Cover (%): 60%			
Time Finis	shed: 1510	Precipitat	ion: None				
ADJACEN							
Valley	Slope: Gentle (	< 5°)) Moderate	(5 - 15°) Steer	p (> 15°)			
	Extent of Natural Vegetation	1 (m) (0-10	) 10 to 20	20 to 30 (30+ )			
	Vegetation Type:	South		North			
	Southa: Corace - E	North ? Mixed	coniformes / decidences	Lest			
	An Eveld W	THE PROPERTY		STANON DALE			
Riparian	Flood Plain - extent of frequ	ent flood (m):	(0-10) 10 to	20 20 to 30 30+			
Zone	Vegetation Type:						
	Vegetation Density (HML):						
Canopy	Type: South - None North - Co	n./Dec. Forest	Quality and %	shade: South: Poor / 9% North: Good / 95%			
Land	South - Ag. Fields						
Use	North - Residential Lot: N	lature Forest					
Other	(groundwater, soils, pools	s, vegetation, etc.)					
Notes	Watercress present on south	of Talbot Trail					
	MORPHOLOCY						
Channel V		15		Gradient (H/M/L): 1/M			
Bank Heir	the transfer $(m)$ : $0, 5$	*. )		Meander/Straight: Menuder			
Bank Slon	e (degrees from surface of y	vater): 170°		Bank Stability: Haderate			
Bank Veg	etation Type:			Bank Veg. Density (H/M/L): M/H			
				,			
CHANNEI	L SUBSTRATE %	10	Douldor	Muck			
Clay: %C	) Graver:	ρO	Boulder.	Datrituc: 10			
Silt:	Peddie:	36	Mort:	Other:			
Sand: 5		22		Other.			
INSTREA	A A A A A A A A A A A A A A A A A A A						
Pools:		Undercut Banks:	51553 Arrent Art File and File	Boulder/Rock:			
Riffles:		Woody Debris: V					
Backwate	r:	Vegetation:		Other:			
INSTREA	MVEGETATION			Description/Abundance			
Type (sub	omerg./emerg./floating)	Family/Genus/spec	les	Description/Abundance			
Fighting	\$	Watercress		Moderale Abundance			
Emeração	ia.	Grasses, Phragn	1K.5	(1.11) a			
0							
CODES:	SWI Su	face Water Input	SCS Stream Cr	ross Section			
AHP Aqua	tic Habitat Point GWI Gr	oundwater Input	DOX Dissolved	Oxygen Stn			
AHY Aqua	tic Habitat Area CKC Cro	eek Crossing	VSS Visual Sur	vey Stn			
TMP Temp	o Monitor Stn WEL W	ell	WQS Water Qu	uality Stn			
<b>FLW</b> Flow	Monitor Stn CUL Cu	lvert					

FLOW CONDITIC	DNS		Page 2 of 2
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	23	Mar. 27cm	Hydraulic Hepd - Ymus
2	1.3	Han	H.H 9mm'
3			
4		1	
5	1		

## WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm): -	рН: / -	Visible Characteristics/Other Parameters:
Air Temp. (°C): 8°c	D.O. (%): -	TDS (ppm): -	Much clearer than all previous watercourses,
Time Taken: 1450	Conductivity (µs/cm):	*	×
Location Taken: See Mo.p	1		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



## PHOTOS TAKEN

Photo #	Description	Photo #	Description
100-0381	Facing South from Tulbot Trail		
038)	Watercross South of Taibot Trail		
0383	Facina North		
0384	. ) .		
		1	

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

- · Trickle through outlet pipe · Pumpkins : squash in drain south of Talbot Trail



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name): ।/४५	- South Kent WF						
Field Sta	ff:							
Station:	AHY-089			Site Locatio	on:			
Waterboo	ty: Cummina Drain			<b>GPS</b> Datum	: NIAD83	Easting:	422149	
Drainage	System: Rondeau Bay -	Lake Erie.		Zone: 17	T	Northing:	4687033	
Location i	in System:			Municipality	-			
Appr. Rea	ach Length (m): 70m			Lot & Conce	ession:			
Survey D	ate: 10-Nov-11	Weather	Conditions					
Time Star	rted: 1540	Wind: 거		Cle	oud Cove	r (%): 50		
Time Fini	shed: /600	Precipitat	ion: Nore					
ADJACE								
Valley	Slope: Gentle	< 5°) Moderate	(5 - 15°)	Steep (> 15	°)			
	Extent of Natural Vegetation	n (m) 0-10	) 10 to 20	20	to 30	30+		
	Vegetation Type: + Hachason	Vegetation Type: , Uphase & PLA			1			
	· Mind	Fares						
		Victorianty / composition	ivit,					
Riparian	Flood Plain - extent of frequ	ent flood (m):	(0-10)	10 to 20	20 t	:o 30	30+	
Zone	Vegetation Type: Herbacan	us Grasses	$\smile$					
		9. 3. 9						
	Vegetation Density (HML):							
Canopy	Type: Deciduous		Quality a	nd % shade:	South .	Poor - 20%	North Good - 80%	
Land	Northi - Pasture / Resi							
Use	South - Agricultural /	Residential						
Other	(groundwater, soils, pool	s, vegetation, etc.)						
Notes	· Watercress							
Channel		-		Gr	adient (H	/M/L): M		
Bank Hei	(range (m)): 0.0 = 7	3		Me	eander/St	traight Mor		
Bank Slo	pe (degrees from surface of )	water): 120° - 120°		Ba	ank Stabil	ity: Ev		
Bank Ver	per (degrees norm surrace or s	100 180		Ba	ank Vea.	Density (H/N	1/L): M	
CHANNE	L SUBSTRATE %	0.0	Bouldor			Muck		
Clay:	) Graver.	20	Douider.			Dotritue:	5	
SIIC -	Peddle:		Bearock.			Othor:		
Sand: 10		90	IVIAII.	¥.		Other.		
INSIKE	AN HABITAT AND COVER							
Pools:		Undercut Banks: -		Bo	oulder/Ro	CK:		
Riffles:		Woody Debris:		Co	obble:	<u></u>		
Backwate		Vegetation: V		01	ther:	1		
INSTREA	M VEGETATION					(41		
Type (su	bmerg./emerg./floating)	Family/Genus/spec	les	De	escriptio	n/Abundand	;e	
E	mergoal	Watercress			Low /	Moderate.		
	Q							
CODES:	SWI Su	rface Water Input	SCS Stre	eam Cross Sec	ction			
AHP Aqua	atic Habitat Point GWI Gr	oundwater Input	DOX Dis	solved Oxyger	n Stn			
AHY Aqua	atic Habitat Area CKC Cr	eek Crossing	VSS Visu	al Survey Stn				
IMP Tem	Monitor Stn WEL W	ell	WQS Wa	ater Quality St	1			
LLAN LION		iveit						

#### FLOW CONDITIONS

Page	2	of	2
------	---	----	---

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.1	max - 15cm	Hydraulic Head - 20mm
2	2.1	23cm	From
3			
4			
5			

## WATER QUALITY

Water Temp. (°C): _ ე*კ	D.O. (ppm):		pH:	-	Visible Characteristics/Other Parameters:
Air Temp. (°C): 7°C	D.O. (%):		TDS (p	pm):	 - clear
Time Taken: 1550	Conductivity (	µs/cm)	-		
Location Taken: see may					

#### SITE DRAWING

**Include:** watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



## PHOTOS TAKEN

Photo #	Description				Photo #	Description
100-0386	facing South	from	Talbot	Trail		
0387	North		¥4	ы		
	101-101 1000000000000000000000000000000					

### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT **CHARACTERIZATION** 

PROJEC	T (Number & Name): 1184	· South Kert WF.				
Field Sta	ff: Steve B. Christy H	1				
Station:	AHY-090		Site	Location:		
Waterboo	dy: McArthur East Drain		GPS 	5 Datum: HAD83	Easting:	421517
Drainage	System: Kondeau Bay -	Lake Erie	Zon	e: 17 T	Northing:	4686575
Location	in System:		Mur	nicipality:		
Appr. Rea	ach Length (m): 50m		Lot	& Concession:		
Survey D	Date: 10 - Nov - 11	Weather	Conditions:		- (0/).	
Time Star	rted: /6/0	vvind:	2.	Cloud Cove	r(%): 50	
l ime Fini	sned: 76 35	Precipita	tion: None			
ADJACE	NT LANDS			1/2001/		
Valley	Slope: Gentle	(< 5°) Moderate	e (5 - 15°) Stee	ep (> 15°)		
	Extent of Natural Vegetatio	n (m) 0-10	) 10 to 20	20 to 30	30+	
	Vegetation Type: (milit	ous/Deciduous south		North		
	· Herba	ceous Plants				
Discription			0 40 1 40 4	- 00 - 00 4	- 20	201
Riparian	Flood Plain - extent of freque	ient flood (m):	0-10 101	020 201	0 30	30+
Zone	vegetation Type:					
	Vegetation Density (HML):					
Сапору	Type: Next and Area		Quality and %	shade <	2 207	Marth - Good . Shart
Land	S His Anis Hand	Falde	Quality and 70	Shade. Journ	root erer i	ICALINE GARA OD LA
Use	Marthe Barda bal	i i i i i i i i i i i i i i i i i i i		1.1		
Other	(groundwater, soils, pool	s. vegetation, etc.)				
Notes	· Some unbergars proceed	-,,				
	preserve preserve					
CHANNE						
Channel	Width (range (m)): 0.6 -	14		Gradient (H	/M/L): L//	1
Bank Hei	ght (range (m)): 0.3 - 0.8	836.1		Meander/St	raight: Mean	der
Bank Slo	pe (degrees from surface of	water): /3*		Bank Stabil	ity: Tair	
Bank Veg	getation Type: Herbaccous	Plonts		Bank Veg. I	Density (H/M	/L): M
CHANNE	I SUBSTRATE %					
Clay: 1	A Gravel	30	Boulder: -		Muck: -	
Silt: -	Pebble		Bedrock: -		Detritus:	90
Sand: IA	Cobble	20	Marl: ~		Other: -	
INSTREA	M HABITAT AND COVER	20				
Boole:	1	Undergut Banks:		Boulder/Ro	ck: -	
Pifflos	·····	Woody Debris:		Cobble:	/	
Rackwate	× ar: –	Vegetation: /		Other:		
INSTREA		Vegetation. V			<u>.</u>	
Type (su	bmerg./emerg./floating)	Family/Genus/spec	ies	Descriptio	n/Abundanc	e
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, and the second s				
Emer	gent	Waterress Gr	26165	Low		
1540064166666600000					***********************	
00075	011.1.0			Contine		
CODES:	SWI Su	rtace Water Input	SUS Stream C	ross Section		
	atic Habitat Area CKC Ci	reek Crossing	VSS Visual Su	irvev Stn		
TMP Tem	p Monitor Stn WEL W	/ell	WQS Water Q	uality Stn		
FLW Flow	Monitor Stn CUL CL	lvert				

FLOW CONDITIC	ONS	Page 2 of 2	
Cross-Section	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.0	Max. 40 cm	Hydraulic Head . ~ 15 mm
2	1.3	- / 8cm	15 mm
3			
4			
5			

#### WATER QUALITY

Water Temp. (°C): 9*C	D.O. (ppm): ~	рН: –	Visible Characteristics/Other Parameters:
Air Temp. (°C): 7'C	D.O. (%): -	TDS (ppm): ~	
Time Taken: 1610	Conductivity (µs/cm):	-	
Location Taken: see map			

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



### PHOTOS TAKEN

Photo #	Description		Photo #	Description
100-0388	Facing South From	Talbot Trail		
0389	·· North ··	si - si		
				1

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:



HABITAT **CHARACTERIZATION** 

PROJEC	Г (Number & Name): //84/	3 . South Kent W.F.		
Field Stat	ff: Sleve B Christy H	1		
Station:	AHY-091		Site Lo	cation:
Waterbod	Y: Nelles Extension Drain		GPS Da	atum: N4083 Easting: 420601
Drainage	System: Bendeau Bay	take Erie	Zone:	177 Northing: 4685930
Location i	n System: / '		Municip	ality:
Appr. Rea	ach Length (m): 80m	·	Lot & C	oncession:
Survey D	ate: 10 - Nou - 11	Weather	Conditions:	
Time Star	ted: 1635	Wind:	3	Cloud Cover (%): 20%
Time Finis	shed: 1655	Precipitat	ion: None	
ADJACE	NT LANDS			
Valley	Slope: Gentle (	5°) Moderate	(5 - 15°) Steep (	> 15°)
	Extent of Natural Vegetation	(m) 0-10	(10 to 20)	20 to 30 30+
	Vegetation Type: · Deciduo	US Trees		•
	* Herbace	ous Plants		
Riparian	Flood Plain - extent of freque	ent flood (m):	0-10 10 to 20	0 20 to 30 30+
Zone	Vegetation Type: Herbac	eous Plants		
	Vegetation Density (HML):	M		
Canopy	Type: Deciduous forest		Quality and % sha	ade: Poor tair ~ 25%
Land	- Residential Lots			
Use	· Argicultured			
Other	(groundwater, soils, pools	, vegetation, etc.)		
Notes	· Watercress present			
	1			
CHANNE	LMORPHOLOGY	/		Oradiant (LI/M/L): (/
Channel \	Width (range (m)): 1.0 - 25			Gradient (H/W/L). M
Bank Heig	ght (range (m)): $0.2 - 0.5$	1-1. 2-5	********	Reander/Straight. Meander
Bank Slop	be (degrees from surface of w	ater): //0"		Bank Stability. /air
Bank Veg	etation Type: Herbaceous Pla	write ? Small Shrub	2	Bank veg. Density (n/w/L). 1-(
CHANNE	L SUBSTRATE %			
Clay: 2	5 Gravel:	40	Boulder: -	Muck: -
Silt: 5	Pebble:	*	Bedrock: -	Detritus: /5
Sand: //	) Cobble:	5	Marl:	Other: -
INSTREA	M HABITAT AND COVER			
Pools:		Undercut Banks: -		Boulder/Rock:
Riffles:	/	Woody Debris: 🧹		Cobble:
Backwate	r:	Vegetation: 🗸		Other: -
INSTREA	M VEGETATION			
Type (su	bmerg./emerg./floating)	Family/Genus/speci	ies	Description/Abundance
E	merapart	Watercrees 61	rasses	Low
(	8			
0000004770274334770				
CODES:	SWI Sur	face Water Input	SCS Stream Cros	s Section
AHP Aqua	atic Habitat Point GWI Gro	undwater Input	DOX Dissolved O:	xygen Stn
AHY Aqua	atic Habitat Area CKC Cre	ek Crossing	VSS Visual Surve	y Stn
TMP Tem	p Monitor Stn WEL We		WQS Water Qual	ity Stn
IFLVV Flow	Vivionitor String CUL Cul	ven		

### **FLOW CONDITIONS**

125-5

<b>Cross-Section</b>	Wetted Width (m)	5 Depths, equally spaced (cm)	Discharge/Pool/Riffle/Run/Notes
1	1.15	max. 12 cm	Hydraulic Head. 15mm
2	2.3	28cm	H.HN3an
3			
4			
5	r.		

#### WATER QUALITY

Water Temp. (°C): 9°C	D.O. (ppm): -		pH:	•	Visible Characteristics/Other Parameters:
Air Temp. (°C): 7°C	D.O. (%): -	-	TDS (ppm	): -	Water clear
Time Taken: 1630	Conductivity (µs/c	:m):			
Location Taken: see hep			1		

#### SITE DRAWING

Include: watercourse and name, flow direction, riffle/pool/run habitat, side tributaries, station location, approx. reach length, channel modifications, adjacent landuse, roads & road names, bridges, culverts, north arrow, etc...



Photo #	Description	Photo #	Description	
100-0390	Facine South from Tulbot Trail			
0391	N North "			
			2	
	-			

#### **GENERAL COMMENTS**

Fish observed, unususal conditions, differences from previous site visit, landowner comments, topography, general land use and vegetation, etc.:

J. L. DARLING COHP. TACOMA, WA 98424-1017 No 392 www.RiteintheRam.com Alter the them Norval Davis Drain (PlazH3/WBARSB) - Onstos 100-022 - dramage ditch - lots of flow due to rain, AHYOOT -photos 100-022 - vis view of photos 100-022 - photos 100-022 - vis view of photos 100-023 - vis view of photos photos 100-022 - vis view of photos photos photos - water AHY-008 photo 100-019 - u/s view along fore Rel flawing due to rain -usually dry - quick flow through cultert - 4.5m cultert channel w grass, cattails + phragmites straight phragmites lined waterway between agricultural tields thus under rd through . Sm round Davidson Rol all tile drains flowing, water munty 100-021 - als of culvert (drain) 100-020- @ confluence with SMK drain (culuer) 100-024 - all's Norval D. D. @ confluence temp 14°C TE Ū 46781780 -٢ 1038381 1.0m wide P lolitch 3.425 0 J. L. DARLING CORP. TACOMA, WA 98424-1013 No 392 5 theRain.com

photos: 100-010-015 view -full assessment - Burgess " photos: 100-005- d/s view · Burgess Drain West Branch (POB3-D2) POB3-H · full assessment · ditch on both sides of Hornick Line -grassed ditch - closer towards coatsworth rd · south side standing water, consider lined wind: 1- 2 air: 10°@ 1040 AHYDOI AHNOO 3 AHY002 north side - no water, grass + aster lined grasses, cattails - bank veg - grass, herbs Harold Walker Drain (P083-D3 11842 South Kent Agustics photos -G. Hacker side 100-003 - facing lest sattle 100-002 - facting east (2/15) 100-001 - forma west (u)s) towards wheatley -calsing on Suth no defined channel 100 -006 - U/S VIEW 14 Hacup 17T 4634786 上十 6: 46283214 Davin East Branc 9265820 Ø 0 (P083-H5) - F00-001 -rained 100-008 Dct 4/nlast athrs p. lotz 81 3 Cegeta touoro

(Philliun (Philbi) (Philliun (Philbi)) - Jonstos of Graham Drain - Jonstos of Graham Drain - Jonstos of Graham Drain - Jonstos of Graham Drain - unknown nines perp = minoldle line - on honown nines perp = minoldle line - unknown nines perp = minoldle line - on honown of south side of rd. - on honown of south side of rd. - unster/flow present giass in channel, 3-1m vag. - unster/flow present giass in channel, 3-1m vag. - unster/flow present due to rain - Jonato 100-33 - u/s view 100-33 - u/s view	St Dr 1 dr 22
<ul> <li>AHYOOY IFT 0383087</li> <li>Ogassed ditch along west side of Castoworth Rd cabling photos 100-011 - South view</li> <li>AHYOOS 100-012 - north view</li> <li>South side of Gare Rol.</li> <li>South middle road origin (Posto-D1/ws-G4)</li> <li>- Photos 100-013 - v/s view</li> <li>- Photos 100-013 - v/s view</li> <li>- Ontos 100-014 - dis view</li> <li>- undter present no flow - tile drainos</li> <li>- undter temp 15°C - flow present further cl/s</li> <li>- undter temp 15°C - flow present further cl/s</li> <li>- Althoole</li> <li>- Hindole (A Drain @ intersection)</li> <li>- flow present under marky - due to rain</li> <li>- depth - * 50m deep</li> <li>- othore</li></ul>	p. act 25

100-018 - d/s view/confluence

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www.RiteintheRain.com No_392 photos 100-62 - u/s view Phan Party full assessment Lewis Draw (we-ule) AHYOZZ AHVOZI grassed ditch parallel to Cooper Rd "photos 106-60 - parather toya tull assessment - Gov Drain = 1 (HO-120) 020/HB full assassment . 3 draws -you #1 AHYDIG the cho . 2 Sm channel veg corndor (am water present -standing - 16°C beside saya field 11842 South Kent Aquatics photo 100-58 facing N Solado 89 - 001 100-59 -100-61-FS-001 0+ 45-001 ) dis view 1 focing S FF FF 4 4681539 "Sephotas tar chain 4681738 2416891-4683841 p,7.125 @AHHY ol 9 5 1 DAHLING CORP TACOMA, WA 98424-1017 No 392 no defined channe - pourallel to railway (1818F3) - water present from recent rain - grassed -no defined channel, no water - full assessment Coss Norry Drain - Perp to Glesson -full assessment Entrown Drain - parallel to Glesson unknown PlidDa AHNDIA AHYOIS photos catails/phagmites - am wide, condor - 8-10 mus photos 100-40-100-43 POT 2-HI Jessop Drown we wy Read grassed road dirch AHY013 (PII4-02) AHYON (AHOR ondos 100-36-100-39 1914-Da @ Koss Norry Dain LRBAD Pa4-01 100-034 . d/s view 100 - 035 - u/s View 74 LF ゴイ IFT 100-45-0/5 VICW 4681839 present 4681390 6369867 762629h p. Sofas 4

DARLING CORP TACOMA, WA 98424-101

Ret __ the land

- photos 072-077 - unknown drain/ditches	-3 drains 171 4602450 -full assessment -phots 3 100-067-100-071 AHYO2S 171 4682310 -full assessment -unknown draw	AHY024 AHY024	- David Reltier Drain not present -says field - Mancel - nat corridor &m, vrg-grass, helbs - goldenrod - water murky flow due to rain wit-14"	AHYORZ IT 4682362
- full addedment Gov. #3 Drain - photos 100-53, 100-53 - big water cause.	AHVOID 100-51 - d/s view 17T 4684570	- PIRF - Commel - S-25m. - PIRF - DI parallel to Gleson (South side) - road ditch - connotor (m, veg banks g.rod = aster, herbs.	yrassed lined chanvel -cathails present bank veg good = g. rad, herbs, shrubs, herbs unter present = flow due to rain -straight no meander - parailel to Sloan Rd.	AHNOIL Sinclair Drain - perp to Gleeson - photo 100-48-415 Plab-D2 - parallel to Gleeson - photo 100-48-415 Plab-D2 - parallel to Gleeson - photo 100-48-east view

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p. Sof as

St Jo 9.9

full assessment Carter Draw photo 100-102-Sugalamfed AHN033 into on Ste ditch on Hop on field form AHYO3 4 photos of ditches pavallel to road disches parallel to road grass lurad -no defined channel grass therbs in channel banks 4-6 m full assessment - Carter Days (worke, Pour photo - 100-099 - view of drain between ag. fields - mater murty, 14°C @ 1040, slow flow - no real defined hir-001 of 111-00 Solard photo 5 100-105 to 100-110 non existent the drawn - through field AHNODO Attyo31 contid loo- 100-dls view of ditch parallel to rol 100-103 - South side of 10th line facing west 100-101 - als new of ditch parallel to d 100-104 - " unknown Drayin -water present in roadside HEFE894 141 (channel 14 761 tacing east 16834 951 5896 24 0400% PL SCO p. 11 of 25 A.a. DAHLING CORP TACOMA, WA 9842 No 392 parallel to road - grassed ditches proto 100-85 - Rindes tile prain W view from Bth Line proto 100-86 + 87 - West 4 east view - ditch · RHodes Tile Drain - non existent soya field AHY 028 -full assessment -waddick Drain - Perp tal. 11842 South Kent Aquatics G. MacVeigh wind: · grassed manaural ditches parallel to -permanant watercourse nonexistent. saya photos 100-78 - view south no watercause tield 011 : 100 915 4 CONHU road ALNOZO photos grossed road ditch on N+S side of 100-01-100-79 - Cost 100-82 - west view 100-80-100-83 8th Line Seas + 100-084 Lakell Drain Branch view on south side of precip Ø view 5 T view on N side of ran 4688397 1751 HSEEGON LEI Prevent Present 0401920 Sati p.9 fas

	ditotes run parallel to road - highly ligetated	no aquatic veg	substrates gravel, silt, sand, muck	banks highly regord in grass, herbs	-tox cultert 6m wide, straight channel	high density - good shade 60 - 70%	PO61-DI	-Vail drain @ 10th line (we-rread/we rread)	AHN037 PT 4685642		anatos (100-117 + 100-118	pieles progues to the top of top	-fill assessment - Deyle Drawn (we-read,	AHYO36 ITE OHO3259		photo - 100-115 - uls view	WB-S field torm	-Government Dravin Pous - Dz	AHVO3S 17T 040 2120
to loth line (see notes on Arty as form).	-not consider 10m -sumac, g.rod, maple, elm, esh, -covered - shade 80% - emptying into ditch parallel	-drainage ditch perp to sooth side of loth Linic	AHY031 17T 4681347	- photos 100 83 - 098	substantial notes on map part of formdry in	- ditch along "South east side of road	- FUIL DECOMPTIAL	re1870	100-097 - rast sude of road facing S.	100-091 - west side of ld Dring N	physical 100-089- east side of road fraction of water a	culvert under road to drain to drain.	parellel to wellwood grossent ditches,	"channel . S- Im wide, pools present, murky	· no flow, water temp - 14°C.	oak antennal and herbs - and what white	mas standing water - photo 100-088	the second drain on NE side of road	· AHY029 17 19 197 4681190

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p. 10 of 25

L DARLING CORP TACOMA WA 98424-1017 No 392 ٢ nat corrider 10-12m unde - goldanmod, u AHNOYY drainage ditch through fields asters, heres, grass atoms no defined channels water goldental, jaster, condor 6-8m wide straght, lined in catalis, dry, + perp to lagger AHNONE HINOUS 2+ 6. Manage Seel diamage ditch through american Mornson Dain (we-pa A/R) drain parallel to road discussed on map full assessment of Lucas CLA-Da/CLA-HY Proto was Dain ( we-rring Poth photos 100-143 to 100-146 Drain particl to road (wis aresa) 100-140 - ··· 100-142-Suth side 100-141 - North side 100-139 - Suth side parallel to rd toward Harton 100-138 - ols view of ditch perp to rd TE hebitho the tel TE 1 1 1689343 9642342 S to 21 0 11 1 toward Cundle toward Horton toward Cundle catto:/s DARLING CORP TACOMA, WA 984 Nets on the A testoban 141 Full assessment Gregory Draving ANO32 photos AHN038 AHNONO photos

- gnassed ditch parallel to Charing Xin -channel 1-2.5m wide, bank height 5-6m, sit, gravel, detritus photos 100 - 125 - u/s view from 9th Line Corridor 12-14m wide, goldenrad, gross, herbs viewed at 2 spots -assessed @ 9th line POPLEDI - Ferguson/Laurie Drain/Lub-F) wit 14°C, flowing, murby straight, no aquatic veg, substrates sand, muck, av. depth .25 -. Sm -pools, small run/riffles shrubs - line bonic (heavily vegetated) 100-126-d/s view from 9th Line 1 100-127-uls view from Charing Cross WB-07/WB-E/WB-ARSY 100-121 100-129- towards 10th line 100-130 - tauands 11th line 1922-DI/1924HI t TFI F Ŧ her-ool 8826894 CEE9040 4690315 4688588 p. Botias

- agnoultural land use, pet murky water - channel . as 75m wide, bank height 2.3m, slope 45-80m - substrate . muck, detritus, sand, silt instream habilit photos 100 - 151 - u/s view by cattoris + pocket 100 - 152 - d/s view	AHVO48 AHRANDA Drain (werta) Poss-of Gans Huffmon Drain (werta) Poss-of - straight channelized ditch/drain lined in cattails pockets of water - connology 10-12m veg - grass, goldennad, aster, herbs - bank stable herbs/grasses high veg density	AHUDHZ IFT QUINO63 Kneeborne Drain -ful assessment photos 100-149 + 100-150 me flaw	- substrates, multi-terrestrial lug, cattails, and, silt. - must likely dry in summer conditions - grazsed dravinge paths along mod parallel - photo 100 - 147 - uls view 100 - 148 - dls view	- AHIVOY 6 control 17T 0113701 - ahammed lined 2 anthails pookets of water - bankheight 4m, stable, slopes 45"
	turs parallel to bank height 2 photo - 100 - 13 100 - 136	- drainage throa	AHNOMA modside ditch	, AHY OHI parallel to 11 no defined c

e

- 3m, ret. comdor width 10m mod Bh agricultural fields th line - roadside ditches honnels - water present on south side e lined - no defined channel - also sl - towards Charing Xing - facing towards Gagner parsitelts a Being east from from Lagoon Rd -no defined channel is - focung u/s ( NE ) perptord. present - no thow -toward Bronfield parallel to Gagner Linie 051999h 141 12 1 40407629 Steabah Iti

P. IF AD 25

	Alter on the Paris	~	J_L DARLING CORP TACOMA, WA 98424-1017 www.RiteintheHam.com	No. 392
	Tethind Urain - beginning "See previous into for Tedford Goblett Drain emptes through am culvert- "watur oness wit 12°C	east side of Mother, 1 - catails, gotleaned, not a channel . S= 1.0m. phatos 100 - 167 - uest side 100 - 166 - east side AHHYLOSIA 17T 4691060	redoster dogwood · under road through I.Sm rownel cut · on flow, clear water champel . S - 1.0 · substrates muck, detr. tus, elay, sand wi · bank stable, highly vegped, shade great to · bank stable, highly vegped, shade great to · na fish algoniad photo 100 - 164 v/s ko-165 d/s English Drain - parallel to mod - also see Att 054 west side grassed, bank 10m, no water	AHYOSS 171 CHIGAPP -north side Campbell rol beside laneusy -bannelited drainage dikh McPhail Drain -there it is perp to cambell line + English McPhail Drain McPhail Drain
N.		Corry, JOin	n 13° View View	Play, ching
	Let martin have	AHVOSI - grossed ditch through fields - goldenrool, aster, - no defined channel - forgot photos	AHYOSO IT 469/19324 - ditch along the NE side of Harwith Rd uniform entre route - grassed, no defined channel, patets of usiter - nat. consider 5 - 75 lined with catality phragmiles - no-152-1100-156 - uls view parallel to Harwith - 100-152-115 view parallel to Harwith - 1	P.17 of 15262 PISE-DY Tedford Drain ChurgeRa/REDZ full assument -ditch along SE side of Kood photos 100-153 to 100-155

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-neadside ditch parallel to Harwich -southish side · algge present see protes for Goblett Opposite side of road - some as photos 100-170-towards welch Line -Shew Plauning water through 5-75m channel nat connider 12.15m, channel lined i cattails . 3m. nationition 7-10m - goldenrad AHIOS6 contid AHYOS7 -unaquites/cattail - dry 100-168 - west view gobiett 100-169- ast view getert photo's 100-168 - d/s view of Tedford from 100-171 - towards Ridge Line エモ 169019H Campbell Ed p. 20 of -flow due to rain nat corndor lam unde - goldenrad, herts, aster, daguad - channel .5 - 75m, hank highly vegelad, grass shade 602 loom where to head -parallel to road on su side then through readside drain channel . Sim wide - not provert -subtrate - claymuck, gravel petbles habitet though photo's 100 - 162 . d/s view English Drawn ? photos 100-160-ulsview no fish obaned - lots of algae, grass in channel - contail -straight channelized draimage ditch no defined channel, straight, not connor 4-6m ANOSA veg-geldonnod, phragmiter, cattail, herbs, grass fullassessment Tedford Drain @ welch Line (PO31-on (Resol weren) AHVOSZ Tompkins Drain ? (P135) AHYOSS photos 100-158 + gases 100-161 - d/s View 100-163-0/5 Men South side of read parallel to road ESCEDTH 141 water clear 7 100.159 perp. to road 14 -agricultural land use SShe bah 0417220 depth - 15m observe WT-16°C #upprover p.180f25 water 4 Ζ

DARLING CORP TACOMA, WA 98424-1013 1 www.RiteintheRain.com Acto . . the Ram No. 392 full asses 5 ment meduliqued? Hashing Drain tull assessment photos 100 - 198 - u/s view into com REDENTED AHYOGG channel Im culueit fullassessment d/s soyafield - no swath - packet of water willow sp. Grass, cattails - with 8m no define Honkingun Drain AHNOGS through confield on N side of road - no water AHNOGH ohotos 189-191 full assessment AH4063 Curringing Drain 100-199 - d/s view into soup field unknown Wain photos 100-1744 100-195 phatos 100-196 + 100-193 TE HT 4685805 1F osesett 1th photos 100-192 - 100-193 1th - 042400 052 4894 Soereto 7 StS8 40 44 p.as of as ARLING CORP TACOMA, WA 95 www.RiteintheRain.com No. 392 while Drain, @ Harmich Rd (ws #10/450.2) - unknown dram - full alled mont CC · Ø photos AHNOGOA AHVID SO -photos: (00-173-190-176 Air : 16 @ 900 G. Hackbrigh "Uls side - swath through fields - Im wide channel veg - grass/herbs, straight -no bank height. .d/s side overgrown in shrulos . sunac, pople - grass lined - no water, no defined ALIOSSO main sjr- tel-001 apoul NeArthur East Drain? South side of Harmich perp to road disappears dis - 2m box culvert under logi 104 South Kent Aget 100-178-015 view 081-091 + 10E1-001 2668895 HI Precip: 10 End 14 146 88315 (CARDAL) 56 CE I PO 6001 1

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AHYOAL IT GLARAGE UNDER LAND DRAIN Brown Drain full assessment drannel with - 1-3m aut of forms	- AHYOFO 177 9427351 - Nesbith Drain (PIZIB/PIZIA) - Full as sessment photos 100 - 201 + 100- 205	AHNOG9 ITT Ofaberso - fite drains - soya field uls side (north) - swath through fields (south photo 100-202 - d/s view (swath) 100-203 - uls view -fields	Annology Drain 177 486810. Clendening Drain 177 4686810. full assessment photos 100-2001 100-201
- dra . pha . pha . bha	- Sma	- AH	AHYL Photo

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· phragmites cottails bank height 2-3 m (	Wellington - P · phroginites, goldenia · no defined channel water, no flow	AHNOGO unknown drain - til small road ade o Scotland P- loc	<u>AHYDGI</u> - Unknown diavn - photos 100-183 tolo - stagmant - 16ts of	AHNOLOOS - Same drain linfo as photos 100-100 18 - nun: parallel to the
growing in living have by vegged	100-186. 11, willow sp, grass, herbs - 10n - width its - 1.0n, peakets of wit- 14°C	17 4684060 17 4684060 led on NW Side of road ditches parallel to New 0-187 - 100+188	00.185 duckweed.	nuch - net slow flow.

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Alt in the king LING CORP TACOMA, WA 98424-1015 No. 392 www.RiteintheRain.com full assessment photos 100 - 198 - u/s view into complete mechill pound in als soyafield - no swath - packet of water "willow sp, grass, cattails - wolth 8m no defined channel im culvert Hashing Drain full assessment fullasisessment AHYOGG Honking morain full assessment AHYORY AHNOGS AHN064 photos 189-191 AH4063 through confield on N side of road - no water nunknown. photos 100-174 + 100-195 phatos . 100-196 + 100-197 TE FT 4685805 2585894 1 tt tehabah Iti photos 100-192 - 100-193 hth the the the the 0424905 20642405 p.as of as

Rete - the Ram-	J L_DARLING CORP TACOMA_WA 98424-1017 www.RiteintheRain.com	No 392
Attions Inco-179 + 100-180	Athloss It chippess white brain, le Harwich Rd Guereno, used full address mont photos: 100-173-100-176 Athloss 100-173-100-176 Athloss 100-173-100-176 anal 170-173-100-176 anal 170-173-100-176 anal 170-173-100-176 als side -swath through fields - Jm wide disappears dis - no bank height. als side overgrown in Shrubs small photo b 100-178-dls view 100-178-dls view	11842 South Kent Apushos 6 oct 11 6. Hackbigh Arr 1 16 @ 900 wind 1 CC: 0 Precipie

J L DARLING CORP TACOMA, WA 98424-1017 www.RiteintheRain.com Rate on the Ma No 392 - no fish seen dry drain/ditch crosses under noad through -bank heavily vegled, stable, 40.50% shede photos 100-ala - north new Ore + 600 opado Bt andor 10-15m goldenrod, popler, gress, holds tile drain in contraction facing SE from photo 100-211 - taken facing SE from Cofell Rd 175952 parallel to Base Rd - Nicholson Drawn tile drained -nonexistant 17T 4698137 ·Sm culvert channel - 1-1.5m flowing, murky, 16° wT, photo 100-ais-d/s view AHN07S tile divorin in corn field Mekay Drain (we-23) channel. S. In - phragmites/cation AHN074 AHN073 dry - grass inditch - an wide regged C-LONHU 100-213 - south view BOR-001 01-208 side of road 4 ¥ TE 9421956 177 469 8833 4695312 P. 25-25